OLD

DOCTOR CARLIN'S RECIPES

BEING

A COMPLETE COLLECTION OF RECIPES ON EVERY KNOWN SUBJECT, AS SELECTED FROM THE MSS. OF

OLD DOCTOR WILLIAM CARLIN,

OF BEDFORD, ENGLAND,

TOGETHER WITH ADDITIONS BY THE AMERICAN EDITOR, ON VARIOUS SUBJECTS; EMBRACING ALSO A

DEPARTMENT FOR THE HOUSEHOLD OF MOST THOROUGHLY TRIED RECIPES; A TREATISE ON BEES; A TREATISE ON POULTRY, ETC.;

BEING THE LATEST AND MOST RELIABLE COLLECTION OF RECIPES FOR

The Farm, the Household, the Sick Room, the Kitchen.

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INTRODUCTION.

Why an introduction to a recipe book? Only to show the character of the man to whom the world is indebted for the book. Only this and nothing more.

Dr. William Carlin was born in the city of Bedford, England, March 21, 1780, and would have been, had he lived, about 100 years old at this time. His father, also William Carlin, was the most noted physician of that county, and his grandfather, another William Carlin, was a physician before him. How long the family had been physicians the American editor of this book does not know. But it is evident that it was a calling for which the family had great fitness, since all of Dr. Carlin's brothers were physicians, the next to him, Dr. Edward Carlin, holding high rank in that capacity in the East India service, where he died full of years and honors, in 1840.

Dr. Wm. Carlin graduated at Oxford, and after grounding himself in the rudiments of medicine with his father and elder brothers, finished his education in the medical schools and hospitals of London and Paris, and went home to join his father in his extensive practice in Bedford.

The day after his arrival his father died, and the young physician found himself in possession of a very handsome fortune, which obviated the necessity of his practicing for money.

This circumstance jumped with his desires, for he at once abandoned the practice to those who needed it more than he, and began a life of study and research, which he continued to the very day of his death.

He did not drop his practice—on the contrary, he devoted more time to it than any physician in the county. The peculiarity was that he never took a fee for his services. He practiced almost entirely among the poor of his section, among the class of small farmers, mechanics and laborers to whom the most moderate physician's fee is a mountain, and furnished all the medicines himself. He was often called to the bedsides of the nobility and gentry, for his skill was admitted, but he did the most of his work in the interest of science and never for money.

His passion was the accumulation of knowledge, and he did not care a straw where, when or from whom he obtained it. No old housewife was in possession of a recipe for anything that was useful to the human race that he did not obtain, test it, scientifically and thoroughly, and if useful, use it.

It was a hobby with him that everything, simple or intricate, that had done good in a cottage could be utilized everywhere, and that half the knowledge that was good for anything came from the time-honored remedies of the poor, who had tested them for centuries, and that a physician who should overlook this unceasing fountain of knowledge was foolish indeed.

His researches were not entirely medical by any means. He held that a knowledge of "how to do things" was the most useful knowledge that any one can possess, and he collected everything. He took nobody's word for it, he trusted nobody's say-so, he must know himself all about it, and that which he found good he used, and that which was bad he rejected.

The old doctor died in 1870, being ninety years of age, a long life measured by years, a very Methusaleh if measured by good intended and good actually done. His funeral was the largest ever known in the country. The wealthy and noble knew him as a man of vast knowledge and of broad charities, while the poor, whose sick he had attended and whose wants he had supplied so long, knew him as a steadfast, though eccentric friend. Therefore, all classes followed the good doctor to his grave, and never was a man so sincerely mourned by everybody.

In person, Dr. Carlin was a tall, spare man, with scant white hair, worn in a queue behind, as was the fashion of sixty years ago. He was scrupulously neat and very careful about his dress, as indeed he was methodical in his habits. He had a bluish, gray eye, which was always sad and pitiful, but would at times light up with merriment. He was never out of temper, never off his balance, but went through life as a man who had a work to do, and to whom life was not a mere holiday, but a most serious thing and one of responsibilities.

The good old doctor compiled his recipes at the age of seventy, and a queer book it was. It was written in the old style, and was arranged, as was his knowledge, without any attempt at order, and was full of bits of personal history and personal experience.

As entertaining as it is, it was illy adapted to the practical American who does not care a straw for the personality of an author, and who only wants to know what he wants to know in the shortest possible time.

Therefore, in bringing out "Old Dr. Carlin's Recipe Book," we have cut out all that is not direct and to the point, and have arranged the invaluable work he left in the form best adapted to the American public,

and have added such recipes as have been discovered and tested since his death. We have used all of Dr. Carlin's work and have added an immense mass of later discoveries, having tested our own matter as thoroughly as the old Doctor did his. We call especial attention to

THE PLAN OF THE WORK.

It is divided into departments, each separate and entirely distinct. These are arranged alphabetically and their headings will be found paged carefully just preceding the subject matter of the book. Further than this, the recipes contained in each department are placed strictly in alphabetic order, and indexed at the close of the volume. The whole is so methodically ordered that a moment's time will enable a person to find any recipe desired.

With this brief account of the book we submit it to the American people, believing it to be the most valuable collection ever offered, and knowing that it will be of incalculable benefit to thousands of people every minute in the day and every day in the year, for many a long year to come.

THE AMERICAN EDITOR.

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OLD DR. CARLIN'S RECIPES.

ACCIDENTS AND POISONS.

In every household there is always a liability to accidents, and sometimes very serious ones. Often a little knowledge on the part of those around the sufferer would prevent serious consequences. As this book is not designed in any way to be a complete medical guide, only those things which are most common or likely to occur have been inserted, and these are not expected to take the place of the family physician, but only to give directions how to proceed until his arrival, or in cases where the distance prevents his immediate attendance.

One of the first necessities in accidents or sudden sickness, is for those present to keep calm and collected. Any apparent nervousness, besides preventing proper care, is likely to produce disastrous effects upon the patient. Both firmness and gentleness are absolutely requisite, also courage and good judgment. Hysterical people, or those disposed to be noisily sympathetic, should be unceremoniously ejected from the room. Perfect quiet is a necessity, and this should be enforced absolutely.

Always be careful to have plenty of fresh air in a room where the patient is, and do not allow a crowd to gather around. Especially where there is insensibility should this precaution be exercised. But it is best always for the sufferer, for excitement may produce fever, which will materially lessen the chances of quick recovery.

Let there be no delay where there is a possibility of any serious results in procuring a physician. A slight mistake may prove fatal. These hints are, as we said before, simply designed to aid but not to take the place of medical advice when it can be procured.

ACCIDENTS.

Bee Stings.

A fresh tomato leaf crushed and rubbed on the puncture is recommended as an easy and sovereign cure.

Bee and Wasp Stings and Insect Bites.

Borax, 1 oz. pulverized and dissolved in water that has been boiled, and allowed to cool, ½ pt.; or the same amount of rose, elder, or orange water may be used.

Touch the bites or stings occasionally with the solution as long as any irritation continues.

The swelling and irritation from the bites of gnats and musquitoes is caused by an acid-like poison that is left in the wound. This alkali neutralizes it.

Bites of the Harvest Bug.

Drop a little benzine upon the spot, and it immediately kills the insect. The attacks may be prevented by sprinkling benzine upon the stockings before walking.

Bites of Insects.

A free application of ammonia to the part bitten will give instant relief from bites of bees, wasps, hornets, scorpions, etc. The part may afterward be covered with sweet oil.

Bites or Stings.

Apply immediately a plaster of clay or common swamp or gutter mud. This has been used with the greatest success, even in case of a rattlesnake bite.

Cuts or Wounds.

A wound produced by a sharp cutting instrument will heal without trouble when the edges are nicely brought together, and left so without putting on any salve, provided the access of air is shut off and the person possesses a good constitution. If the wound is produced by a rusty nail or a similar cause, so as to be jagged, it will soon become very inflamed, and in such a case it is recommended to smoke the wound with burning wool or woolen cloth. Twenty minutes in the smoke of wool will take the pain out of the worst wound, and if repeated once or twice will allay the worst case of inflammation arising from a wound.

Drowning Person—To Restore.

Carry the body with the head slightly raised. Remove the clothing and rub the body dry, then roll it in hot blankets upon a bed in a warm room. Apply warm bottles, bricks, &c., to the arm-pits, between the thighs, and to the soles of the feet. Rub with the hands inclosed in dry worsted socks.

If breathing has ceased, with the face downward place one of the arms under the forehead, so that the fluids will escape from the mouth and the tongue fall forward, leaving the wind-pipe free. If there is then little or no breathing, turn the patient upon the side and apply ammonia or snuff to the nostrils, or tickle the throat with a feather. Rub the face and chest, and dash warm and cold water alternately upon them. If this fails, place the patient upon his chest, with something under it, and turn the body briskly first one side and then back again, about 15 times a minute. This forces the air out and in the chest like regular inspiration and expiration.

After five minutes' effort, if breathing is not restored, seize the arms above the elbow, draw them gently above the head, keeping them there

about two seconds. This fills the lungs with air. Then drop the arms gently to the sides and press them there for the same length of time, which forces it out. Continue this until an effort to breathe appears.

After breathing is restored, restore the circulation as rapidly as possible by rubbing the limbs upward to send the blood towards the heart. Apply heat as first directed, and as soon as possible give a little wine, warm brandy and water, or coffee. Try to get the patient to sleep.

Do not give up the effort to restore life for at least 12 hours. Allow no crowding around the person. Do not hold up the body by the feet. Do not put it into a warm bath unless ordered by the physician.

Ear—To Remove Insects that have Entered it.

Lay the head upon the table and pour into the ear a little sweet oil or oil of almonds. A drop or two of oil will kill the insect, and the pain will cease. Afterwards syringe the ear with warm water.

Ear—To Remove Foreign Bodies from the.

Make a loop of six inches of very fine and flexible wire; pass it down to the tympanum and turn it carefully around. This is preferable to the scoop or the use of the syringe.

Eye—Lime in the.

It is quite often that lime is got into the eye of those who are working among it. As soon as possible drop in water made very sweet with sugar.

Eye—Blow in the.

In case of a blow severe enough to blacken the eye, apply immediately a cloth wet in water as hot as can be borne; keep on doing this for 15 or 20 minutes, and the blood that has coagulated there will become thin and pass off, leaving the eye swollen perhaps, but not discolored.

Fainting.

Loosen the clothing and place the person upon the back, with the head low. Let plenty of fresh air into the room, and do not allow a crowd to collect around the patient. Use gentle friction and apply camphor or ammonia upon the forehead and about the nostrils. Often all that is necessary is to lay the person full length upon his back, and let him alone, only giving him plenty of fresh air.

Hiccough.

Sudden fright or surprise will often cure at once. It may also be cured by the use of warm carminatives, cordials, cold water, weak spirits, camphor julep, or spirits of sal volatile. The complaint is sometimes removed by a pinch of snuff, a glass of soda-water or an ice-cream.

Limbs—Frozen.

Dissolve from ½ to ¾ lb. of alum in 1 gal. of warm water, and immerse the frozen limbs for 10 or 15 minutes.

Oyster Over-Eating.

When too many oysters have been eaten, and they lie cold and heavy upon the stomach, drink ½ pt. of hot milk and it will dissolve the oysters into a cream jelly that can be quickly digested.

Sunstroke.

There are two conditions resulting from excessive heat. In the first the person is faint, has a feeble pulse and a cool, moist skin. Remove him to a cool, shady place, apply cold water and ice to the head, and give some stimulant. In the second and more fatal form, the patient falls insensible, his skin is dry and hot, his breathing quick, and sometimes convulsions set in. Remove the person to a quiet, cool place, take off his clothing and rub his body with ice from head to foot, while pieces of ice are kept under the armpits.

Throat—Foreign Substances in the.

Cause the person afflicted to keep perfectly still; look into his open mouth, and if the obstruction is visible seize it with the fingers or long slender pincers. If you cannot get at it, push it into the stomach, if not of a nature to injure it, with the handle of a spoon, or whalebone covered with cloth. Otherwise give a few grains of tartar emetic or something to make the patient sick, and he will reject it in consequence of the relaxation. If a pointed body is swallowed, try to prevent any movement of the bowels for 12 or 14 hours.

Wasp Sting.

Apply an onion to the part affected.

POISONS AND THEIR ANTIDOTES.

Promptness of action is most important in case of poison. The first thing to be done is to empty the stomach. This can be accomplished by taking a teaspoonful of common salt and one of ground mustard stirred in a cup of cold water and swollowed instantly. This should be followed by large quantities of tepid water, which must be taken as fast as vomited. If pain is felt in the bowels give large injections of tepid water and repeat them often in order to dilute the poison as much as possible. If warm water is not at hand use cold water, as the principal object is to save time, and water in sufficient quantities has been found most valuable in cases of poisoning. The following are some of the most common articles that may be taken and thus endanger human life, with their symptoms and antidotes:

Ammonia.

Symptoms—An acid, burning taste in the mouth, with nausea and vomiting. There is also great prostration, with a cold, clammy skin, and small pulse. Give vinegar and water or any strong vegetable acid to induce vomiting. Follow this up with mucilages, emetics and cathartics. Finally give some opiate to induce sleep.

Arsenic.

Symptoms—Sickness and fainting, with a burning pain in the stomach. Vomiting follows and diarrhœa, while the thirst is excessive. The limbs become palsied, and insensibility, and finally convulsions, set in. A quick emetic must be administered, whites of eggs, warm water, anything that will produce quick vomiting. In all cases of poisoning the stomach pump should be employed as soon as possible.

Copper.

Symptoms—Metallic taste in the mouth; violent vomiting and purging; cramps in the thighs and legs, and frothing at the mouth. Usually there is a violent headache; followed by convulsions. Copious draughts of warm water should be taken after having used whites of eggs in order to produce vomiting. This should be followed up by strong coffee and mucilages. This poisoning is usually the result of cooking in copper vessels.

Corrosive Sublimate.

Symptoms—Strong metallic taste in the mouth, burning heat and stricture of the throat, pulse irregular, with the skin cold and clammy. There is also a difficulty in breathing. The whites of eggs should be used in large quantities; if they cannot be had, milk is a very good substitute. Vomiting must be produced as soon as possible. This is a very virulent poison and exceedingly rapid in action.

Nux Vomica or Strychnia.

Symptoms—A bitter taste in the mouth, spasms, fixed limbs, shut jaws, and drowsiness. Give an emetic to produce immediate vomiting. Use the stomach pump if possible, and follow with vinegar and strong vegetable acid.

Opium, Morphia, and Laudanum.

Symptoms—Great drowsiness, followed by stupor and heavy sleep. Produce vomiting immediately in the way mentioned above, or by giving 10 or 14 grs. of sulphate of zinc. After the stomach is cleared of the poison, use active stimulants, such as coffee, tea, brandy, and ammonia. The patient must be kept awake at all hazards until these have had time to take effect. Usually it is not safe to sleep for six or eight hours after vomiting.

Phosphorus.

Children sometimes suck matches and are thus poisoned. Give an immediate emetic. Let no time be lost.

Potash.

Symptoms—Acid taste in the mouth, while the throat and stomach burn like fire. The patient will sometimes vomit and purge, and the skin be cold and clammy. Give vinegar, lemon juice or any vegetable acid as an antidote. Then administer an emetic and injection, followed by something to induce sleep.

Prussic Acid.

Symptoms—The head is heavy with severe pain, while the pulse is quick and the stomach nauseated. In case of a very large dose, there are convulsions, and very slow and convulsive breathing. Cold water should be poured upon the head and spine, stimulating liniments to the chest, while strong ammonia should be applied to the nostrils.

Poison Ivy.

Dr. J. M. Ward, in the *Medical Record*, recommends the following remedy for poisoning by *Rhus radicans*, or "poison ivy": Use in all cases of poisoning by this plant Labarraque's solution of chloride of soda. "The acid poison," he remarks, "requires an alkaline antidote, and this solution meets the indication fully. When the skin is unbroken it may be used clear 3 or 4 times a day, or in other cases diluted with from 3 to 6 parts of water. After giving this remedy a trial no one will be disposed to try anything else. It is one of the most valuable external agents known to the profession, and yet seldom appreciated and but rarely employed. It will sustain its reputation as a local application in erysipelas, burns and scalds."

Sugar of Lead.

Symptoms—There is a prickling, burning sensation in the throat, followed by nausea. The bowels are constipated, but with colic pains. The skin is cold and pulse feeble and irregular. Cramps will set in, and numbness and torpor. Give Epsom salts, milk or whites of eggs and emetics.

The above are the most common forms of poisoning. In all others, both vegetable and mineral, the first mode of treatment described will generally prove efficient.

Suffocation from Gas.

Take the patient immediately into the fresh air, then dash cold vinegar and water into the face, neck and breast; apply in extreme cases mustard poultices to the soles of the feet. The warmth of the body must be kept up constantly. If necessary to restore breathing, try the same method as that recommended in drowning.

BEE-KEEPING.

The possession of one or more colonies of bees does not always secure to the owner a surplus of honey, over and above what is required for their winter subsistence. This result is mainly due to the manner in which the bees are kept; for a season is seldom experienced wherein the flowers do not secrete sufficient nectar during either spring or fall to amply provide for their winter stores and a reasonable amount for market. As there are usually "exceptions to all rules," so sometimes our best colonies fail to store surplus honey, which will generally be found to result from an internal disarrangement of the hive, which may be due to various causes, among which are the loss of the queen or mother bee, the presence of an unusual amount of drone or store comb, or in the ravages of the moth-worm. Either in due time will result in the utter loss of the colony unless attention is given them at the proper time by the owner.

Bee-keeping has of late years advanced greatly by the use of the movable frame hive, the honey extractor, and the prepared base of sheet wax or comb foundation, all of which have great advantages over the old method of manipulating bees and securing surplus honey. As many who keep a few stocks of bees are unfamiliar with the internal arrangement of the hive, being often governed by old-time superstitions in their management, it will no doubt be advisable to describe the various operations in a careful manner, in order to have the reader be able to successfully accomplish anything herein described. It is not intended to describe the old style of keeping bees, but to explain how one or more colonies of bees can be successfully managed and yield a surplus to the owner. As all may not be familiar with the kinds of bees in a hive, a description of them will be in place.

DIFFERENT KINDS OF BEES IN A HIVE.

A colony, or hive of bees contains three different kinds of bees, which are the queen or mother bee, sometimes called the "king" by inexperienced bee-keepers, the drone, or male bee, whose only mission is the impregnation of the queen; also, the worker, with which we are all familiar, as it is seen daily during the summer season in quest of the honey, with which it returns to the hive.

As it is necessary in the manipulations of the hive to distinguish one

from the other at first sight, it will be advisable to describe each in their order.

The Queen,

Or mother bee, of a prosperous colony is about an inch in length, with elongated abdomen. Her motions over the comb are slow and majestic; her mission is to deposit eggs in the cells which in due time (21 days) emerge perfect worker bees, thereby keeping up the strength of the colony, which is daily weakened by the loss of bees by age and in their journeys from the hive in quest of honey. She is capable of depositing several thousand eggs daily, and her life is from three to five years.

The Drone,

Or male bee, may easily be recognized by his handsome appearance, being larger in size than the worker and entirely destitute of a sting. They may be seen on any bright day during the swarming season, and fly with a loud buzzing noise. Their presence in the hive in the spring denotes the coming of the swarming season, for which provision should be made. During a scarcity of honey the worker bees of a colony containing a laying queen, destroy the drones, or compel them to leave the hive. This action, no doubt, gives rise to the prevailing opinion of the laziness of the drones and their expulsion from the hive on that account. A hive containing a queenless colony generally contains numbers of drones, even though the source of honey has failed. The drones are produced by the queen depositing eggs in drone comb, which emerges in 24 days a perfect insect.

The Worker Bee.

To this little insect we are indebted for our beautiful sections of comb honey and the golden yellow wax which is one of our most useful commodities. Who is it that has not witnessed the untiring labors of the busy bee in its life of labor of storing the liquid sweets in the cell she so skillfully prepares for it? As all are familiar with the appearance of the common honey bee, it is needless to describe it. The honey bee is short-lived during the honey season. It is estimated that a bee lives only from forty to sixty days; numbers fall by the wayside and are destroyed by birds, etc. During the winter, with proper care, they will live from six to nine months.

VARIETIES OF BEES.

At the present time we have in this country in common use but two varieties of bees, which are the common black bee and the Italian bee. Some special apiarists possess the Cyprian, a new variety newly introduced, and within a short time an importation of bees from the Land of Palestine has been received. It is said they possess qualities much superior to the native Italians, but their merits are as yet untested in

America. The above are those claiming the attention of practical apiarists at the present time. To those will we devote our attention.

The Italian Bee.

This beautiful insect is a native of sunny Italy, and was first imported into this country twenty years ago, (in 1860, by S. B. Parsons, of Flushing, N. Y). They have proved themselves to be far superior to our black or native bee in their ability to gather honey and to defend themselves from the attacks of the moth miller and robber bees. A colony of pure Italians is more easily handled, with less liability to assail the apiarist, than any other variety of bees known. To the inexperienced they may be distinguished by their golden appearance, being possessed of three bright yellow bands on the upper part of the body, and the tenacity with which they cling to the comb during its removal from the hive. A pure Italian queen may often be seen busily depositing eggs while the comb is exposed to the bright sunlight, seeming entirely fearless of the surroundings, the workers remaining quietly clustered over the comb, making no attempt to sting whatever; on the other hand the blacks are only to be subdued by the application of smoke, the queen endeavoring to secrete herself, the bees wildly running to and fro, dropping off over the ground, etc. The difference in this particular is at once apparent to the most inexperienced.

As the above description of the Italian bee is sufficient for the present, it will be next in order to describe the comb and its different kinds of cells and the use to which they are put in the economy of the hive. Before opening the hive for any special purpose, it is best to be able to recognize the various bees, cells, etc., when brought to our view.

Honey Comb.

On opening a hive of bees we find two kinds of comb which contain the honey and young bees, also queen cells, etc. For convenience, it will be best to make use of a movable frame hive, of which more will be said hereafter. We proceed to blow a few whiffs of smoke into the hive, after which the cover may be removed. We will now lift out one of the center frames with its adhering bees. You will observe a portion of the cells are larger than others adjoining; they are drone cells, and if the queen were to deposit eggs in them, male bees would be the result, which, if reared in excess, would only serve to consume the stores accumulated by the workers. Hence the necessity of removing all drone comb from the center of the hive or brood nest to the end or second story, where it will be filled with honey. *Bear this fact in mind,* for it is of vast importance. If by any means drone comb should be filled with larvæ, they can be destroyed when capped over by cutting off their heads with a sharp knife; the bees will soon remove the remainder. Drone cells measure about four to the inch or sixteen to the square inch, and are built during a strong flow of honey or by a queenless colony.

Worker or Brood Comb.

The greater part of the comb of a hive will consist of worker comb, and is mainly used by the queen to deposit eggs in for the purpose of rearing worker bees. The cells measure five to the inch, or twenty-five

to a square inch. A colony of bees in a movable frame hive containing only worker comb, will, if provided with a prolific queen, produce almost invariably a surplus of honey, and in the end is the most profitable. We will continue to describe the worker comb and its contents. A portion of the comb contains eggs newly laid by the queen. You will perceive the brood in all stages, from the larvæ to the perfect bee. Brood comb is the life of the hive, and on it depends much of the apiarian's success. Occasionally, when an old queen is occupying the hive, the brood comb will contain cells filled with larvæ, which rise above the surface of the comb from an eighth to a quarter of an inch. If an occasional empty cell is interspersed, you had better supply it with another queen, as she has become unfertile or spent, and produces only drones. The course to be pursued will be explained under the head of "Requeening Hives."

HOW TO COMMENCE BEE-KEEPING PROFITABLY.

If you do not already possess a colony or two of bees, it is far the most profitable to purchase one or more of an experienced bee-keeper, for which six dollars for blacks or eight for Italian is not too much, if contained in a movable frame hive. It is to be preferred in all cases, and if you get a young Italian queen, so much the better. Hybrids or part Italian are good honey gatherers, but are inclined to drive everything off the place if molested. Therefore, the reason for purchasing from a professional bee-keeper, who knows what he is disposing of, and has honor enough not to take advantage of another's inexperience. If you already possess bees, we will endeavor to explain how to manage to the best advantage, with the least outlay of expense.

Hives.

The successful working of an apiary depends much on having a good hive, well made, with each part interchangeable with any other, which may be on the yard. The style of hive is of secondary importance, provided it contains movable frames and is easily manipulated. As many bee-keepers in their days of inexperience have been induced to purchase a patent hive with moth trap attachments, which in many cases are worthless, only for hen's nests or kindling, a few remarks on the styles of hives in use by practical apiarists may prove of benefit, and each individual can then make choice of that which will suit his particular case.

The hive which is generally used in this country contains a frame measuring 9⅛x17⅝ outside measure, and is known as the Langstroth hive. Nearly fifty years of practical use has proven it to be one of the best, especially for the production of comb honey. It has some disadvantages, among which are the shallow frame for wintering, and the necessity of standing the frame on end during the process of extracting honey. The first can be obviated by allowing them the use of the combs in the second story, contracting the size of the hive if necessary. The second is of more importance, especially if the extractor is used, as the new combs are liable to break down during the process of extraction. Otherwise everything is in its favor. A sample hive can be purchased of any

reliable dealer in apiarian supplies, already nailed, for about one dollar and a half. With rack sections, etc., the cost will be more. It is advisable to secure the best and most complete hive for a sample to work by, as it is cheapest in the end.

For the production of extracted honey, or the working of bees on shares throughout the country, a hive containing a frame 11½x11½ is to be preferred to the above. It was originally used by Mr. E. Gallup, now of California, and is known as the Gallup frame. The hive is usually one story, from 12 inches to 3 feet long, as may be desired. It is easily made of cheap lumber. Stock boards answer very well for the purpose. The frame hangs in the extractor the same as in the hive, and the most tender combs can be extracted from it without the danger of breaking. The depth is satisfactory for wintering, and for those who give but little attention to their bees, it is admirably suited, as the size of the hive can be adjusted to the strength of the colony by division boards. There are numerous other hives in use, but they are used principally by specialists. With either of the above hives success can be obtained. Before leaving the subject of hives, it will be well to caution all against purchasing rights to use any particular kind of hive, or for using a division board to confine the bees to the space necessary for them to occupy. Parties are claiming in various localities that they have the exclusive right to use those division boards, but it is only another way to extort money from the inexperienced bee-keeper. The size of the frames of other hives in use are as follows: The "Quinby hive," designed by the late Mr. Quinby of New York, who was one of the most observing of our pioneer bee-keepers, is of the following dimensions: for the suspended frame, 18½x11½; for the closed end Quinby, 19½x11 deep. The American hive contains a frame 12x12, and has been in use for a long time. So far as the superiority of one frame over the other is concerned for the production of honey, we think there is but little difference. Different apiarists adhere to those they are the most accustomed to. Whatever hive is made use of, care should be taken to have all parts interchangeable, and much trouble will be avoided.

Transferring.

It is advisable, if bees are purchased, to secure them in the hives in which they are to be kept permanently, even if a small advance on the price is demanded. You are then enabled to open them and see the condition in which they are, the amount of stores they possess, besides having them ready for business at once. To a beginner much trouble, and possibly loss, will be saved by so doing. When bees in box hives, with the comb built in all directions, can be secured for a reasonable amount, it may pay to transfer, especially if done during the time the fruit trees are in blossom. They then will have the means of repairing the combs, which are fitted into the frames, and have all in condition to secure the crop of clover honey which will arrive a few weeks later. The process of transferring is one requiring care, and if no experience is had in the matter, it would not be amiss to observe a practical bee-keeper if opportunity offered. We will, however, give plain instructions for any one to follow in order to be successful. The following tools are necessary and should be near by before commencing operations, viz.: a hatchet or ordinary hammer, a stout chisel to cut the nails in the old

hive and pry it apart, a piece of hoop iron or saw blade provided with a handle to separate the combs from the sides of the hive—if nothing is at hand an ordinary carpenter's saw will answer. To retain the combs in the frame, small wires, the depth of the frame, are frequently used, the ends bent at right angles and fastened to top and bottom of the frame, two or three on a side; an equal number are required for the opposite side; if the wire is not to be procured, small strips of wood ¼ inch longer than the frame is wide, with the end attached ¼ inch apart by either fine wire or twine. After the comb is in place, the opposite ends are fastened and the comb will be held securely. Sufficient strips should be in readiness to fasten all the combs into frames. If possible, secure a place where the bees can not molest, as a cellar or closed room; place a small box upon the stand the old hive is taken from to catch any bees that may return during the transferring. After quieting with smoke, carry the hive to the place prepared and place upside down. A small box large enough for the bees to cluster in should be placed over the hive, and by rapping on the side of the hive for a few moments, they will ascend into the box; after they are fairly started, take your hammer and chisel and cut the nails on the side of the hive nearest the flat side of the comb, then with the end of the saw separate the side of the comb from the board and remove when the full sheet of comb is exposed to view. The comb should be laid upon a few thicknesses of blanket on a stand or table and the size of the frame marked out, and the frame placed over. Slide under your sticks and fasten the ends and hang in an empty hive; proceed in the same manner, giving care to save all the brood in the various stages and discarding all drone comb, which should be placed in separate sheets and used for store comb. When all is completed, the bees having ascended into the box, the comb is placed in the new hive and carried to the place it is to occupy, the bees shaken in front of the hive, which they will soon enter. When all are inside, contract the entrance to prevent robbers from entering. Attention should be given them occasionally to see that they are not molested, and in a few days examine them and see if the queen is laying, and remove the strips from such frames as have the combs securely fastened. Keep all the brood in the center of the hive, and if not entirely filled, contract the space with a division board, giving them only as much comb as they will cluster over. They are thereby enabled to generate more heat and repair the combs much sooner than if allowed the use of the whole hive. When all are repaired and the sticks removed, place a frame filled with foundation between two frames of unsealed brood. If honey is being gathered freely, the bees will soon have it built out and filled with eggs; repeat the process until the hive is filled with straight comb. Keep the bees crowded together as closely as possible; they breed faster and build comb better for so doing. Should any of the colonies prove weak, they can soon be strengthened by the addition of a sealed brood, and a frame or foundation put in the place from whence it was taken. Shake off all bees before removing from the hive, as you may lose the queen by neglecting to do so. As the colonies will, by the above treatment, become very strong, care must be taken to prevent swarming, if you wish to secure surplus honey. A very convenient way to do this is to clip the wing of the queen, so that if a swarm occurs she is unable to follow and the bees return to the hive in a short time when they discover her absence. The hive should be placed a few inches from the ground and a slanting board placed in

front to prevent her being lost. Another way is to examine the hives every ten days and remove all queen cells. They may be entirely destroyed, or if found in the colony containing your choicest queen, they can be transferred to nuclei to hatch, and in a short time you will have a few young queens with which to requeen your colonies or build up new ones. Special directions will be given to rear queens and increase colonies, later.

As the honey season advances, and white clover is in full bloom, the bees will busy themselves in securing a portion of the nectar secreted. If the foregoing instructions have been followed, the colonies will be strong, and, as a consequence, honey will be secreted rapidly. When on opening a hive and removing the blanket covering the frames, wax braces are found under the cloth and the edges of the comb are tipped with new wax, you can begin to make preparations for either extracting or pulling on the sections, for surplus honey; in the former case, lift out a few of the center frames. If the cells are sealed one-third of the way down, the balance of the comb partly filled with honey, you can, without detriment, proceed to extract.

The Honey Extractor

Was first invented by an enterprising German, whose attention was drawn to a boy to whom he had given a piece of new honey-comb while visiting his apiary. The honey-comb was placed in a small pail in order to dislodge a bee. Boy-like, he swung it round his head, which had the effect to separate the honey from the comb in the bottom of the pail. The apiarist, by a modification of the plan observed by him, produced the centrifugal honey extractor.

As many persons are under the impression that extracted honey is produced by pressing the comb to remove the honey, a brief description will be given. A metal can, about two feet high by about twenty inches wide, is provided, with a reel supported by a central shaft and provided with a wire screen on its opposite sides. Motion is given to the reel by a suitable crank attached to the top of the central shaft. The manner of using is as follows:

How to Extract Honey.

Provide yourself with a box or extra hive in which to carry your combs to and from the place where you propose to use your extractor. After smoking your bees slightly, open your hive and lift out the end comb. Brush the bees off with a duck wing or bristle dusting-brush, which should be previously dipped in water; place the comb, after the bees are removed, in the box; take the comb from opposite ends alternately, leaving three or four in the center of the hive undisturbed. You will, by so doing, allow the bee combs to cluster upon that and be in less danger of losing the queen. Should a lull in the honey yield occur, your bees will have a surplus left to rear brood upon. After the combs are removed, your box filled, cover your hives with a cloth to prevent the bees from clustering on the outside and prevent robbing if honey is scarce. As you are now ready to uncap your combs, you should provide yourself with a large tin pan, a pail of tepid water, and an uncapping knife, which can be obtained of any supply dealer for one dollar. A cup or bowl inverted in the center of the pan, for the corner of the

frame to rest upon, will be found convenient; having your knife as sharp as possible, rest the frame upon the corner and with the knife pare off the cell coverings on one side not more than an eighth ($\frac{1}{8}$) of an inch thick; repeat the process on the opposite side and suspend in the extractor; when another is completed, suspend it opposite, and by a steady motion the honey will be thrown through the meshes of the wire cloth against the inside of the can, from which it can be drawn by the honey gate provided for the purpose. When the combs are all extracted, care having been taken that no brood has been thrown out by too swift a velocity given to the reel, they are to be replaced in the hive, taking care to place all drone comb at the end of the hive. It will be well in replacing combs to see if eggs and brood are present in the center combs left in the hive. If absent, supply from the next colony strong enough to spare it. Proceed thus until all the hives are extracted from.

Extracted Honey.

As the colonies will yield from 10 to 40 pounds apiece, according to size, a few words in relation to the care of extracted honey may not come amiss. As extractors are now generally made to contain from 40 to 150 pounds of honey underneath the reel, it is not necessary to draw off as each hive is extracted from. When the honey comes up to the reel, draw off into stone jars or any convenient receptacle, being careful to leave sufficient in the bottom of the extractor to avoid drawing off the scum into the jars. Cover and stand away in a dry, cool place. Many persons pass the honey through a bag made of cheese cloth or flour sieve, which removes any bees or particles of wax that may have fallen in while extracting. If honey is secured in any quantity, barrels should be provided beforehand. They should be coated with parrafine or beeswax in order to prevent them from leaking, which can be done as follows:

Preparing Barrels.

Procure, if possible, new iron-bound oak barrels, made specially for honey by being shaved inside. Caution the cooper against charring them, as the specks of charcoal sometimes spoil the appearance of the honey. When thoroughly dry, drive down the hoops, and coat the inside with melted parrafine as follows: procure 5 or 6 pounds of parrafine, heat in a kettle until quite hot, with a funnel pour into the barrel, bung up tightly and roll around until the entire inside is cooled; remove the bung and pour the remainder into the melting pot again. If the parrafine is very hot, one pound will be sufficient for a barrel. If the barrels are old it will be necessary to burn a small piece of sulphur in the barrel to remove mustiness. You will now be ready to fill your barrel, having weighed it previously. When full, stand on end, especially if not intended for present use, as honey is liable to granulate. If designed for shipping or use after granulating, all impurities will rise to the top and can be removed when the head is taken out, leaving the balance free from specks, etc., which would injure the sale.

Comb Honey.

Having described the method of procuring and caring for extracted honey, comb honey will next command our attention. If one story

hives are used sections should be filled into frames, and provided with starters and placed in the ends of the hives. The bees will soon occupy them and build out and store honey. It is customary to use broad frames in order to keep the sections clean; they should be provided with tin separators in order to keep the sections in shape and prevent being built too close to the adjacent combs. If a two story hive is used a crate can be filled out with but a single tier of sections, provided with starters and separators. The sections are wedged in place. When filled they can be examined and removed, replacing them with others. Many persons use broad frames in the second story of the hive; the bees are caused to ascend by placing a frame or two of brood in various stages in proximity to the sections. It is preferable, where second stories are used, to extract honey. When the second stories are filled, a tray of sections can be placed beneath, which will be filled separately if the honey flow continues and the colony is kept from swarming. Comb honey can be sent to market in good shape by packing in shipping crates containing 25 to 40 pounds each; by having the sides of the crates glassed, it will show to good advantage, and will command care and attention in handling, which would not be the case if entirely enclosed. As the season for storing surplus honey closes, there will be found sections incompleted; they can be extracted from and laid away for the coming season, when all sections filled with comb will be quickly utilized by the bees to the benefit of the apiarist. If colonies are strong in early spring, it will be advisable during fruit bloom to place empty frames in the center of the body of the hive to build starters for sections; they should be removed before the queen fills them with eggs, when others will be built. In order to secure a surplus of comb honey, every advantage must be taken that is possible, or it may not prove a financial success, especially if the season is unpropitious. The main essentials in the production of comb honey are *strong colonies of Italian bees*, a good flow of honey, and an entire exemption from the swarming fever, bearing in mind an increase of colonies is only obtainable at the expense of surplus honey. It is not best to increase your stocks over one swarm from each original colony. In many cases one swarm to every two old stocks will be more profitable in the end.

The question arises, what shall we do with the extra swarms which may issue? Save only the strongest, turning the others into your weakest colonies, thereby bringing them up to the standard for securing a large yield of surplus honey. If the colony to which you wish to unite them possess a choice queen, it would be advisable to secure the queen accompanying swarms before throwing them together; this can easily be done, especially if you are able to distinguish the queen on first sight. Procure a sheet, which should be opened on the ground; at one side place an empty hive into which the bees can easily enter. Shake the swarm in front of the hive about two feet, and with a feather the bees can be directed to the hive; after a few enter the others readily follow. Watch closely for the queen, and as she passes over the sheet cover her with a glass tumbler, which should be on hand for that purpose. Should the queen not be found, repeat the process. If two swarms cluster together, it would be well to hive them instead of uniting with other colonies. It is far better to have ten strong colonies overflowing with bees than three times the amount so light that they can barely maintain their existence. If possible keep the best bees to be procured, have your hives well made and painted, your surroundings attractive, taking pride

in the appearance of your apiary; at all times have a place for your empty hives, frames, etc., where you can readily find them when needed.

HOW TO RAISE QUEENS.

As it becomes necessary to requeen our older colonies from time to time as the queen becomes unprolific through age, also to supply other colonies whose queen does not come up to the standard, we will give full directions how to proceed in order to be successful. As the methods practiced by apiarists differ, we shall endeavor to show how new colonies can be built up from one or more old ones without reducing their strength, which would prevent them taking advantage of a honey yield to secure a surplus.

If but one colony is possessed, and it is desired to increase by other than natural swarming, proceed as follows: When the hive is strong in bees, divide it by means of a division board, preventing all communication between the opposite sides. Examine the combs and place the greater part of the sealed brood on the side the queen remains, leaving plenty of eggs, larvæ and young bees on the opposite side. In a short time they will detect the absence of the queen and proceed to form queen cells. Should the cells be formed from an egg newly laid, the queen would emerge in 16 days. Bees sometimes make use of larvæ several days old in forming queen cells, so provision must be made for such a contingency. As the queen first to emerge from the cells destroys all other cells and the embryo queens, one or more frames containing cells should be removed to another hive or nucleus on the ninth day after removing the old queen, as on the following day a queen may hatch. The nucleus can be placed near to the parent hive and a frame of brood given it from time to time as can be spared from the original hive. The young queen generally begins to lay from a week to 10 days after being hatched. After removing the frames containing cells from the original hive the division board can be removed and an empty comb or two put in the center of the hive. As it is not policy to increase more than one swarm from a colony, especially if inexperienced, this should suffice, as the chance for wintering is much better with colonies strong in bees than those containing an insufficient number.

As many possess more than one colony, the following method can be followed in order to start two or more nuclei at one time:

Remove the queen from a populous colony and place her in a separate hive with two frames of brood and adhering bees; place an empty worker comb in the center of frames of brood; contract the hive with a division board, also contract the entrance in order to prevent robbery. If less than eight frames are left in a hive, supply frames of eggs and brood from other colonies, taking care to shake off the bees before removing from the hive in order to avoid shifting the queen. Mark on the hive the date of removing the queen to prevent mistakes. On the tenth day at the utmost your colony will be ready to break up into nuclei—seeing that each two frames contain at least one large mature cell, which will hatch in due time. Care should be taken to contract this nucleus or hive by a division board, also the entrance. If it is not desired to remove a queen and break up a colony, separate a colony by a division board until cells are ready for removal. On the ninth day take

a frame of bees and brood from each of the remaining colonies, supplying its place with empty comb or foundation; if the colony is strong, two frames of bees and brood can be spared. (See that the queen is not removed). Place two frames in nucleus, and on the following day (the tenth) the cells can be transferred. The object of preparing the nucleus the preceding day is to allow the bees to detect the absence of the queen, otherwise the cells would, in many instances, be destroyed. Strengthen your colonies by the addition of sealed brood from the original colonies. A convenient time to increase by artificial swarming is during the honey drouth in July. A few queens should be raised early in the season to supply any that might be lost by accident, or to replace an unprolific or spent queen.

Introducing Queens.

The most successful method of introducing queens has been found to be that of placing the old queen in a wire cage previous to introducing the new one. In a short time the cage acquires the scent of the old queen, then remove her and place the new one in the cage the other occupied. Leave her thus caged about 24 hours, when she can be released. Care must be taken that she can procure honey, which can be provided by placing the cage between the two top bars, breaking the honey before inserting the cage. In requeening few losses will occur if this method is followed. When a colony has been queenless and has commenced building queen cells, more care must be taken or she will be destroyed. In releasing the queen observe how she is received; if all is harmonious, and she passes quietly over the combs without attracting the attention of the bees, all is well; if the bees endeavor to ball her or bite her wings, recage her and try again on the morrow. Always be careful that no queen is occupying the hive in which you wish to introduce her, as either one or the other will invariably be lost.

Queen Cages.

A number of these essential articles should always be accessible on a moment's notice, as frequently a valuable queen can be saved, which otherwise would be lost. They can easily be made of screen wire bent over a hard wood stick about one half inch thick by one inch wide—the length should be about two inches or more. If the wire cloth is painted, burn it off before making up into cages. Secure the ends of wires to prevent injury to the queen.

UNITING BEES.

At the close of the honey season, when the frost destroys the flowers, we may often find colonies which do not contain bees sufficient to winter. These can be united into one strong colony, which, with their combined stores, will come through all right. Unlike uniting two separate swarms during the swarming season, bees in the fall require different treatment. Select two or more colonies to be united, and after thoroughly smoking with tobacco smoke, shake all into an empty hive and place on the stand the strongest occupied. The queens will all be de-

stroyed but one; place the heaviest combs in the body of the hive; put on a second story after spreading a piece of cloth over the frames; except an inch at each end for the bees to ascend. Place the remaining frames in the second story. The bees will soon remove the honey to the body of the hive. Breaking the cell coverings will facilitate the removal of the honey. Uniting should be done any time after the first frosts occur in the fall.

Feeding Preparatory to Wintering.

After the colonies are all equalized by uniting such as have insufficient stores, food should be supplied as soon as possible, before the extreme cold nights occur. If full frames of honey are at hand there is no necessity for feeding; if not, extracted honey diluted with one-fourth its bulk of water should be brought to the boiling point, care taken that it does not burn; remove the scum; when cool, it can be put in a wood or tin vessel and placed directly over the frames. A piece of muslin should be suspended from the sides, especially if the vessel is tin, for the bees to crawl up on. A handful of bent straws over the surface of the honey will keep the bees from being drowned, though, if a wooden box is used and placed over the combs while the bees are in the body of the hive in the cool of the morning, no loss will result by drowning, even if the feeder contains a gallon or more. When fully fed remove the feeder and pack for winter at once. Should honey be scarce, bees can be wintered upon sugar syrup fully as well as with honey. This can be prepared as follows: Procure only granulated or coffee A sugar; to every 12 pounds take 1 gallon water; dissolve the sugar in the water and stir until it is entirely dissolved, allowing it to simmer 2 or 3 minutes. Special care should be taken not to allow it to boil. This syrup can be fed as stated previously.

WINTERING BEES.

The subject of wintering bees is one to which we hardly think we can do justice. The various theories on the subject by different apiarists are conclusive that what is successful in one locality may not succeed in another. One of the causes of mortality among the bees outside of insufficient stores is unwholesome honey, which induces a dysentery of which many perish. Another source of loss is "swarming out" in the warm days of March. For some unknown reason the bees and queen forsake the hive and unite with other colonies, only to be destroyed and dwindle away. The loss from this source alone has been so great as nearly to annihilate an apiary of over a hundred colonies in a few days. The bees forsake the full combs of honey and accompanying brood, which soon perish. The queen is destroyed soon after entering the strange hive, robbing ensues, and disaster is everywhere apparent. If those colonies, whose population was increased by the exodus, would remain in their thrifty condition, matters would not be so bad. In one short week they too would be requiring assistance to withstand the cold days soon to follow. It would seem the bees can not withstand the excitement which they undergo, and being present in such numbers, consume the honey from the center of the hive where it is most needed.

On their next flight nearly all are lost, and the colony lately so strong, is among the weakest. Our best apiarists are unable to give reasons for "swarming out." Our bee journals, with their facilities for communication, are unable to furnish a remedy. We must, therefore, observe the conditions and endeavor to remove the cause if it can be found.

The foregoing statements will serve to inform those about to embark in apiaculture as a pursuit, of what at times may be expected. They are designed, also, to correct, if possible, the impression that apiaculture is specially suited to invalids, and others, desiring an easy and light occupation which will yield a handsome return for time and labor bestowed. As a rule, such publications as "Blessed Bees" and other articles in the various periodicals, which serve to show the large pecuniary returns of a few colonies of bees, are traceable indirectly to publishers of bee literature, or dealers in apiarian supplies, who evidently have an ax to grind, and enhance their sales by the publishing of similar articles.

In and Out-door Wintering.

Among specialists in apiaculture, two methods of wintering bees are in general use, viz: wintering on the summer stands, and storing in a dry and well-ventilated cellar. We will give both methods, and bee-keepers can choose between them. As far as observation goes, it is considered the majority are in favor of out-door wintering. The method is as follows: About the first of October, according to locality, the bees should be examined, and the frames in the second stories removed to some suitable place; if empty, they should be stored until spring; if filled with honey, it should either be extracted entirely, or replaced in such colonies as are insufficiently provided with stores. Examine the lower story, lifting out each frame, and making a passage-way about two inches from top of frame, if not already done. This will allow the bees access from one frame to the other. Each frame should contain sealed honey two-thirds the way from the top bar; reject all drone comb from the lower story. If the colony is very strong in bees, give them one more frame than they will cluster over, which will be about six; place your division board within one-fourth inch from the outside comb. A Langstroth hive thus prepared should contain about twenty-five pounds of honey, which should be sufficient until the fruit trees are in bloom. After placing the combs, put on the second story. Have ready a piece of bur-lap or wool sacking and place two thicknesses over the combs, having first laid two pieces of frame material over the frames; a cushion of chaff about six inches thick should next be filled in the second story, to allow the moisture which arises from the bees to be slowly absorbed, as the main element of successful wintering lies in keeping the *bees perfectly dry under all circumstances.* When properly prepared, there will be a sufficient air-passage through the loose chaff to prevent the condensation of moisture on the sides of the hive, which will, if not prevented, result in the loss of bees. In order to prevent the entrance from being closed by snow or dead bees, it is necessary to bore an inch augur-hole two inches above the entrance to the hive which will afford sufficient ventilation and egress of bees at any time. Many persons further protect their bees by surrounding the hives with a box filled with chaff, having first bridged over the entrance of the hive; if chaff-packing is made use of on the outside of the hive, the top cover of the hive should be partially removed or the bees are liable to smother, especially if crowded on five or six frames.

Instances have been known of bees having wintered in hives open from top to bottom, exposed to the cold winds during the entire winter, which shows conclusively that it is not cold that causes the mortality among bees, but rather the lack of ventilation, which causes the moisture arising from the cluster to condense and freeze them into a solid mass.

Cellar Wintering.

The essential features of a cellar for wintering bees successfully are perfect ventilation, freedom from moisture, and absolute quiet. Ventilation through a chimney is considered superior to any other plan, taking the air from the floor. The cellar should be dark and well drained, with an earthen floor if possible; cement is said to be objectionable. The bees should be examined as to stores, a less quantity of honey being required in the cellar than when exposed to the rigors of winter. Remove the cover, using only the lower story; cover the hive with one thickness of muslin or burlap to prevent the bees leaving the hive from the top; place the hives level a short distance from the floor and pile one on top of the other if space is not sufficient to accommodate all on the platform prepared for them. The temperature should not exceed 60° Fahrenheit, nor beneath 40°. When all is prepared, close the cellar and leave them in absolute quiet. Many apiarists allow their bees a purifying flight during one of the pleasant days of winter, replacing them upon their summer stands for the purpose, which, in some instances, is inconvenient and often impracticable. Others allow them to remain in quiet until ready to set out in the spring. The proper time is considered to be when the maple and willow buds begin to open. After removing from the cellar, it is advisable to stand a slanting board in front of the entrance in order to have them properly locate their respective hives; the board can be removed in a short time. After removing from the cellar they should be examined as to the amount of stores they possess. If insufficient to last until fruit trees bloom, a frame of honey or cake of maple sugar laid over the frames will enable them to keep up an existence until they are able to gather sufficient from the budding fruit trees, and other spring flowers. Should the weather be wet during the time the trees are in bloom and no honey of any consequence be gathered from that source, feeding must be resorted to in order to keep up brood, rearing until clover comes in bloom, when no further necessity for feeding will be required. With these instructions properly followed, bee-keeping can be made a success, and surplus honey secured, though much depends upon the season. The present, that of 1880, has been one of the worst ever known.

CEMENT, GLUE AND PASTE.

CEMENTS.

Aquaria.

This cement sticks to wood, stone, metal, glass, etc., hardens under water, and can not injure animals or plants: 1 gill of litharge, 1 of dry white sand, 1 of plaster-of-Paris, and ½ gill of finely powdered resin. Sift and keep corked until required for use; then make into a putty by mixing in boiled linseed oil, with a little patent dryer added. Must not be used after it has been mixed with the oil over 15 hours. This cement resists the action of salt as well as fresh water. It is best to give it 3 or 4 hours to dry.

Architectural Cement.

Take equal parts of paper paste and size and finely powdered plaster-of-Paris, to make it of a proper consistence. Must be used as soon as mixed. This can be used in making architectural statues, columns, busts, etc. It receives a good polish, is very light, but will not stand the weather.

Armenian Cement, (Keller's).

Soak ½ oz. of izinglass in 4 ozs. of water for 24 hrs.; evaporate it in a water bath to 2 ozs., then, after adding 2 ozs. of rectified spirits, strain it through a linen cloth, and while warm, mix it with ½ oz. of gum mastic dissolved in 2 ozs. of rectified spirits; add 1 dr. of powdered gum ammoniac; triturate them rapidly, to avoid evaporation of spirits, until thoroughly incorporated.

Boots and Shoes, To Mend.

Raw gutta percha, 1 oz.: resin, the size of a hen's egg; bisulphuret of carbon, 1 lb. Dissolve the gutta percha in the bisulphuret; add the resin; when dissolved, bottle for use. The leather must be clean, and scraped a little to make it adhere.

For Cisterns.

Wash into a paste with boiled linseed oil, equal parts of red and white lead. It hardens slowly, but surely. It should be made thin, and the metal thoroughly smeared with it.

Cement, Curd.

To ½ pt. of skimmed milk, add ½ pt. of vinegar; mix the whites of 5 eggs, well beaten and enough powdered quicklime to form a paste with the curd. This will resist water and a moderate amount of heat.

For Cutlers.

1. Melt together 1 lb. of colophony and 8 ozs. of sulphur; and either keep in bars or reduce to a powder. Mix 1 part of the powder with ½ a part of iron filings, fine sand, or brick-dust, and fill the cavity of the handle with the mixture. Heat the stem of the knife or fork and insert into the cavity, and when cold it will be as strong as when new.

2. Melt together 4 lbs. of black resin, 1 lb. of beeswax, and add 1 lb. of finely powdered and well-dried brick-dust.

For Earthenware.

Melt shel-lac and run it into small sticks the size of a quill. Heat the edges to be joined hot enough to soften the cement, smear them over and hold tightly together until cold.

Cement, Egg.

To mend earthenware, glass, china, marble, alabaster, etc., use the white of egg thickened with finely-powdered quick-lime. It does not resist moisture.

For General Use.

Dissolve gum-arabic, ½ oz., in water, a wine-glassful, by putting it, boiling hot, upon the bruised gum; when fully dissolved, stir in very finely powdered plaster-of-Paris to make a thick paste. Apply with a brush to the edges of the articles to be mended, and press them firmly together until it sets a little, and keep them in position until dry. This will be as good for toilet articles as for any kind of table dishes. The cement being white, of itself, it will scarcely be noticed; but any mended dishes should not be put in hot water for any considerable time.

Glass, To Metal To Attach.

Mix 2 ozs. of a solution of glue with 1 oz. of linseed oil varnish, and ½ oz. of pure turpentine; boil in a close vessel. The metal and glass should be clamped and held together for about 2 days after they are united.

Cement, Glue.

Take 1 oz. each of isinglass and parchment size, 2 drs. each of sugar candy and gum tragacanth; add 1 oz. of water, and boil all together till the solution appears, when cold, of the consistence of glue. If this glue be wet and rubbed on the edges of paper, silk or leather, they will, if laid together, pressed slightly and allowed to dry, be as firmly united as other parts of the substance.

Cement, Glycerine.

A durable cement for iron upon iron, for two stone surfaces, and for fastening iron in stone, is made of glycerine and litharge, stirred to a paste. It hardens rapidly, is insoluble, and is not attacked by strong acids.

For Grafting.

Take 1 lb. of beeswax, 1 pt. of linseed oil, 6 lbs. of resin. This cement will not run in summer nor crack in winter.

Cement, Hydraulic.

This will harden under water. Mix 1 lb. of oxide of iron with 3 of well dried and powdered clay. Make a stiff paste by adding a sufficient quantity of linseed oil.

For Iron Boilers.

To stop the cracks and leaks in iron boilers, stoves, etc.: 1. Make a paste with boiled linseed oil of 6 lbs. dried clay in powder; 1 lb. iron filings.

2. Mix well in a mortar, 2 ozs. of muriate of ammonia, 1 oz. of flower of sulphur, and 16 ozs. of cast-iron filings or turnings, and keep the powder dry. Take 1 part of this and 20 parts of clean iron filings or borings, grind together in a mortar, mix with water to a proper consistence and apply between the joints.

Japanese Cement.

Mix the best powdered rice with a little cold water; then gradually add boiling water till a proper consistence is acquired, being careful to keep it well stirred all the time. Lastly, it must be boiled for 1 minute in a clean saucepan. This paste is beautifully white, almost transparent, and well adapted for fancy paper work, or other things requiring a strong and colorless cement.

For Jewellers.

Soften some isinglass in water and saturate strong brandy with it until there is 2 ozs. of glue. Rub in 2 pieces of sal ammoniac. Make another preparation by dissolving 6 pieces of gum mastic, the size of peas, in alcohol, using the smallest possible quantity. Heat these two compounds until they mix well together. Put in a bottle closely stoppered. Before using, the cement must be softened by setting the bottle in warm water. This is considered perfect for uniting 2 metallic surfaces.

For Lamps.

A good recipe for a cement for kerosene lamps is said to be: 3 parts resin, 1 of caustic soda, and 5 of water. Mix this composition with ¼ of its weight of plaster-of-Paris. It will set firmly in about three-quarters of an hour.

For Leather.

Add to 10 parts bisulphide carbon and 1 part spirits turpentine, enough gutta-percha to make a tough, thickly-flowing liquid. Apply the coat to both surfaces; place under weights, till the joints are dry. The surfaces to be joined must be freed from grease; to do this lay a cloth upon them and apply a hot iron.

For Leather and Cloth.

To unite the parts of boots and shoes, and for the seams of clothing, use the following: 1 lb. of gutta-percha, 4 ozs. of India rubber, 2 ozs. of pitch, 1 oz. of shellac, 2 ozs. of oil. Melt the ingredients together and use hot.

Cement, Liquid.

Cut gum shellac in 70 per cent. alcohol. Apply to the broken dish with a feather, and hold it in a spirit lamp as long as the cement will simmer; then join together evenly, and when cold the dish will break in another place first.

For Mahogany.

Add as much yellow ochre as is needed to give the right color to 4 parts of beeswax or shellac melted with 1 part of Indian red. This can be used for stopping holes and seams in mahogany furniture.

For Mending Stone, etc.

Mix in fine dry powder 20 parts of well washed and sifted sand, 2 of litharge, and 1 of freshly burned and slacked quicklime. This is suitable for filling up cracks, etc. It sets in a few hours, and has the appearance of light stone.

Red Cement.

The red cement used for uniting glass to metals, is made by melting 5 parts of black resin and 1 part of yellow wax; when entirely melted, stir in gradually, 1 part of red ochre, or Venetian red in fine powder, and previously well dried. This cement should be melted before it is used, and it adheres better if the objects to which it is applied are warmed.

For Stone.

Take equal parts of infusorial silica (which is imported from Germany) and oxide of lead and mix together. Then add ¼ part of freshly slacked lime and make the whole into a paste with boiled linseed oil. This forms a cement of extraordinary power, and is very useful in such work as fixing iron in stone. It is said not to expand in setting, so that there is no danger of splitting the stone.

For Stopping Leaks About Chimneys.

Take dry sand, 1 part; ashes, 2 parts; clay, dried and pulverized, 3 parts. Pulverize and mix into a paste with linseed oil. Apply it when soft, and when it becomes hard, water will have no effect upon it.

For Stopping Leaks Around Chimneys, (2).

A very durable and cheap plan to prevent leaks about chimneys is to go to a painter and get his "paint skins," (a skin that forms on paint left standing for some time), with as much linseed-oil, and boil them together; and while hot, thicken, to a proper consistence, with clean sand, and apply at once.

For Stoves.

1. Sift good wood ashes through a fine sieve; add the same quantity of clay, finely pulverized, together with a little salt. Moisten with water enough to make a paste, and fill the crack of the stove with it.
2. Make a paste of soluble glass and barytes, with or without some fine fireclay; the soluble glass may be replaced by a solution of borax, and both these and the barytes by a mixture of clay and powdered glass.

Turkish Cement for Water Pipes.

Fresh hydraulic lime (water-lime), any quantity, according to the work to be done, and *half* as much pounded brick, or pounded tile, finely sifted—by measure—and chopped tow to make it like our common hair mortar. Mix dry, as wanted for use; then wet up with linseed-oil (if it is boiled it will dry quicker) to the consistence of common mortar.

White Cement.

Plaster-of-Paris, mixed with gum arabic water, makes an excellent white cement, but must be used immediately, as it hardens quickly. A mixture of 5 parts gelatine to 1 of acid chromate of lime, applied to broken edges, which should be pressed together and exposed to the sunlight, makes an insoluble cement.

GLUE.

To Make and Use Glue.

Break the glue up small, put it into an iron kettle, cover it with water, and allow it to soak 12 hours; after soaking, boil until done. Then pour it into an air-tight box; leave the cover off until cold, then cover up tight. As glue is required, cut out a portion and melt in the usual way. Expose no more of the made glue to the atmosphere for any length of time than is necessary, as the atmosphere is very destructive to made glue. Glues that take the longest to dry are to be preferred to those that dry quick, the slow-drying glues being always the strongest, other things being equal. Never heat made glue in a pot that is subjected to the direct heat of the fire or a lamp. Do not use thick glue for joints or veneering. In all cases work it well into the wood in a similar manner to what painters do with paint. Glue both surfaces of your work, excepting in the case of veneering. Never glue upon hot wood, or use hot cauls to veneer with, as the hot wood will absorb all the water in the glue too suddenly, and leave only a very little residue, with no adhesiveness in it whatever.

For Draughtsmen.

Melt together in a water bath 5 parts of glue; 2 parts of sugar; 8 parts of water. Cast into moulds, and when needed for use dissolve in warm water. This can be carried anywhere without trouble.

Flexible Glue.

Incorporate together 1 part of glycerine, by weight, to 4 of glue, and it will lose its brittleness, and can be used for various purposes, such as dressing leather, book binding, etc.

Liquid Glue.

Take a wide-mouthed bottle, and dissolve in it 8 ozs. of the best glue in ½ pt. of water, by setting it in a vessel of water, and heating until dissolved. Then add, slowly, 2½ ozs. of strong aqua fortis (nitric acid), stirring all the while. Keep it well corked, and it will be ready for use at any moment. This preparation does not gelatinize, nor undergo putrefaction nor fermentation.

Mouth Glue.

To unite papers and other small, light objects, dissolve, with the aid of heat, pure glue and ¼ its weight of coarse brown sugar, in as small a quantity of boiling water as possible; when perfectly liquid, cast into thin cakes, on a flat surface, slightly oiled, and as it cools cut into small pieces. When required for use moisten one end slightly and rub on any substance you wish to join.

Rice Glue.

Rice glue is a very delicate and suitable article for fancy work. Thoroughly mix rice flower with cold water, let it simmer gently over a slow fire. This is excellent for joining paper, etc., and if properly made and applied, the joining will be found very strong. When dry it is almost transparent.

Mucilage.

1. Dissolve 3 ozs. of gum arabic in an earthenware vessel containing ½ pt. of cold water. If stirred occasionally, the gum will be dissolved in 24 hrs. and ready for use.

2. Fine clean glue, 1 lb; gum arabic, 10 ozs.; water, 1 qt.; melt by heat in a glue kettle; when melted, add slowly 10 ozs. strong nitric acid. Then bottle, adding a couple of cloves to each bottle to prevent moulding.

PASTE.

A Clean Paste.

2 parts gum tragacanth and 1 part powdered gum arabic; cover with cold water until dissolved; then reduce to desired consistence with the same. A few drops of carbolic acid will prevent its souring.

Flour Paste.

1 gill of flour, 1 gill of cold water, 2 gills of boiling water. Pour the cold water slowly on the flour, stirring well; then stir in the boiling water, and let the paste boil until as thick as desired.

Paste that will Keep a Year. (1).

Dissolve 1 teaspoonful of alum in 1 qt. of warm water. When cold stir in flour enough to give it the consistence of thick cream, being careful to beat up all the lumps. Throw in ½ a dozen cloves and stir in as much powdered resin as will stand on a dime. Pour the flour mixture into a teacupful of boiling water, stirring well all the time. Let it remain on the stove a few minutes and it will be of the consistence of mush. Pour it into an earthen or china vessel; let it cool; cover it and put in a cool place. When needed for use, soften a portion with warm water. It will last a year and is better than gum, as it does not gloss the paper, and can be written upon.

Paste that will Keep a Year. (2).

Make in the ordinary way a good flour or starch paste. Add a small quantity of brown sugar, then about a teaspoonful of corrosive sublimate in fine powder to a pint of paste; add also a teaspoonful of oil of cloves, or rosemary, or lavender, or any of the essential oils, and a few drops of carbolic acid. Stir well with a wooden spatula. Paste made in this way will keep for any length of time. As the corrosive sublimate is a poisonous agent, the paste must be kept out of the reach of children. Used as a paste it is harmless.

Paste that will Adhere to any Substance.

Dissolve 720 grs. sugar of lead and 720 grs. of alum in water. Then dissolve 2½ ozs. of gum arabic in 2 qts. of warm water. Mix the gum water when cold with 1 lb. of wheat flour, till in a pasty consistence; place the mixture in a dish on the fire, and pour into it the alum and sugar of lead. Shake well; take it off the fire when it shows signs of ebullition, and let it cool. If the paste is too thick, add gum water till in proper consistence.

For Scrap Books.

Take the best laundry starch and wet with sufficient cold, soft water to stir it smoothly. Pour on boiling water until it is clear and jelly-like. It is ready for use as soon as cool.

Putty—To Soften.

Anoint or paint over the dry putty that adheres to the broken glass and frames of windows with nitro-muriatic acid or caustic soda, (concentrated lye,) and the putty will be soft enough to be easily removed in about an hour.

THE COOK.

FOOD AND ITS USES.

The daily waste that is going on in our bodies must, in some way, be repaired, and also something must be done to give the strength necessary for the execution of the work which each individual has to do. Besides these things, animal heat must be supplied. All these purposes are served by the eating and digestion of food. Men require daily 5 ozs. of flesh forming food, and 10 ozs. of heat giving or breath material.

When the body is in motion there is a much greater waste than when still, so that a greater amount of nourishment should be taken. When the stomach of an animal is empty it immediately begins to feed upon the material already laid up.

The food required by the body consists of gluten, fibrin, albumen, starch, fat, sugar, and saline matters. The first three are nutritive or flesh forming; the last four are the heat givers. The former are to be found in breads, meats, and eggs; the latter in fats, oils, anything that contains starch and sugars. These are all necessities for the preservation of the health of the body. No one of them alone can preserve life. Neither grains, nor meats, nor vegetables will, used in excess, each over the other continuously, give vigor to the body, but require to balance each other.

At certain seasons of the year the diet should be changed to correspond with the change in weather. During the cold season more meat can be used and less bread, vegetables and fruit. The reverse is true in summer.

It is evident, then, that the caterer for the table is a most important factor in the household. There can be none more important. But after the material is bought and brought into the house, much depends upon its preparation as to whether it will fulfil its purpose of nourishing the body, or ignominiously fail. It is to aid the cook that the thoroughly tested recipes in this book are given.

First, however, we will give a few tables showing the constituents of some of the most common articles of food. They are as follows:

DRINKS.

Cocoa and Chocolate.

Constituent parts in 1 *lb. of paste—*

	Oz.	Grs.		Oz.	Grs.
Water	0	350	Starch	1	53
Butter	0	8	Theobromine	0	140
Coloring matter	0	140	Woody fibre	0	280
Albumen and gluten	3	85	Mineral matter	0	280
Gum	0	426			

The cocoa powder mixed with boiling milk is now a common morning beverage; it is alterative, heat-giving, and flesh forming.

One reason of its usefulness as an article of diet is the presence in it of the substance called *theobromine*. This substance contains carbon, hydrogen, nitrogen, and oxygen in itself, and is particularly rich in nitrogen, which exercises an active influence on the human system.

Cocoa also contains a great deal of fatty matter called cocoa butter. It has, therefore, great power of nourishing, while the theobromine exhilarates and soothes the spirits, and has a waste-retarding power.

Coffee.

Constituent parts of 1 *lb.*—

	Oz.	Grs.		Oz.	Grs.
Water	1	407	Woody fibre	5	262
Aromatic oil	0	1¼	Casein	2	35
Potash	0	280	Sugar	1	17
Caffeine or theine	0	122	Fat	1	402
Gum	1	192	Mineral matter	1	31

Coffee has great medicinal virtues; it is said to be an excellent antidote to gout, and to cure other painful diseases.

Tea.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	0	350	Gum	2	385
Theine	0	210	Sugar	0	218
Fat	0	280	Tannic acid	4	87
Casein	2	175	Woody fibre	3	17
Aromatic oil	0	52	Mineral matter	0	350

The effects of tea are well known; it "cheers without inebriating;" excites the brain to activity and watchfulness; soothes the system, and *stays the waste of the body.*

EGGS.

The average weight of a hen's egg in the shell is 2 ozs.

1 lb. of shelled eggs contains—

	Oz.	Grs.		Oz.	Grs.
Water	12	66	Oil or fat	1	240
Albumen	2	0	Ashes	0	288
Extractive matter	0	130			

FISH.

Fish is an important article of food. It is more rich in fibrin or flesh-forming matter than butcher's meat or birds, but it contains less fat and gelatine. Fish frequently contains large quantities of mineral matter, principally phosphates of lime, potash and soda.

Fish is much more easily digested than flesh, and consequently food is required sooner after eating it. The most digestible kinds are the white fish, which have least fat, and require to be fried in fat, or eaten with melted butter or sauces. Of all fish, the haddock, whiting, and flounder are most digestible.

The salmon, herring, and eel are dressed in their own oil, and are very nutritious.

Fish should never be eaten out of season, as it is then very likely to disagree with the system. The flesh of fish should not have a bluish tinge. If it has this quality it is inferior.

FOWL.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	12	107	Albumen	0	209
Gelatine	1	52	Mineral matter	0	174
Fibrin	1	322			

Poultry and the white meat of rabbits are not of themselves very nourishing; they contain too much nitrogenous matter and too little fat. In the case of aquatic birds, as the goose and duck, the fat is more abundant, but it contains certain flavoring matters which are not easy of digestion. The darker flesh of game is also somewhat indigestible, and requires management in its culinary treatment.

FRUIT.

Grapes.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	10	223	Albumen	0	158
Glucose or grape sugar	1	316	Tartaric acid	0	50
Gum	0	79	Ashes	0	50

The grape is the most wholesome of fruits, and a grape diet has of late years been recommended as a cure for consumption.

The Peach and the Nectarine.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	11	431	Dextrin (gum)	0	357
Malic acid	0	196	Ashes	0	14
Coloring matter	0	78	Sugar	0	241
Albumen	0	12	Cellulose	0	128

Ripe Pears.

Constituent parts in 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	13	184	Woody fibre	0	154
Sugar	1	368	Gum	0	147
Albumen	0	14	Mineral ashes	0	7

GRAIN.

Buckwheat.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	2	118	Fat	0	70
Gluten	1	165	Woody fibre	8	114
Starch	8	0	Mineral matter	0	126
Gum	0	140			

Buckwheat flour is nearly as nutritious as wheaten flour, and makes excellent cakes.

Maize or Indian-Corn.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	2	105	Fat or oil	1	101
Gluten	1	402	Woody fibre	0	350
Starch	9	262	Ashes	0	70
Sugar and Gum	0	21	Carbon	5½	0

Oats.

Constituent parts of 1 *lb. Oat meal.*

	Oz.	Grs.		Oz.	Grs.
Water	2	78	Fat or oil	0	397
Flesh-formers	2	316	Woody fibre	2	6
Starch	6	153	Ashes	0	210
Sugar	0	378	Carbon	6	348
Gum	0	210			

Oats grow in England and the United States, but are thought much finer and better when grown in Scotland. In the husk, they are used chiefly as food for horses. The husk removed, the grain is called groats, and is used for making gruel. Ground to a flour, it is called oat meal. Oat meal is the chief food of the Scottish peasantry, and it is nourishing and excellent, both when made into porridge and cakes; it cannot be made into bread. The outer husk, unlike that of wheat, is poor in albuminoid matters, so that oat meal is better than the whole oat. Oat meal is rich in fat.

Wheat.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	2	106	Gum	0	119
Gluten	2	21	Fat	0	84
Albumen	0	126	Woody fibre	0	119
Starch	9	242	Ashes	0	112
Sugar	0	385	Carbon	7	0

The whole meal should be used for making bread, as the phosphates of wheat necessary for forming bone are contained in it. It is said, on high medical authority, that the decay in the teeth amongst young people, so much more prevalent than it was a century ago, proceeds from our never eating anything but the finest flour. A mixture of bran also assists digestion.

The whole meal is obtained by simply grinding the grain without sifting it: it is not only best for nourishment, but would effect a great saving if used.

Flour is fearfully adulterated, the usual substances used for the purpose being pea and bean meal, potato flour, plaster-of-Paris, bone-dust and alum. In purchasing flour, it is wise to take up a handful and make a ball of it. If it holds together well for a little while the flour is probably pure. Plaster-of-Paris may be detected by its great weight. Observe in your toast whether there is any scent of bean or pea, while the toast is hot. Nitric and muriatic acid will also test the purity of flour; if it is not adulterated nitric acid will turn it orange color, and muriatic acid will change it to a deep violet color.

MEATS.

Beef.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	8	0	Fat	4	340
Gelatine	1	62	Mineral matter	0	350
Fibrin and albumen	1	122			

Beef contains *fibrin*, which resembles the *gluten* of plants in composition and properties. The amount of water in beef is as great as it is in the potato or plantain. It does not contain a particle of starch; but its fibrin is three times as great as that in ordinary wheaten bread; therefore, as far as this matter goes, one pound of beef is equal to three of wheaten bread. The *fat* in beef makes up for the lacking starch, as it yields a great amount of heat to the system. Fat, in fact, gives more heat during its combustion than any other form of food. Fat meat is therefore the best to purchase.

The heavier the meat is the more water it contains, and this has to be paid for in the meat: it evaporates in roasting. The juice of beef, when extracted, contains a small proportion of a substance called *Kreatin*,

which is rich in nitrogen, and has a certain likeness to the peculiar principle of tea and coffee (*theine*). This substance has an exhilarating effect on the human system, as a species of tonic; and is the cause of *beef-tea* being so supporting to invalids.

Lamb.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	8	44	Fibrin and albumen	0	360
Fat	5	263	Mineral matter	0	244
Gelatine	0	400			

Mutton.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz	Grs.
Water	7	16	Fibrin and albumen	0	385
Fat	6	176	Mineral matter	0	245
Gelatine	1	52			

Pork.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	6	69	Fibrin and albumen	0	315
Fat	8	0	Mineral matter	0	105
Gelatine	0	385			

Veal.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	10	0	Fibrin and albumen	1	199
Fat	2	281	Mineral matter	0	312
Gelatine	1	82			

MILK AND CHEESE.

Milk.

Constituent parts of 1 *lb. of cow's milk.*

	Oz.	Grs.		Oz.	Grs.
Water	13	333	Sugar	0	315
Casein	0	350	Mineral matter	0	70
Butter	0	245			

Cheese.

Cheese contains in 100 parts—

Rich Cheese.		*Skimmed Cheese.*	
Water	36	Water	44
Curd	29	Curd	45
Fat	30½	Fat	6
Ash	4½	Ash	5

The substance *casein* (the curd which forms the cheese) resembles the gluten of vegetables, the fibrin of meat, and the albumen of the egg in nutritive qualities; it possesses the same value, weight for weight, as food; but when eaten alone as cheese, is, like eggs, a constipating food.

When the curd and cream have been taken from the milk, and the whey is evaporated to dryness, sugar of milk is obtained; this sugar represents the starch of wheaten bread, while the butter and curd or casein represent the fibrin and fat of meat; consequently milk partakes of the nature both of animal and vegetable food.

VEGETABLES.

Cabbage.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	14	414	Dextrin or gum	0	203
Albumen	0	126	Woody fibre	0	35
Starch	0	42	Mineral ashes	0	56

Cucumber.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	15	173	Chlorophyl	0	7
Albumen	0	14	Woody fibre	0	35
Glucose	0	140	Mineral matter	0	35
Gum	0	35			

Neither heat-giving nor flesh-forming.

A cool and pleasant vegetable, delightful in hot climates from the quantity of water it contains, but considered unwholesome.

Peas.

Constituent parts of 1 *lb.*

	Oz.	Grs.		Oz.	Grs.
Water	2	112	Gum	1	193
Casein	3	324	Fat	0	140
Starch	5	403	Woody fibre	1	263
Sugar	0	140	Mineral matter	0	175

Green peas are generally eaten when not more than a quarter ripe. They should always be used as soon as possible after they are gathered, as they injure more by keeping than any other vegetable does.
They are rich in flesh-forming matter.

Potatos.

Constituent parts of 1 *lb. of fresh potatos.*

	Oz.	Grs.		Oz.	Grs.
Water	12	0	Dextrin or gum	0	80
Flesh-formers	0	100	Fat	0	15
Starch	2	219	Woody fibre	0	228
Sugar	0	223	Mineral ashes	0	64

The potato contains little flesh-forming matter; it is valuable on account of its starch and mineral substances.

TABLE OF WEIGHTS AND MEASURES.

1 quart sifted flour—1 pound.
1 quart granulated sugar—1 pound, 9 ounces.
1 quart powdered sugar—1 pound, 7 ounces.
1 pint closely packed butter—1 pound.
10 eggs—1 pound.
Butter, size of an egg—2 ounces.
Butter, 1 common sized teacup even full—½ pound.
3 moderate sized teacupfuls of sugar—1 pound.
5 cupfuls of sifted flour—1 pound.
6 large tablespoonfuls—1 gill.
1 wine-glass—¼ gill.
1 common-sized tumblerful—½ pint.
Spices (ground) 2 large tablespoonfuls—1 ounce.
7 common-sized nutmegs—1 ounce.

Rising Measures.

Use 2 heaping teaspoonfuls of baking powder to 1 quart of sifted flour.
Use 1 teaspoonful of soda and 2 of cream of tartar to 1 quart of flour.
Use 1 cupful of sour milk and 1 teaspoonful of soda to 1 quart of flour.

ESSENCES, TO MAKE.

Bitter Almonds.

Essential oil of bitter almonds, 1 dr.; proof spirit, 7 drs. Mix. Used for flavoring custards, but it must be employed with great caution, as it is poisonous in doses above 10 or 12 drops.

Carraway Seeds.

Oil of carraway, 1 dr.; proof spirit, 4 drs. Mix.

Celery Flavoring.

Celery seeds, bruised, ½ oz.; spirits of wine, 2 ozs. Put it into a bottle, and let it be corked, and stand near the fire for 3 or 4 days. A few drops will flavor a basin of broth, and greatly improve soups, etc. The seeds ought to be kept for boiling in soups, if the tincture is not approved of.

Cinnamon.

Oil of cinnamon, 20 drops; proof spirit, 1 oz. Mix.

Citron.

Oil of citron, 30 drops; proof spirit, 1 oz. Mix. A good addition to punch.

Cloves.

Oil of cloves, 20 drops; proof spirit, 1 oz. Mix. For sweets and mulled wine.

Or, infuse ½ of an oz. of the cloves themselves in 2 ozs. of proof spirit for a fortnight, then strain.

Cochineal, Tincture of.

Cochineal, 10 grs.; proof spirit, 1 oz. Mix in a glass bottle, and steep. The cochineal, unless powdered, takes a long time to dissolve, and the bottle must be frequently shaken.

Ginger.

Bruised ginger 1 oz.; proof spirit, 1 pt. Digest and strain.

Mace.

Oil of mace, 20 drops; proof spirit, 1 oz. Mix. Useful for flavoring sweets and white sauces, for mulled wine.

Or, proceed as for essence of cloves.

Marjoram.

Oil of marjoram, 20 drops; proof spirit, 1 oz. Mix. Useful for flavoring gravy.

Nutmeg.

Oil of nutmeg, 20 drops; proof spirit, 1 oz. Mix.

Savory Spices.

Black pepper, 1 oz.; powdered allspice, ½ oz.; grated nutmeg ½ oz.; proof spirit, 1 pt. Mix, and steep 10 days, then decant. Useful for flavoring savory dishes.

BREAD.

"I am always cross when the bread is poor," said a good housekeeper once in my presence. "It does not seem as if we had anything fit to eat and I hear more fault-finding from the family than at any other time."

This seems an exaggeration, but it really is not. Light, sweet bread is absolutely indispensable to the happiness of a household, as it constitutes one of the principal articles of diet. Since this is so emphatically true, it is past comprehension why there are so many families upon whose tables daily appears a heavy, sour, leathery substance, yelept bread, but which would cause the angels to weep, in view of the poor digestion and consequent ill humor of which it is the producing cause.

As it is the most important, so it is also one of the most difficult things to do well, although in this, as in everything else, a careful attention to details will bring success. When the young housekeeper has mastered this accomplishment, she has gone a long way towards acquiring a proficiency in her vocation.

Good flour, dry, elastic, and without odor, is one of the first requisites of the best bread-making. A good housekeeper gives the following directions for telling by trial whether it has what is necessary or not:

"If in handling the flour you discern a heaviness like that of ground plaster; if in squeezing a handful tightly, you discover that it retains the imprint of palm and fingers, and rolls back into the tray a compact ball or roll; if it is in the least musty, or sour, use it very sparingly in your trial baking, for the chances are as ten to one that you will head the barrel up again and return it to your grocer."

New flour, which sometimes seems soggy, can be lightened by drying it before the fire or in the hot sun. At all times it should be sifted in order to render it light. It is absolutely impossible to have light bread when the flour is damp, heavy and cold.

The next thing of importance is the yeast. I say "next," because, no matter how good the article may be, if the flour is poor, the bread will be miserable. To quote the same authority again: "The yeast should be light in color, and lively, effervescing easily when shaken and emitting an odor like weak ammonia. If dull and sour it is bad."

The recipes for yeast making which are here given, will be found to be most excellent. Care must be taken about having the jar in which it is kept sweet and clean. In cities people often prefer to buy the yeast from a bakery, and it generally does as well. Many kinds of yeast cakes can now be bought of the grocer, which make good sponge when they are not too old. Directions always accompany each package.

The sponge should be made over night and put in a moderately warm place to rise. Chilling that or the dough will arrest the process of fermentation and the result will be poor bread. Mix the dough in the morning as soft as it can be handled, and set it to rise where it is of a moderately warm and even temperature. If too warm, it will become

sour. When light, take it out upon your board and knead it carefully and faithfully. This process should be continued until it is as elastic as rubber; then put it into tins, and let it rise again. When light again set into the oven to bake.

Be careful that the oven is not too hot. Some writers give the rule to put the bare arm into it, and if you can hold it there while you count 30, it is just right. Then keep it of an even temperature until the loaves are baked. Good common sense, practice, and experience, will teach you how to manage your oven.

When the bread is done, turn the loaves out upon the edge, leaning against something upright, and let them cool. This position will prevent their sweating.

Yeast Cakes.

Take 2 qts. of cold water; 1 qt. of pared and sliced potatos; 2 handfuls of hops, tied in a coarse muslin bag; flour to make a stiff batter, and 1 cup of Indian meal. Boil potatos and hop bag in the water for ¾ of an hour. Remove the hops, and while boiling hot, strain the potatos and water through a colander. Stir into the scalding liquor enough flour to make a stiff batter. Beat all up well. Add 2 tablespoonfuls of lively yeast and set in a warm place to rise. When light, stir in a cup of Indian meal, roll into a sheet ¼ of an inch thick, and cut into cakes. Dry these in the sun or in a very moderate oven, taking care they do not heat to baking. When entirely dry and cold, hang them in a bag in a cool dry place. Use 1 cake, 3 inches in diameter, for a good sized loaf. Soak in tepid water until soft, and add a pinch of soda, then mix. These cakes are good for a month in summer and 2 in winter.

Good Potato Yeast.

Take 8 good sized potatos, peel and put them into 2 qts. of water. Tie in a small bag a coffee cup of hops, boil with the potatos, until the potatos can be mashed through the colander, then press the hops very dry. Stir in 1 tablespoonful of salt; 1 of sugar; 1 of ginger. When as warm as new milk, add a cup of old yeast. It will be ready for use in a few hours. In cold weather a double quantity can be made, as it will keep sweet a long time.

Potato Yeast Without Hops.

Peel and grate 3 large potatos; place upon the stove, add 1 pt. of boiling water, stir briskly until the mixture thickens. When lukewarm, add ½ cup of white sugar; ½ cup of salt, and 1 cup of yeast. Set to rise in a warm place.

To Make Good Bread.

Peel 8 good sized potatos and boil them in 3 pts. of water. Mash all through the colander on 2 qts. of flour. When lukewarm add a coffee cup of yeast. Put in a warm place to rise. In the morning add a qt. of warm water; a tablespoonful of salt; flour sufficient to knead it. Let it rise again and mould into loaves. This will make 6 good sized loaves. The potatos keep it moist and tender. Bread should be well

kneaded when put together; the pans well greased and warmed. Bake from 45 min. to 1 hr. To prevent browning too soon, wet the top with warm water before putting in the oven.

Boston Brown Bread.

Make a sponge the night before with potatos, or white flour, as follows: 1 cup of yeast, 6 potatos, mashed fine with 3 cups of flour, 1 qt. of warm water, or, if you leave out the potatos, use 3 pts. of flour, 2 tablespoonfuls of lard, and 2 tablespoonfuls of brown sugar. Beat up well and let it rise 5 or 6 hrs. When light, sift into the bread tray 1 qt. of rye flour, 2 qts. Indian meal, 1 tablespoonful of salt, 1 teaspoonful of soda. Mix this up very soft with the risen sponge, adding warm water if needed, working in gradually ½ cup of molasses. Knead well, and let it rise from 6 to 7 hrs. Mould again and divide into loaves. Let it rise an hour, then bake in a moderate oven about 4 hrs. Rapid baking will ruin it.

Brown Bread.

1 qt. of corn meal, 1 of Graham flour, 1 of milk, 1 cup of yeast, ½ cup of molasses and a little salt. Mix and let rise over night. In the morning add a teaspoonful of soda. Steam 4 hrs.

Brown Bread, Steamed.

2 cups of Indian meal, 2 of Graham flour, 1 of wheat flour, ½ of molasses, 3 of sour milk, 1 teaspoonful of soda, and 1 of salt. Steam from 3 to 4 hrs.

Corn Bread, Nonpareil.

2 heaping cups of Indian meal, 1 cup of flour, 2½ cups of milk, 3 eggs, 1 tablespoonful of lard, 2 of white sugar, 1 teaspoonful of soda, 2 of cream tartar and 1 of salt. Beat the eggs very thoroughly, whites and yolks separately; melt the lard, sift the cream tartar and soda into the meal while yet dry and stir this in at the last. Beat very quick and hard. Bake quickly and steadily in a buttered pan. Less than a half hour will usually suffice.

Corn Bread Warm for Breakfast.

1 cup of corn meal, 1 of sour milk, 1 egg, 1 tablespoonful of brown sugar, 1 teaspoonful of salt, 1 teaspoonful of soda dissolved in hot water and added the last thing.

Graham Bread.

Take a pint of the sponge prepared for white bread, add brown flour, 2 tablespoonfuls of brown sugar or molasses, 1 teaspoonful of soda, and a little salt. Stir it well and put it to rise in the pan you are to bake it in. Bran bread can be made in the same way, using bran instead of Graham flour. It is sweeter.

Graham Bread, Steamed.

2 cups of Graham flour, 1 egg, 1 tablespoonful melted butter, ¾ cup of milk, ½ cup of molasses, 2 teaspoonfuls of baking powder. Steam 1½ hrs.

Indian Bread, Steamed.

Mix 1 cup of molasses, 2 of sour milk, 2 teaspoonfuls of soda, 1 pt. of flour and 1 pt. of Indian meal. Beat well together, put into a buttered pan and steam 2 hrs.

Rice Bread.

Make a sponge of 1 qt. of warm water, 1 teacupful of yeast, 1 tablespoonful of white sugar, 2 of lard, 1 qt. of wheat flour. Beat well together, and let it rise 5 hrs. Then add three pts. of warm milk and 3 teacupfuls of rice flour wet to a thin paste with cold milk, and boil 4 mins., as you would starch. When a little more than blood warm, stir it with the batter. If not thick enough for dough, add a little wheat flour. Knead thoroughly, and proceed as with wheat bread. If you cannot get rice flour, boil 1 cup of rice to a thin paste, mashing and beating it smooth. This is especially good for invalids.

Rye Bread.

Set a sponge as for Boston Brown Bread, but with ½ the quantity of water. In the morning mix with it 1 qt. of warm milk, 1 tablespoonful of salt, 1 cup of corn meal and enough rye flour to make it into pliable dough. Proceed as with wheat bread, baking it a little longer. Should the dough seem a little sour, add a teaspoonful of soda dissolved in warm water.

Scotch Short Bread.

2 lbs. flour, 1 lb. butter, ½ lb. loaf sugar, ½ oz. of caraway seeds, 1 oz. sweet almonds; a few strips of citron or candied orange peel. Make a smooth paste, divide into 6 parts about 1 inch thick, put each in separate paper, pinch the edges on all sides, and ornament the top with the candied peel, citron, and little sugar comfits.

BISCUIT, ROLLS, ETC.

Cinnamon Biscuit.

Take well-risen bread dough, mix into it a little warmed butter, roll out about ½ inch thick, spread with butter, sprinkle thick with sugar and a little ground cinnamon, roll up about as large as a biscuit, cut from the end in pieces 1½ inches in length, set in bread pans, let rise, and bake for tea.

Graham Biscuit.

8 cups of Graham flour, 1 of white, 3 of milk, 2 tablespoonfuls of lard, 1 heaping tablespoonful of white sugar, 1 saltspoonful of salt, 3 teaspoonfuls of baking powder. Mix and bake as you do white biscuit.

Maryland Biscuits.

Take 3 pts. of flour, in which put a teaspoonful of salt and a teaspoonful of lard, mix it thoroughly, then moisten it gradually with ½ pt. of water, then work it for ½ hr. until the dough becomes perfectly smooth; then mould it in balls as big as a walnut, flatten them with the rolling-pin, pick with a fork, and bake in a quick oven about 20 minutes.

Mrs. E.'s Biscuit.

1 qt. of flour, 2 heaping tablespoonfuls of lard, 2 cups of sweet milk, 3 teaspoonfuls of baking powder, 1 saltspoonful of salt. Work the dough rapidly. Much handling injures the biscuit. The dough should be very soft. Should the flour stiffen it too much, add more milk. Roll out lightly, cut into cakes ½ inch thick, and bake in a quick oven.

Sallie's Biscuits.

3 good-sized potatos boiled and mashed fine, 1 tablespoonful of sugar, ½ pt of boiling water. When cool add 1 cup of yeast, let it rise till light, then add 1 qt. of water, and flour enough to knead. Knead ½ hr. and set it to rise again before baking.

Sour Cream Biscuits.

Thoroughly dissolve 2 level teaspoonfuls of soda and a little salt in a pt. of sour cream, and mix in flour until you have a dough that is soft as possibly can be handled and cut into biscuits. Bake immediately in a hot oven.

Egg Bread.

½ cup bread crumbs soaked in a pt. of milk, 2 eggs, 2 cups of Indian meal, 1 tablespoonful of lard or butter, 1 teaspoonful of salt. Beat the eggs light and the soaked bread crumbs to a smooth batter. Melt the shortening, stir all together very hard and bake quickly.

Johnny Cake.

1 pt. of sour milk, 1 teaspoonful of soda, 1 tablespoonful of sugar, 1 of melted butter, 1 of white flour, and corn meal to make a not very stiff batter.

Rice Cakes.

Boil rice until it is soft, and while warm make it into cakes or flat balls. Dip the balls into a beaten egg, and then roll them in Indian

meal till thoroughly coated. This done, fry them in lard, which is better than butter for this purpose. Serve them with sauce, or with butter, or with cream and sugar.

Rice Croquettes.

Make little balls or oblong rolls of cooked rice; season with salt and pepper if you like; dip in egg; fry in hot lard.

Corn Fritters.

8 ears of corn, 1 egg, a little salt and pepper, flour enough to keep from separating in the fat. Fry as you do rice fritters. Shave the corn thin and scrape out the pulp.

Graham Muffins.

2 cups of Graham flour, 1 of white flour, 2 eggs, 2 heaping tablespoonfuls of butter or lard, 1 tablespoonful of sugar, 3 teaspoonfuls of baking powder; mix with milk or water not very stiff.

Graham Muffins. (2.)

2 cups of Graham flour, 1 cupful of milk, ½ cup of sugar, 1 egg, butter size of an egg, 2 teaspoonfuls of baking powder. Bake in rings in a hot oven 20 or 30 mins.

Hominy Muffins.

2 cups of cold boiled fine hominy, 3 eggs, 3 cups of sour milk, (if sweet milk is used add 1 teaspoonful cream of tartar), ½ cup of melted butter, 2 teaspoonfuls of salt, 2 tablespoonfuls of white sugar, 1 large cup of flour, and 1 teaspoonful of soda dissolved in hot water. Beat the hominy smooth, stir in the milk, butter, salt and sugar, next the well beaten eggs, then the soda, and lastly the flour. Bake quickly.

Indian Muffins.

1 pt. of corn meal, 1 teacupful of flour, beaten into 1 qt. of sour cream or milk, a heaping teaspoonful of soda, ½ teacup of molasses, 2 tablespoonfuls of melted butter, a little salt. Bake in rings in a quick oven.

Julia's Muffins.

3 pts. of flour, 1 qt. of milk, 2 eggs, 3 teaspoonfuls of baking powder, 1 teaspoonful of salt. Beat the eggs very light. Bake in rings in a quick oven.

Raised Muffins.

1 qt. of warm milk, 1 teacupful of yeast, 1 of butter, 2 eggs well beaten, 2 teaspoonfuls of salt, flour sufficient to make a stiff batter. When light, bake in muffin rings. If wanted for supper, mix early in the morning; if for breakfast, the night before.

Rice Muffins.

1 cup of cold boiled rice, 1 pt. of flour, 2 eggs, 1 qt. of milk or enough to make a thin batter, 1 tablespoonful of lard or butter, 1 teaspoonful of salt. Beat hard and bake quickly.

Rice Muffins. (2.)

Boil the rice soft and dry. Take ½ cup of rice, stir in 8 teaspoonfuls of sugar, piece of butter size of an egg, and a little salt, 1 pt. of sweet milk, 1 cup of yeast, 2 qts. of flour. Let it rise all night. If sour in the morning, add a little soda dissolved in milk, and bake in muffin-rings.

Queen Muffins.

1 qt. of milk, ½ cup of yeast, 2 tablespoonfuls of white sugar, 1 tablespoonful of lard or butter, 1 teaspoonful of salt, flour to make a good batter, 2 eggs. Set the batter, leaving out the eggs to rise over night. In the morning beat the eggs very light, stir in the batter, and bake in muffin rings in a quick oven.

German Puffs.

1 cup of milk, 1 of flour, 1 teaspoonful of baking powder, 1 of salt, 1 egg well beaten. Bake in gem pans, which should be very hot when the batter is put in.

Puffett.

Rub a piece of butter twice the size of an egg with 2 teaspoonfuls of baking powder into 1 qt. of flour. Add 1 pt. of milk, 2 eggs beaten separately, 1 teaspoonful of salt. Bake in muffin rings.

Parker House Rolls.

Scald and allow to get cold 1 pt. of sweet milk. At night put into a pan 2 qts. of flour, rub in butter or lard the size of an egg. Scoop out the flour and pour in the milk, 1 cup of yeast, ½ cup of sugar, and 1 teaspoonful of salt. Spread a little flour lightly over the top of this mixture, not stirring it in at all. Put in a warm place. In the morning knead into a loaf and raise again. Spread ½ the surface with butter, double up and pinch the edges together. When very light bake in a quick oven.

French Rolls.

1 qt. of warm milk, 1 teacup of yeast, 3 qts. of flour. When this sponge is light, work in a well beaten egg and 2 tablespoonfuls of melted butter, a teaspoonful of salt, ½ teaspoonful of soda dissolved in hot water, 1 tablespoonful of white sugar and enough flour to make a soft dough. Let it stand 4 or 5 hrs., mould into balls and let them rise 1 hr. Just before putting into the oven cut deeply across each ball with a sharp knife. Bake ½ hr.

Rusks.

1 pt. of milk, 2 tablespoonfuls of butter, 1 cup of yeast with a little flour. Let rise over night. In the morning add 2 cups of sugar, 2 eggs well beaten, flour enough to roll out and cut with the biscuit cutter. Place upon buttered tins and let them stand until night. Wet the top with milk and bake in a quick oven.

Sally Lunn.

1 scant qt. of flour, 4 eggs, 1 teacupful of milk, 1 of lard and butter mixed, 1½ teaspoonfuls of baking powder, 1 of salt. Beat the yolks and whites of the eggs separately, very light. Melt the shortening. Add the whites the last thing.

Sally Lunn. (2.)

1 qt. of flour, 4 eggs, ½ cup of melted butter, 1 cup of warm milk, 2 of warm water, 4 tablespoonfuls of yeast, 1 teaspoonful of salt, ½ teaspoonful of soda dissolved in hot water. Beat the eggs to a stiff froth, add the rest of the ingredients and heat the yeast in well. Set to rise in a well buttered tin. It will not be light under 6 hrs. Bake in a steady oven ½ of an hour. To be eaten hot.

Short Cake.

3 cups of flour, 2 of milk, 2 eggs, 1 tablespoonful of butter, 2 of sugar, 3 teaspoonfuls of baking powder. Bake 15 mins.

Pine-apple Short Cake.

A couple of hours before the cake is to be brought to table take a very ripe, finely flavored pine-apple, peel it, cut as thin as wafers, and sprinkle sugar over it liberally, then cover close, and make the cake. For this take 3 cups of flour, a lump of butter the size of a small egg, 2 tablespoonfuls of sugar, the yolk of an egg, 2 teaspoonfuls of baking powder, a very little salt, and milk enough to make a very soft dough. Do not knead the dough, but barely mix it, and press it into the pie-plate. The baking powder and butter, sugar and salt, should be rubbed well through the flour, and the other ingredients quickly added. When time to serve, split the cake, put the pine-apple between the halves, and serve with sugar and sweet cream.

Strawberry Short Cake.

Use the rule given for short cake. Bake in a long tin in two sheets, one lying upon the other, which allows it to be split easily. Bake, split apart, spread the under part with butter, then put on a layer of strawberries which have been sugared. Finish with the upper crust, and it is ready to serve. Sliced oranges are sometimes used in place of strawberries.

Waffles.

1 qt. of milk, 1 heaping qt. of flour, 5 tablespoonfuls of yeast, 2 eggs, 1 tablespoonful of melted butter, 1 teaspoonful of salt; mix all together without the eggs and butter and let rise over night. Add these in the morning and bake in waffle irons.

Waffles. (2.)

1 pt. of milk, 1 lb. of flour, 4 eggs, 1 cupful of yeast, ¼ lb. of butter. Let rise 3 or 4 hrs. and then bake.

Waffles. (3.)

1 pt. of milk, 3 eggs, 1 tablespoonful of melted butter, 1½ teaspoonfuls of baking powder, 1 of salt, a heaping pint of flour, or enough to make a soft batter.

Rice Waffles.

1 cup of boiled rice, 2 eggs, 1 pt. of milk, lard the size of an egg, 1½ teaspoonfuls of baking powder, 1 of salt, and flour for a thin batter.

BATTER CAKES.

Batter Cakes Without Eggs.

1 qt. of sour milk, 1½ teaspoonfuls of soda, flour to make a pretty thick batter.

Buckwheat Cakes.

1 qt. of buckwheat flour, 4 tablespoonfuls of yeast, 1 teaspoonful of salt, a handful of Indian meal, and warm water enough to make a thin batter. Let rise over night. Add a cup of milk in the morning to make them brown nicely. Leave enough batter for sponge next night. Cover with water and let it stand until ready to stir up and then pour off. This will keep the batter sweet a long time.

Flannel Cakes.

1 qt. of milk, 3 tablespoonfuls of yeast, 1 tablespoonful of melted butter, 3 well beaten eggs, 1 teaspoonful of salt, flour to make a good batter. Mix all the ingredients, except butter and eggs, over night; add those in the morning.

Graham Cakes.

2 cups of brown flour, 1 of white, 3 of sour milk, 1 teaspoonful of soda dissolved in hot water, 3 well beaten eggs, 1 teaspoonful of salt, 1 heaping tablespoonful of lard. If sweet milk is used, substitute for the soda 3 teaspoonfuls of baking powder.

Hominy Cakes.

1 qt. of milk, 3 eggs, 1 cup of white flour, 2 cupfuls of cold boiled fine hominy. Beat smooth the hominy, then add milk, salt and flour, and lastly the well beaten eggs. Keep the mixture well stirred.

Nice Indian Griddle Cakes.

1½ cupfuls of flour, 1½ cupfuls of Indian meal, 1 egg, 1 small pt. of sour milk, ½ teaspoonful of soda.

Indian Griddle Cakes. (2.)

1 qt. of sour milk, 1 teaspoonful of salt, 1 of soda dissolved in hot water, 1 tablespoonful of melted lard, 2 of molasses, 2 well beaten eggs, ½ cup of flour, meal to make a pretty thick batter.

Katie's Bread Griddle Cakes.

Take a small bowl of bread and soak it over night in milk; in the morning take 1 qt. of milk, 3 eggs, and a bit of salt, beaten up together with ½ cupful of flour, and 1½ teaspoonfuls of baking powder; it wants to be a thick and very light batter, and then it is delicious.

Rice Griddle Cakes.

1 qt. of milk, ½ cupful of rice, 3 eggs, 1 good cupful of flour, 1½ teaspoonfuls of baking powder.

Rice Cakes. (2.)

1 pt. of flour, 1 cup of cold boiled rice, 1 teaspoonful of salt, 2 eggs, milk enough to make a rather thick batter.

"Try Them" Pancakes.

Add enough flour to 1 qt. of sour milk to make a rather thick batter. Let it stand over night. In the morning add 2 well beaten eggs, a little salt, and ½ teaspoonful of soda dissolved in a tablespoonful of warm water. Cook immediately.

BREAKFAST.

In the United States this is as important a meal as is served during the day. It is utterly unlike those either in France or England, being much more substantial, which, as we think, is more desirable for people of active habits. It is a sort of fortification against the toil and fatigues of the working hours, taken after the digestive organs have had several hours rest, as well as the other parts of the body, and, therefore, when better fitted to carry out their functions.

In France a cup of coffee and a roll are all that is taken on first awakening, and these are frequently served before rising. The real breakfast comes at 11 o'clock, and is far more substantial. In England breakfast is a very informal meal, and can be had at any hour by the members of a family, and separately if they choose. This would not do here where it is the custom for all the members of the household to gather around the table, upon which, usually, all the dishes are placed at once, unless cakes are served as they are baked. Of late years it has become the custom to have a first course of oatmeal porridge, a very healthful thing, and one to be highly recommended for everybody. Not only does it give health and vigor, but during its eating, it enables the cook to prepare many things that need to be brought on smoking hot. In the summer, too, it is growing to be a common thing to begin or end the breakfast with fruit, which is also a most excellent practice.

It is very desirable that the breakfast table should be set with a great deal of care, to give it a fresh, bright look. Indeed the way of almost throwing the dishes upon the table at any meal, after the fashion of so many American housekeepers, is greatly to be deprecated. Given a well ordered table in the way of clean, wholesome and pretty linen, with a neat arrangement of the appointments, even if the latter are of the plainest kind, and the effect is to sharpen the appetite and give a keen relish to whatever is placed before the gathered family. It was old Dr. Carlin's idea, too, to have each morning bring about some new and palatable article to tempt the palate, and the variety which follows will show with what zest he carried out his theory.

BREAKFAST DISHES.

Codfish Balls.

Cut the cod-fish in pieces, soak them about an hour in lukewarm water, when the bones and skin may be easily removed, pull the fish then into fine shreds, and put it on the stove in some cold water. As soon as it begins to boil, change the water, and repeat this process a second time. It is not proper to boil it, as it renders it tough Boil some potatos tender, and mash them while hot. Mix ¼ as much cod-fish as potatos while both are *still hot*, adding some butter and a little cream. Roll them into balls and fry brown in a little lard. It makes all the difference in the flavor of the balls if the fish and potatos are mixed while both are *hot*. Of course, they are better fried at once, but may be made the night before serving (at breakfast), if they are only properly *mixed*.

Ham Balls.

Chop equal quantities of cold boiled ham and potatos; wet with egg and form into thin cakes. Roll in flour and fry a light brown.

Pork Balls.

Chop an equal quantity of cold boiled potatoes and salt pork. Mix, season with pepper, and wet with eggs. Roll in flour and fry brown.

Fried Bread.

Make a batter of 2 eggs, 2 tablespoonfuls of flour, 1 pt. of milk and a little salt. Dip the slices of bread in the batter. Have your pan or griddle hot with a little lard or butter and fry a light brown.

Bubble and Squeak.

Take some cold roast or boiled beef, cut in pieces, pepper, salt, and fry them. Lay them on a hot drainer when done, and let the meat drain from the fat used in frying them. Chop a cabbage that has been previously boiled in 2 waters, and put it in the frying-pan with some butter; add a little pepper and salt, stirring it, that it may be equally done. Sprinkle over the cabbage, when taken from the fire, a little vinegar; place in the center of a dish and arrange the slices of meat neatly around it.

Beef Cakes.

Chop fine some beef that is underdone with a little fat bacon or ham; season with pepper, salt, and a little onion if you like it; mix them well; and make into small cakes 3 ins. long, and ½ as wide and thick; fry them a light brown, and serve in a thick gravy.

Breakfast Dish.

Chop fine any little pieces of beef steak or roast meat, add bread crumbs in the proportion of 1 tablespoonful to a coffee cup of meat. Season with pepper and salt, moisten with 1 egg and a little milk. Butter small patty pans, and fill them ¾ full. Bake until they are browned. Then break an egg over each one and cook from 3 to 5 mins. Remove from the pans carefully that they may retain their shape. If the pans are well buttered they will brown nicely.

Breakfast Dish. (2.)

Cut thin slices of cold roast beef, and lay them in a saucepan and set in a pot of boiling water. Cover them with a gravy made of 3 tablespoonfuls of melted butter, 1 of walnut catsup, 1 teaspoonful of vinegar, a little salt and pepper, 1 teaspoonful of currant jelly, 1 teaspoonful of made mustard and some warm water. Cover tightly and steam for ½ hr., keeping the water in the outer vessel in a hard boil.

Nice Breakfast Dish.

Take cold roast beef or beef steak, cut in strips and warm in a gravy made of hot water and butter, with a little flour stirred in. Have the gravy prepared for the meat before putting it in, as it should cook for a moment. Lay a few slices of thin toast in the dish when served. Mutton, veal, or lamb can be used in the same way.

Baked Eggs.

Butter a dish, break the eggs into it and put in butter, salt and pepper. Bake in a slow oven until well set. Serve hot.

Breaded Eggs.

Boil hard and cut in round thick slices; pepper and salt them and dip each in beaten raw egg, then in fine bread crumbs or powdered cracker and fry in butter or lard that is very hot. Drain off the grease, and have ready some veal gravy or chicken broth. Heat to boiling with a half teaspoonful of chopped parsley, salt and pepper, and lastly, 3 tablespoonfuls of cream to a cup of broth. Boil up and pour smoking hot over the eggs.

Eggs, To Boil.

To boil mealy 15 mins.; very hard, 10 mins.; hard, 7 mins.; soft, 4 mins.; very soft, 2 mins. Boiling water poured on them in a bowl will cook them soft in from 6 to 10 mins. Many persons prefer them this way, as white and yolk are then of the same consistence.

Another rule is to put them in cold water and let them come to a boil, which will be in about 10 mins.; the white and yolk will then be of the consistence of custard.

Eggs can be canned for boiling in the winter in the following way: Put 2 or 3 dozen at a time into a pan and pour scalding water on them. Let it stand 30 secs. and turn it all off. Cover immediately with more scalding water, and repeat the process the third time. Wipe dry and pack in bran or salt when cool, with the small end down. This process hardens the albumen into an air tight case for the yolk. Of course they cannot be used for cake, or anything that is prepared with whipped eggs.

Chinese Bird's Nest of Eggs.

Make a white sauce as follows: Stew ½ lb. of lean veal cut into strips, with a large sprig of parsley in a quart of water, until the meat is in rags and the liquor reduced ½. Strain and return to the saucepan with ½ cupful of milk. When it boils thicken with a little rice or wheat flour, season with white pepper and salt, and the juice of ½ a lemon. Have ready 6, 8, or 10 hard boiled eggs. Take out the yolks carefully, and cut the whites into thin shreds. Pile the yolks in the center of a shallow dish, arrange the shreds of white about them in the shape of a bird's nest. Give a final stir to the sauce and pour carefully over the eggs. It should not rise more than half way to the top of the nest. Garnish with parsley.

Deviled Eggs.

Boil 6 or 8 eggs hard, leave in cold water until they are cold, cut in halves, slicing a little off of the bottoms to make them stand upright; take out yolks and rub to a smooth paste, with a very little melted butter, some cayenne pepper, a dash of vinegar and a touch of mustard. Fill the hollowed whites with this, and send to table upon a bed of chopped cresses, seasoned with pepper, salt, vinegar and a little sugar. The salad should be 2 ins. thick and an egg be served with a heaping tablespoonful of it. You may use lettuce or white cabbage instead of cresses.

Dropped Eggs.

Break the eggs so as not to break the yolk, and drop them separately in hot water. Let them stay 3 mins. or until the white hardens, and serve on toast.

Fried Eggs.

Melt any ham fat, lard, or butter in the frying pan. Break the eggs into a cup, 1 at a time, and pour in the pan. Sprinkle with pepper and salt. Turn them over, or not, as liked. Fry brown on 1 or both sides.

Fricasseed Eggs.

Boil the eggs hard, cut in half crosswise and take out the yolks. Chop these fine or rub to a paste, with a little ground tongue, ham, or cold fowl, some minced parsley, some melted butter and a very little made mustard. Mix well together and fill the whites with it, setting them close together in a deep dish, the open ends up. Pour the same sauce over them that is used for breaded eggs very hot, and let them stand 5 mins. closely covered, and then send to the table. Always drop hard boiled eggs into cold water as soon as done, to prevent the yolks from turning black.

Fricasseed Eggs. (2.)

Boil 6 eggs hard, cut them in quarters, take out the yolks, mix them up with a cupful of hot mock cream with a little butter and salt to taste. Pour this over the whites of the eggs and serve.

Poached Eggs.

Boil 1 pt. of water, a tablespoonful of vinegar and a little salt. Break and pour the eggs in. Boil 3 minutes. Butter and eat on toast, or heat some mock cream and pour on them.

Poached Eggs with Sauce.

Make the sauce by putting ½ cupful of hot water in a saucepan, with a teaspoonful of lemon juice, 3 tablespoonfuls of veal or chicken broth strained, pepper, salt, mace, and a tablespoonful of butter, with a little minced parsley. Boil slowly 10 minutes and stir in a well whipped egg carefully, lest it should curdle. Have ready some poached eggs in a deep dish and pour the sauce over them.

Spanish Eggs.

Cook 1 cup of rice 30 mins. in 2 qts. of boiling water, to which has been added 1 tablespoonful of salt; drain through a colander, and then add 1 tablespoonful of butter. Spread on a hot platter very lightly. Now on the rice place 6 dropped eggs, and serve.

Scollaped Eggs.

Make a force meat with chopped ham, fine bread crumbs, pepper, salt, a little minced parsley, and some melted butter. Moisten with milk to a soft paste, and half fill some patty pans with the mixture. Break an egg carefully upon the top of each, dust with pepper and salt, and sift some finely powdered cracker over all. Set in the oven and bake until the eggs are well cooked, about 8 mins. Eat hot. Tongue can be substituted for ham.

Scrambled Eggs.

6 eggs, beaten lightly, and stir into a coffee cup of milk. Rub a teaspoonful of flour and a tablespoonful of butter together and add to the milk. Fry in hot lard. When the whites are well set, pour into a hot dish or upon buttered toast.

Fourchette.

Bits of nice salt pork, about ¼ of an inch thick, 2 or 3 ins. square; bits of calf's liver the same size. Put these alternately on a long skewer, beginning and ending with pork; lay it in the oven across a dripping-pan, and roast as you would a bird, basting occasionally. When done slide the pieces from the skewer, and serve on a hot plate.

Beef Hash.

2 parts of cold roast or boiled corn beef chopped fine to 1 of chopped potatos, a little pepper, salt, milk and melted butter. Fry until heated through and smoking hot. Or make the mixture into flat cakes, dip into beaten eggs and fry. A little catsup and mustard are an improvement to plain beef hash.

Liver, To Broil.

Cut the liver in slices about ¼ of an inch thick; sprinkle on them salt and pepper, place them on a gridiron over a hot fire. Turn over only once, and serve with butter spread on the slices. A few drops of lemon juice may be added.

Beef or Calf's Liver, To Prepare for Breakfast.

Slice the liver and pour boiling water over it. Fry a light brown and cut in small pieces. Make a gravy of a teacup of cream, 1 tablespoonful of flour with a little salt and pepper. Return the liver to the pan and cook for a few moments. If milk is used instead of cream, add a small piece of butter.

Fried Liver.

Slice the liver and lay in salt and water to draw out the blood. Wipe dry and lay in the frying pan with slices of salt fat pork. Fry brown with a little lard. When done put on a hot dish. Add to the gravy in the pan a chopped onion (if liked), ½ cup of hot water, pepper, the juice of a lemon and thicken with brown flour. Boil up well and run through a colander to remove the onion. Pour over the liver and serve hot.

Liver Salad.

Chop cold baked liver fine. Put it in the frying pan with a little vinegar, butter, salt and pepper. Stew a few minutes and serve hot.

Calf's Liver Stewed.

Slice the liver and lay in salt and water 1 hr. Cut into slices and put over the fire with enough cold water to cover it well. Cover and stew steadily for an hour. Then add salt, pepper, a little mace, sweet marjoram, parsley, and a teaspoonful of Worcestershire sauce. Stew again steadily for ½ hour longer. Then put in a tablespoonful of butter, 2 of browned flour wet with cold water, 1 teaspoonful of lemon juice and 1 of currant jelly. Boil 5 mins. longer. A little wine is an improvement.

Macaroni.

Lay the macaroni in a little water with a teaspoonful of salt. When done tender, cover the bottom of a well buttered baking dish, add a layer of grated cheese, a little butter and pepper. Repeat this until the dish is filled; then lay on a few slices of butter with rolled bread crumbs and bake.

Macaroni a la Creme.

Cook the macaroni 10 mins. in boiling water; drain this off and add a cupful of milk with a little salt and stew until tender. Then heat a cup of milk to boiling, thicken with a teaspoonful of flour, stir in a tablespoonful of butter, and lastly a beaten egg. When this thickens, pour over the macaroni after it is dished. If set on with meat, grate cheese thickly over it, or send round a saucer of grated cheese with it.

Macaroni Pie.

Ingredients: Any cold fish, macaroni, milk, butter, grated cheese, bread crumbs and cayenne. Mode: Boil some macaroni very tender in milk, about twice as much as there is cold fish, which should be broken into very small pieces; mix with it the grated cheese and cayenne; put into a flat dish with a few bread crumbs and some pieces of butter at the top, and bake a light nice brown. Any fish will do for this dish.

Corn Mush, Fried.

Put 1 qt. of water on the fire to boil. Stir 1 pt. of cold milk with 1 pt. of corn meal and 1 teaspoonful of salt. When the water boils pour in the mixture gradually, stirring all well together. Boil ½ hr., stirring often to prevent it from burning. When cold, slice it, and dip each slice in beaten eggs salted and then in bread crumbs and fry them in boiling hot lard. This is by far the nicest way to cook this dish.

Cheese Omelet.

Take 3 eggs, beat the yolks with 2 tablespoonfuls of grated cheese, 2 of milk, 1 of flour, 1 teaspoonful of sugar, 1 of salt, and 1 of pepper. Add the whites well beaten as you put in to fry. Use ½ butter and ½ lard to fry in. Serve on a hot platter.

Egg Omelet.

Take 6 eggs, 1 teaspoonful of salt, 1 cup of milk, 2 tablespoonfuls of flour. Stir the flour into a little of the milk, then add the remainder slowly that it may be smooth. Beat the yolks and whites separately. Do not add the beaten whites until ready to fry. Have the pan hot and well buttered. Pour in ½ of the mixture. Let it brown for a moment, then with a bread knife turn ½ upon the other. Before turning set it in the oven for a moment. Serve on a hot dish. Have ready another hot dish for the balance.

Herb, Ham, or Meat Omelet.

Make a plain omelet, mince up the meat or herbs, rice, or other articles, and mix with the eggs before frying.

Potato Omelet.

Boil and mash 2 lbs. of potatos; beat smooth with ½ of a pt. of milk. Beat together 2 tablespoonfuls of sugar with 2 eggs. Mix well and bake in a buttered dish.

Tomato Omelet.

Peel a qt. of ripe tomatos and put them over to simmer for 20 mins.; add 2 onions chopped very fine, some bread crumbs and a lump of butter. When nearly done beat 4 eggs and stir in. Serve hot.

Beef Patties.

Shred underdone dressed beef with a little fat; season with pepper, salt, and a little onion. Make a plain paste, roll it thin, and cut it into shape like an apple puff; fill it with the mince, pinch the edges, and fry them of a nice brown. The paste should be made with a small quantity of butter, egg and milk.

Pate de Fois Gras.

2 sweet-breads, 1 calf's liver, boil until tender. Add a little salt and mash fine. Season with ½ teaspoonful of cayenne pepper or twice that quantity of white or black, and 1 chopped onion. Put the mixture in a saucepan, set it in a kettle of water, cover tight and let it boil 2 hrs., stirring occasionally. Add 1 gill of cream and 4 ozs. of butter. When cold cut in thin slices. Garnish with sliced lemon.

Pig's Feet Broiled.

Split boiled pig's feet, and broil until brown. Spread butter on them and eat with mustard.

Pig's Feet Fried.

Split boiled pig's feet, rub them in meal, bread crumbs or batter. Fry until brown.

Pig's Feet Fried in Batter.

Make a batter of an egg, a tablespoonful of flour, 1½ gills of milk, and a pinch of salt. Split the feet in halves and dip them into the batter. Fry them brown in a little lard.

Broiled Salt Pork.

Cut slices a little thicker than for frying. Lay in cold water, then place on the gridiron. Turn often, each time dipping the slices in cold water to rinse off the salt and fat. When nearly done, dust on flour and brown. Lay it on a platter with a little butter on it. This is nice with grilled potatos around the dish.

Fried Salt Pork with Cream Gravy.

Cut pork in thin slices and lay in cold water. Fry a light brown and put in a dish. Add a cup of cream or milk with a little pepper to the fat in the pan, and scald for a moment, stirring constantly. Pour over the meat.

Porridge, Oatmeal.

Put 1 heaping cupful of oatmeal into 1 qt. of boiling water, adding 1 teaspoonful of salt. The salt should be put into the water, which should be boiling when the flour is sprinkled in, that being done with one hand while the mixture is slightly stirred with the other. When it is thoroughly mixed, let it boil without stirring more than necessary to keep it from burning at the bottom. Cook it 20 mins. Too much stirring makes the porridge waxy and of poor flavor.

Prepared Meat for Breakfast.

Chop raw beef or veal with a little salt pork; season with pepper and salt. Add a few crumbs of dry bread rolled fine, wet with 1 or more eggs; form pieces the size of a butter plate, and roll in flour. Put into a hot spider with a very little lard and butter to keep them from sticking. Fry until done.

Beef Rissoles.

For these some cold beef should be minced and seasoned and flavored with mushroom or walnut ketchup. Roll a very thin paste made of beef drippings into thin pieces, about 4 ins. square. In each piece enclose some of the mince in the same way as for puffs, cutting each neatly all around. Fry them in drippings of a very light brown. You can scarcely roll the paste too thin.

Beefsteak Rolls.

Cut nice thin steaks and broil them slightly; make a stuffing as if for roast veal or turkey, roll up the steaks, putting the stuffing inside each roll, skewer or tie them neatly, lay them in a pan with a little water, spread over with butter, season with salt and pepper and let them bake about 20 mins. or until they seem done.

Codfish Toast.

Soak the fish over night in cold water; strain off the water and shred fine; put it in a frying pan with a lump of butter, tablespoonful of flour, some pepper, and add milk enough to cover it. Have ready some thin toast in a platter, and when the fish is poured on the toast, lay sliced boiled eggs around the dish and on the top.

Cream or Milk Toast.

Toast stale bread and lay in a deep dish. Prepare your cream with a tablespoonful of flour stirred into a piece of butter the size of an egg. If milk is used more butter is necessary. Add a little salt, bring to a boil and pour over the dish, covering closely when sent to the table. If the butter and flour are stirred together, the cream will be perfectly smooth.

French Toast.

Beat 4 eggs very light, and stir with them 1 pt. of milk; slice some nice white bread, dip the pieces into the egg and milk, then lay them into a pan of hot butter and fry brown. Sprinkle a little powdered sugar and cinnamon or nutmeg on each piece, and serve hot.

Spanish Toast.

Beat 1 egg, add 1 cupful of milk, and 1 teaspoonful of salt. Cut stale bread in slices, wet thoroughly in the liquid and fry brown in the butter having the pan hot when it is put in.

Tripe Fried Plain.

Boil the tripe tender, then cut in small pieces and fry brown in lard.

Minced Veal.

Take small pieces of cold roast veal and cut about the size of dice. Make a gravy of a teaspoonful of flour, butter the size of an egg; mix together with a little salt and pepper until it is smooth, then pour over it a cupful of boiling water. Lay in the meat just before it is ready to send to the table. Much cooking makes it tough. It is nice with chopped parsley or onions.

DINNER.

The directions given by Dr. Carlin for dinner giving and serving being more adapted for England than the United States, the American Editor has changed the matter somewhat, in order to make it apply to this side of the water. What is said here is adapted to the use of people in middling circumstances, those well-to-do, hospitable families to be found all over our country. No attempt is made to describe the more elegant and pretentious dinner parties given by those whose wealth is counted by millions.

One of the most important things is to have the table set neatly. An oval table is the best shape to show off the dinner, and it can be extended to a length adapted to the number of persons to be entertained without altering the general arrangement. Use linen of the most spotless neatness, spreading first a hair cloth upon the table. This has two good effects: It causes the table-cloth to look heavier and deadens noise.

A pretty, inexpensive, and perfectly refined way to decorate the table is to use flowers. An *epergne* in the center looks well, or a raised dish with a vase placed upon it, and then the latter filled and its base concealed by wreathing vines and fragrant blossoms. There are many different ways of arrangement, depending upon the taste of the one having the matter in charge. A graceful way of giving a pleasant greeting to invited guests is to place a *boutonniere* by each plate or upon the napkin. Around the centre-piece is placed the dessert of fruit, candies, nuts and raisins.

Place by each plate a glass for water—which, to avoid trouble, it is well to have filled before sitting down to dinner—and a wine glass of wine is to be served. Tea and coffee should be poured at another table in proper time.

The napkins, which should always be without starch, should be placed, neatly folded, upon each plate, and by the side of the latter, a knife, fork and spoon, the knife and spoon upon the right side and the fork upon the left. If individual salt and pepper dishes are not used, the stands must be set upon opposite sides of the table, and the spoons necessary for serving dishes crossed near them. Have upon the sideboard the extra plates, knives, forks and spoons that will be necessary to use for the different courses. Let the dessert plates be prepared with a folded fruit napkin upon each, and a finger bowl placed on that. These bowls should be half filled with water and a slice of lemon or a sprig of verbena in each.

When there is no attempt to give a dinner party a most refined and sensible dinner, of which no hostess need be ashamed, if it is well cooked and served, may consist of 3 or 4 courses besides the dessert. A multiplicity of different kinds of dishes in these is not in good taste.

First, of course, comes the soup. The soup-tureen, with the soup boiling hot, should be placed, with the soup plates, before the seat to be occupied by the hostess, and then the dinner announced, not by the ringing of a bell, but by a servant. After all are seated, the hostess puts a ladleful of soup into each plate, which is taken upon a small salver by the butler or waiter, and placed before the guest. Soup may be served alone, but pickles and crackers are excellent with oyster soup, and many use the former with all kinds. Sometimes small squares of bread are used also, and cold slaw is admissable. Hot boiled rice is frequently served with gumbo soup instead of being cooked in it.

After the plates are removed, the second course, consisting of fish, is to be brought on and placed, with the plates, before the host. The usual and almost the only accompaniment allowable with this is the common boiled potato. These may be whole in another dish, or in little round balls placed around the fish, or mashed, made into little cakes, rolled in eggs and bread crumbs and fried. Cucumbers in their season are sometimes served with fish.

The third course consists of a roast of some kind garnished with one or two vegetables. With fowls or game acid jelly is always requisite. Cranberries are very nice with turkey. With beef, veal and turkey

any kind of vegetable is suitable. With lamb or mutton green peas, cauliflower and asparagus are best liked; pork can be combined with sweet or Irish potatos, tomatos and apple sauce; game is best with Saratoga potatos or potatos mashed, spinach, tomatos and salads. Chickens can be combined with almost any kind of vegetable, and it is very fashionable to serve salads with them.

An *entree* may or may not follow this course, but there must be a salad. The latter should be placed before the hostess. Cheese is served before the dessert. Usually thin crackers or wafer biscuits, heated in the oven just before they are brought on to make them crisp, and butter to spread them are served with the cheese. The dessert, fruits and coffee follow.

Of course there are elegant dinners where the few courses here mentioned are multiplied several times, but the above is a refined meal for people in moderate circumstances, and to place before their guests. There are a few general directions which it is well to observe:

1. There should be no appearance of hurry or flurry, either upon the part of the host or hostess or the waiters.
2. At small dinners the host should do the carving. A gentleman should make it a point to know how to do this well, with no appearance of effort.
3. The waiters should move quietly and quickly, be watchful but not officious.
4. Articles of food of which the guests are expected to help themselves should always be presented upon the left side.
5. Be careful never to overload a plate. Neither should there be an oversupply of food upon the table. Either is vulgar.
6. Arrange the order of seating the guests before they enter the dining room so that there shall be no confusion.
7. Serve the guest in whose honor the dinner is given first, unless there is some one at the table very much older than the rest of the company. In that case deference to age is charming.
8. Do not have the crumb scraper used until after the last course before the dessert.

Following are a few bills of fare for dinner parties, not so long or varied as are often used for fashionable dinners, but enough to be elegant at any time:

Dinner Bill of Fare (Winter).

Mock-turtle soup.
Baked salmon; sauce Hollandaise.
Fried oysters; cold slaw.
Lamb chops; tomato sauce.
Roast turkey, oyster stuffing; Saratoga potatos.
Roman punch, in lemon-skins.
Macaroni, with cheese.
Pineapple Bavarian cream.
Vanilla ice cream; little cakes.
Fruits.
Coffee.

Dinner Bill of Fare (Spring).

Macaroni, clear soup, with grated cheese.
Salmon; lobster sauce; cucumbers.
Chicken croquettes; tomato sauce.
Sweet-breads in cases, or in silver scallop-shells; sauce Bechamel
Fillet of beef, with mushrooms.
Roman punch.
Snipe; potatos *a la* Parisienne.
Mayonnaise of chicken.
Asparagus, with cream dressing.
Ramequins.
Champagne jelly *en macedoine*, with whipped cream.
Neapolitan ice cream; little cakes.
Fruits.

Dinner Bill of Fare (Summer).

Clear amber soup.
Fried cuts of fish, with tomato sauce.
Sweet-breads and cauliflowers (cream dressing over both).
Croquettes of chicken (in form of cutlets), with peas.
Roast lamb; caper sauce; spinach.
Green corn served in husks.
Sliced tomatos, with Mayonnaise dressing.
Cheese; wafers; cucumbers.
Maraschino Bavarian cream, and fresh strawberries.
Ice cream.
Fruits.

Family Bill of Fare.

Beef soup.
Fried chicken with cream dressing.
Salad (lettuce).
Charlotte-Russe.
Coffee.

SOUPS.

Since soup is one of the most common, and at the same time nutritious articles of food, it becomes one of the most important, and a few general directions in regard to its making will not come amiss.

A saucepan or kettle, with a tightly fitting lid, should always be kept for making soup, or the "stock," which is its foundation. Neither soups nor gravies should be kept in vessels of tin or copper. This direction may seem unnecessary, but remembering that soup is always best for being made the day previous to its eating, the caution is requisite.

Any fat remaining on the surface should always be skimmed off. It should be frequently skimmed during the boiling which ought not to be rapid.

For thickening, arrow root or farina is better than flour. Pepper, salt and spices should be used sparingly. If greater richness is wanted than is obtained from the meat used, boil a good lump of butter mixed with flour in the soup. Proportion the quantity of onions to their strength, but if too strong boil a turnip with them which will reduce the flavor.

When celery cannot be obtained, substitute dried celery seed. A drachm will season 2 qts. of soup well. The sweet herbs used are marjoram, thyme and parsley.

Spices, wines, and ketchup, should not be added until the soup is nearly done. A good proportion of wine is 1 gill to 3 pts. of soup. Some people like a teaspoonful of sugar added.

Amber Soup, or Clear Broth.

This soup is served at almost all company dinners. There can be no better choice, as a heavy soup is not then desirable.

Ingredients: A large soup bone (say 2 lbs.), a chicken, a small slice of ham, a soup bunch (or an onion, 2 sprigs of parsley, ½ small carrot, ½ small parsnip, ½ stick of celery), 3 cloves, pepper, salt, 1 gal. of cold water, whites and shells of 2 eggs, and caramel for coloring.

Let the beef, chicken, and ham boil slowly for 5 hrs.; add the vegetables so that they may cook the last hour, having first fried the onion in a little hot fat, and then sticking into it the cloves. Strain the soup into an earthen bowl, and let it remain over night. Next day remove the cake of fat on the top; take out the jelly, avoiding the settlings, and mix into it the beaten whites of the eggs with the shells. Boil quickly for ½ min.; then, placing the kettle on the hearth, skim off carefully all the scum and whites of the eggs from the top, not stirring the soup itself. Pass this through the jelly bag, when it should be quite clear. The soup may then be put aside, and reheated just before serving. Add a large tablespoonful of caramel, as it gives it a richer color, and also a slight flavor.

Of course, the brightest and cleanest of kettles should be used. Sometimes this transparent soup is without color, but made quite thick with tapioca.

This soup may be made in one day. After it is strained, add the eggs and proceed as in recipe. However, if it is to be served at a company dinner, it is more convenient to make it the day before.

Beef Soup a la Julian.

6 lbs. of beef, shank preferred, and have the bones well cracked so that the marrow will be in the soup, and 6 qts. of water. The stock must be prepared the day before the soup is needed. Put the beef and water in a close vessel and set it where it will heat gradually. Let it boil very slowly for 6 hrs. at least, uncovering once in awhile to see if there is danger of the water sinking too rapidly. Should this be the case pour in a little boiling water. During the 7th hr. take off the stock and set it away until wanted. About an hour before dinner take out the meat, which can be used for hash or mince meat, remove the fat from the surface of the stock, set it over the fire and throw in a little salt to bring up the scum. When this has been skimmed off put in your vegetables. These should be 2 carrots, 3 turnips, ½ head of white cab-

bage, 1 pt. of green corn, ½ head of celery, 1 qt. of tomatos. These should be prepared for the soup by cutting them very small, then boiling them in enough water to cover them, until they will break to pieces. Cook the cabbage by itself in 2 waters, throwing the first away. Cook 1 of the carrots alone and set aside to cool. Then the rest of the vegetables, with the water in which they are boiled, are added to the soup. Boil the vegetables in the stock for ½ hr., then strain without pressing through the colander. Cut the reserved carrot into dice and drop into the liquor after it is in the tureen, also, if you like, a handful of vermicelli or macaroni; which has been boiled tender. The seasoning is a matter of taste. Some use only salt and white pepper; others add a little mace and boil in the stock a handful of sweet herbs, and some like a glass of brown sherry. Send to table very hot.

Beef Soup.

Carefully wash and break a beef bone and put it into the kettle; to this add the trimmings of beef steak, veal cutlets, and lamb chops; the refuse pieces of cold meat of all sorts, roasted, boiled or fried; also game, fresh fish, the skeletons of roasted chicken or turkey, beefsteak bones, and all scraps that are good for nothing else—remembering always that they must be cleaned and not burned. Let the soup kettle simmer unceasingly, but do not allow it to boil. Strain the contents of the kettle into an earthen vessel when all the desirable qualities have been extracted from the bones and meat by this long continued simmering. Cover and set aside. In cold weather this soup 'stock' may be kept for many days. When you put the stock into the kettle, carefully remove the grease, and add barley, rice, macaroni, vermicelli, vegetables, or such ingredients as you wish, according to the kind of soup. An excellent soup is made by adding to 2 qts. of soup stock, 2 carrots, 10 tomatos, 1 onion, and a pinch of thyme or sweet marjoram. When the vegetables simmer to pieces, strain the soup, throw the shreds of vegetables away, and return the soup to the kettle. Let the soup come to a boil, and add a tablespoonful of flour, stirred to a smooth paste with a little butter, and a little salt and pepper. Just before serving put into the soup-tureen some dry toast, very crisp, cut in small square bits. Instead of toast, bread may be cut into small bits and fried in butter until brown and crisp, or carrots cut in the same form and stewed until tender, may be used in the place of either.

Plain Beef Soup.

Use the shank and let the bones be well cracked. Put in cold water and simmer gently for 4 hrs., then set away to be used the next day. An hour before dinner remove the fat, add ½ teacupful of pearl barley or rice, remove the meat and put in 1 chopped potato, 1 carrot, 1 onion, and 1 turnip and the juice of 1 lemon. Before putting in the vegetables stir in 1 tablespoonful of flour, salt and pepper to taste.

Bean Soup.

Soak 1 qt. of beans over night, then put them in 4 qts. of water and boil 2 hrs. Shred a few pieces of salt pork in the soup and boil 1 hr.

Then strain through a colander, pressing all through but the skins. Season to taste. Toast some thin slices of bread and break into the tureen. Always get the small white bean, as they are the best.

Cabbage Soup.

Boil with 4 lbs. of beef some black pepper whole for 3 hrs. Then cut 3 or 4 cabbages in quarters and boil until quite tender. Turn into a dish and serve together.

Clam Soup.

Take 25 clams, open quickly by pouring boiling water on them, in order to save the juice. Chop the clams fine and boil in about 4 qts. of water. Take 1 teacupful of cream or rich milk. butter the size of an egg, small tablespoonful of flour, and stir into the broth. Boil 5 mins. Serve with crackers or toast.

Chicken Soup.

Boil the chicken in 4 qts. of water until you can remove the bones. Shred the meat and put it into the liquid with 2 tablespoonfuls of rice. Chop a small carrot and 1 head of celery very fine. Add 1 cupful of broken macaroni. Boil ½ hr. and season with pepper and salt.

Giblet Soup.

This soup is very inexpensive, a plate of giblets only costing at market 5 cents.

Take the giblets of 4 chickens or 2 turkeys, 1 medium-sized onion, 1 small carrot, ½ turnip, 2 sprigs of parsley, a leaf of sage, eggs, a little lemon-juice, Port or Madeira wine, and 1 or 2 cupfuls of chicken or beef stock, quite strong.

Cut up the vegetables. Put a piece of butter the size of a small egg into a stew-pan. When quite hot, throw in the sliced onion. When they begin to brown, add the carrot and turnip, a tablespoonful of flour, and the giblets. Fry them all quickly for 1 min., watching them constantly, that the flour may brown and not burn. Now cut the giblets (that the juice may escape), and put all into the soup-kettle, with a little pepper and salt, and 3 qts. of water. Stock would be much better.

Let the soup simmer for 5 hrs., then strain it. Thicken it a little with flour, letting the flour brown, and add to it also 1 of the livers mashed. Season with the additional pepper and salt it needs, a little lemon-juice, and 2 tablespoonfuls of Port or Madeira wine. Put into the soup tureen yolks of hard-boiled eggs, 1 for each person at table. Pour over them the soup, and serve.

Good Economical Soup.

Boil the bones of beef steak or roast beef for 2 hrs., strain and return to the kettle with a teacupful of broken macaroni. Slice into the tureen a hard boiled egg and a part of a lemon. A teaspoonful of powdered cloves may be used instead of the lemon, or both cloves and lemon may be employed.

Gumbo Soup.

Ingredients: 1 large chicken; 1½ pts. of green gumbo, or 1 pt. of dried gumbo; 3 pts. of water; pepper and salt.

Cut the chickens into joints, roll them in flour, and fry them in a little lard. Take out the pieces of chicken, and put in the sliced gumbo (either the green or the dried), and fry that also until it is brown. Drain well the chickens and gumbo. There should be about a tablespoonful of brown fat left in the pan; to this add a large tablespoonful of browned flour; then add the 3 pts. of water, the chicken, cut into small pieces, and the gumbo. Simmer all together 2 hrs. Strain through a colander. Serve boiled rice in another dish by the side of the soup-tureen. Having put a ladleful of soup in the soup-plate, place a tablespoonful of rice in the center.

Hotch Potch.

Boil 1 pt. of peas in 1 qt. of water until they are so tender that they can be easily pulped through a sieve. Cut 3 lbs. of lean mutton into chops, put it into a saucepan with 1 gal. of water, 4 carrots, and 4 turnips cut in small pieces; season with pepper and salt. Boil until all the vegetables are quite tender, then put in the pulped peas, 1 head of celery, a sliced onion, boil 15 mins. and serve.

Lobster Soup.

1 lobster, a few crackers, 1 qt. of milk, and 1 qt. of water, 1 tablespoonful of salt, 1 teaspoonful of pepper, ¼ lb. fresh butter. Cut the meat into small pieces. When the milk and water are boiling hot add the lobster and rolled crackers to the soup with the butter. Let it boil closely covered for ½ hr.

Mock Turtle Soup.

Obtain, if possible, one large calf's head, well cleaned and washed, and 4 pig's feet. Put them in a kettle and cover them with 1 gal. of water. Let them boil 3 hrs., or until the flesh will slip easily from the bones. Then take out the head, leaving the feet to boil while the meat is cut from the head. Select enough of the fatty part, which lies on the top of the head and cheeks, to fill a teacup, and set it aside to cool. Remove the brains and also set aside. Chop the rest of the meat with the tongue very fine, season with salt, pepper, powdered marjoram and thyme, a teaspoonful of cloves, the same of mace, ½ as much allspice and a grated nutmeg and return to the pot. When the flesh falls from the bones of the pig's feet, take out the latter, leaving in the gelatinous meat. Boil together slowly without removing the cover for 2 hrs. more. Then set it aside until the next day. An hour before dinner set it on to warm. When it boils, strain and drop in the meat you have reserved, which, when cold, should be cut into small squares. To make the force meat balls, rub the yolks of 5 hard boiled eggs to a paste, adding gradually the brains to moisten them, also a little butter and salt. Mix with these 2 eggs beaten very light; flour your hands and make this paste into balls the size of a pigeon's egg. Put into the soup 5

mins. before you take it off of the fire. Stir in a large tablespoonful of browned flour, rubbed smooth in a little cold water. Let it boil up and finish the seasoning by 1½ glasses of good wine, sherry or Madeira, and the juice of a lemon. Serve with sliced lemon. It should not boil more than ½ an hr. the second day. If these directions are closely followed, the result will be perfect success.

Mullagatawny.

Beat well in a mortar some sliced onions and a few shallots with ½ lb. of fresh butter, then add a little cayenne pepper and salt, and 3 or 4 dessert-spoonfuls of curry-powder; cut up some India pickle and pound it well with the other ingredients; add enough flour to thicken the soup and a little cold stock to work the whole into a stiff paste. Moisten it occasionally with broth made from fresh beef free from fat. When thoroughly beaten, and when fine enough pass through a sieve, add to it the gravy the heart was stewed in, and enough beef broth to make the soup required. After boiling it up, add more cayenne and salt. Add flour and butter until it becomes of the consistence of good cream. It will be greatly improved by adding a little port wine and a spoonful of sugar.

Mutton Broth.

Take a small leg of mutton, boil it 2 hrs. with a chopped turnip, a carrot, an onion and a potato; add a spoonful of rice. The mutton is to be served for dinner with drawn butter and caper sauce.

Okra Soup.

Boil 6 lbs. of fresh beef,—allowing a little less than 1 qt. of water to each lb.; after boiling 1 hr. add 2 qts. of okras minced fine as possible. Next add 1 doz. ripe tomatos pared and cut up, 2 turnips, a few Lima beans, herbs, and other seasoning. The okras must be dissolved. Strain it and serve with slices of toasted bread, which should be put in after it is taken out of the pot. In winter the soup can be made of dried ochras.

Oyster Soup.

Allow 2 qts. of water to each qt. of oysters. Skim well. Mix together 1 tablespoonful of flour and a piece of butter the size of an egg. After the liquor is boiled put in the oysters. Cook but a moment or they will be tough and shriveled. Season with salt and cayenne pepper. Where milk is liked put 2 or 3 parts of milk in place of so much water.

Green Pea Porridge.

Boil 3 pts. of green peas in just water enough to cook until they are tender; pour in 3 pts. of milk; let it boil up and then add ½ lb. butter rubbed into flour enough to thicken it to your liking. Boil until the flour is cooked, and season with salt and pepper. Serve when hot.

Dried Pea Soup.

Take ½ pt. of split peas, put them into a pt. of water to soak over night. Put them to boil in the morning in 2 qts. of cold water with some shredded salt pork or any other fat meat. Boil steadily and be careful to stir often, lest it should burn. Add more water if necessary.

Green Pea Soup.

2 qts. of veal or beef broth, ½ teaspoonful of sugar, 1 tablespoonful of butter, 1 qt. of shelled peas. Bring the broth to a boil, then put in the peas and boil for 20 mins. Add the sugar and a bunch of green mint. Boil ½ of an hr. more, and stir in the butter and pepper and salt, if the broth be not already sufficiently salted. Strain before serving, and send to table with small squares of toasted bread floating upon the top.

Potato Soup.

Take 6 large mealy potatos, sliced and soaked 1 hr. Add 1 onion sliced and tied in a rag, 1 qt. of milk, and ½ lb of salt pork cut in slices. Boil ½ of an hr., and then add a tablespoonful of melted butter, and a well beaten egg mixed in a cup of milk. Some omit the pork and use salt and pepper to flavor it.

Potato Soup. (2).

Fry 7 or 8 potatos and a small sliced onion in a pan in some butter or drippings. When they are a little colored, put them in 2 or 3 pts. of hot water (stock would, of course, be better; yet hot water is oftenest used); add also a large heaping tablespoonful of chopped parsley. Let it boil until the potatos are quite soft. Put all through the colander. Return it to the fire and let it simmer 2 or 3 mins. When just ready to serve, take the kettle off the fire; add plenty of salt and pepper, and the beaten yolks of 2 or 3 eggs. Do not let the soup boil when the eggs are in, as they would curdle.

Puree of Chicken.

Ingredients: 1½ lbs. of chicken, 1½ qts. of white stock (made with veal), ½ sprig of thyme, 2 sprigs of parsley, ½ blade of mace, 1 shallot, ½ lb. of rice, and ½ pt. of cream.

Roast the chicken, and when cold cut off all the flesh; put the bones into the white stock, together with the thyme, mace, parsley, shallot, and washed rice; boil it until the rice is very thoroughly cooked. In the mean time chop the chicken; pound it in a mortar; then pass it through a sieve or colander, helping the operation by moistening it with a little of the stock. Strain the balance of the stock, allowing the rice to pass through the sieve. Half an hr. before dinner, add the chicken to the stock and heat it *without boiling*. Just before serving, add to it ½ pt. of boiling cream. Season with pepper and salt.

Queen of Soups.

Prepare 3 bunches or a pt. bowl of asparagus, cut the size of dice, discarding all the tough, white part. Have boiling 3 qts. of water, containing a little salt to preserve the color of the asparagus. Boil until tender. A few mins. before the asparagus is done, stir together 1 tablespoonful of flour, and butter the size of an egg, with a cup of cream or rich milk. Toast thin slices of bread, break into little pieces in a tureen, then pour the boiling soup upon it. This quantity is sufficient for 6 or 8 persons.

Rich Soup.

Several kinds of meat, as beef, mutton and veal, used together will make the richest soups. A shank of each of these, with very little meat, should be boiled several hours, strained and put away for future use. Vegetables, macaroni, and spices can be added the day it is to be served.

Sago Soup.

Take 3 lbs. of lean beef, a slice of lean ham, and lay them in a stewpan with a lump of butter, draw the gravy gently, add 2 qts. of water, and a sliced onion which has been browned by frying in fresh butter, add a bunch of sweet herbs, 6 cloves, a blade of mace, a teaspoonful of allspice, and one of black pepper whole, stew until the soup is rich and brown, then remove the meat and strain the soup clear, put it into a clean stewpan, thicken it to a good consistence with sago.

Sorrel Soup.

For 4 qts. of soup, put into a saucepan a piece of butter the size of an egg, 2 or 3 sprigs of parsley, 2 or 3 leaves of lettuce, one onion, and a pint of sorrel (all finely chopped), a little nutmeg, pepper, and salt. Cover, and let them cook or sweat 10 mins.; then add about 2 tablespoonfuls of flour. Mix well, and gradually add 3 qts. of boiling water (stock would be better). Beat the yolks of 4 eggs (one egg to a quart of soup), and mix with them a cupful of cream or rich milk. Let it boil 10 mins.; then stir in the eggs, when the soup is quite ready.

Soup de l'Asperge.

Cut into thin slices ½ lb. of bacon, lay them in the bottom of the stewpan, cut into lumps 6 lbs. of lean beef and roll it well in flour, cover the pan close, shake occasionally until the gravy is all drawn, then add ½ pt. of old ale and 2 qts. of water; throw in some whole peppers and a spoonful of salt, stew gently for an hour, skim the fat, and when an hour has elapsed strain off the soup, then put in it some spinach, 2 cabbage lettuces, the leaves of white beet, a little mint, powdered sweet aroma and sorrel, boil them, then put in the tops of asparagus cut small; when they are tender the soup is done; serve up hot with a French roll in the middle.

Soup a la Sap.

Cut 1 lb. of beef into thin slices. Into 3 qts. of water, grate ½ lb. of potatos. Add 1 onion, 1 pt. of grey peas, and 3 ozs. of rice. Boil until reduced to 5 pts. Cut 2 heads of celery and put them into the stewpan, and pour upon them the 5 pts. of soup. Pulp the boiled peas into it through a fine tammy or coarse cloth. Stew it until the celery is tender, season with pepper and salt, and serve with fried or toasted bread cut in dice.

Spring Soup

May be made of a knuckle of veal—allowing a qt. of water to each lb.—with 4 calves feet, a little cold ham, or salt and cayenne, simmered *slowly* for several hrs. Add then, 2 qts. of young green peas and 1 pt. of asparagus tops, previously boiled with the juice of spinach and other green herbs or vegetables, and ½ lb. of butter rolled in flour. Boil up together and serve.

Spring Soup. (2).

The following is recommended for purifying the blood, and consequently clearing the complexion: Take a handful of fresh sorrel and a handful of water-cresses; cut them up fine, but do not chop them; put them into about 2 qts. of boiling water, adding a carrot cut up in small pieces, 3 or 4 potatos, cut in quarters, 2 slices of bread (if of a sixpenny loaf), also cut up; pepper and salt to taste. Boil well till the soup assumes a consistency, which it will do as the vegetables and bread dissolve in it. Stir it frequently, and it will prove a very palatable soup. With a moderate fire it may be prepared in about 2 hrs. The liquor from any boiled meat may be used instead of plain water.

Sweet Corn Soup.

Cut the corn from 12 ears; put the cobs to boil in 3 qts. of water, boil ½ hr., take them out and scrape all that you can from them. Add the corn, with a tablespoonful of flour and a piece of butter the size of an egg. Season with salt and pepper. Toast some small crackers, lay them in the tureen and pour the soup over them.

Tomato Soup.

Boil 1 small marrow bone in 3 qts. of water. When well skimmed, press into it through a colander 3 qts. of ripe tomatos; add one sliced cucumber, 1 onion, 6 okras or gumbos, and season with cayenne and salt. When okras cannot be obtained, 2 ears of sweet corn grated may be substituted. Boil 3 hrs., stirring often. Thin the soup with boiling water if necessary. There should be 3 qts. when done.

Veal Soup with Macaroni.

3 lbs. of veal knuckle, with the bones broken and the meat cut up, 3 qts. of water, ½ lb. of macaroni. Boil the meat for 3 hrs. until it is reduced to shreds, and the macaroni until tender, in a vessel by itself.

The pieces should not be more than an inch in length. Strain the meat out of the soup, season to taste, put in the macaroni and water in which it was boiled. Let it boil up and serve. Macaroni soup can be made of this by boiling 1 lb. instead of ¼ of a lb; add butter in proportion to the increased quantity of macaroni. A plate of grated cheese should be sent with the macaroni soup.

Vermicelli Soup.

4 lbs. of lamb, from which all fat has been removed, 1 of veal, a slice of corned ham, 5 qts. of water. Cut up the meat, cover it with a qt. of water, and let it heat gradually, keeping it covered closely. At the end of an hr. add 4 qts. of boiling water, and cook until the meat is in shreds. Season with salt, sweet herbs, a chopped shallot, 2 teaspoonfuls of Worcestershire sauce; and when these have boiled in the soup for 10 mins., strain and return to the fire. Have ready about ¼ of a lb. of vermicelli, which has been boiled tender in clear water. Add this, boil up once and pour into the tureen.

Soups, To Make Caramel for Coloring.

Put into a saucepan ½ lb. of sugar, and a tablespoonful of water. Stir it constantly while over the fire, until it turns a bright, dark brown color. Do not let it burn. Add a teacupful of water and a little salt, then let it boil a few moments longer; cool and strain it, and put it away in a closely corked bottle. It will keep and be always ready for use.

Brown Stock for Soups, To Make.

Put 10 lbs. of shin of beef, 6 lbs. of knuckle of veal, and some sheep's trotters or a cow heel, in a closely covered stewpan, with very little water to draw out the gravy very gently, and allow it nearly to dry in until it becomes brown. Then pour in sufficient boiling water to entirely cover the meat, and let it boil slowly, skimming it frequently; seasoning it with whole peppers and salt, roots, herbs, and vegetables of any kind. That being done, let it boil gently 5 or 6 hrs., pour the broth from off the meat, and let it stand during the night to cool. The following morning take off the scum and fat, and put it away in a stone jar for use.

White Stock for Soups, To Make.

The foundation of this is veal—the knuckle, the scrag, or calf's head being the best meat for the purpose—an old fowl, a little ham, or bacon, mutton, sheep's head, etc., nearly the same ingredients as for brown soups, save that there must not be much beef, and the proportion of ham and bacon smaller in the latter than former, and when made for white sauce, care must be taken to leave out the pepper.

FISH.

When these are freshly caught they are firm and thick, with bright red gills, bright scales, full prominent eyes and stiff fins. Have them

dressed immediately; sprinkle them with salt and use them if possible the same day. Otherwise put them on ice. Shell fish are known to be good or bad by the smell. Lobsters and crabs must be alive when put in to be boiled, when the shell is black. When cooked this turns red.

A fish is always sufficiently cooked when the meat separates easily from the bones. Fresh water fish sometimes has a muddy smell and taste which can be got rid of by soaking it. Cleanse it thoroughly in strong salt and water, then scald it and finally dry and dress it.

Fish, To Bake.

Wash the fish in cold water and wipe dry. Then rub with salt and pepper outside and inside. Lay it in a pan containing a few slices of salt pork, or baste with butter or lard and dredge on flour.

Make a dressing of bread crumbs, salt and pepper and a small onion chopped fine; mix altogether and lay inside of the fish. When almost done dredge on more flour to brown. Thicken the gravy and season to the taste, using lemon juice or tomato ketchup. It will require from ¾ to 1 hr. in cooking, according to the size.

Fish, To Boil.

A fish weighing 6 lbs. will require ¾ of an hour in boiling. Wash the fish carefully and wrap in a cloth wet with vinegar basted closely to the shape of the fish. Put the fish in cold water sufficient to cover it. Drain carefully when done. Place the fish upon the platter before removing the cloth, lest it should break. Make drawn butter of 1 tablespoonful of flour, a teacupful of butter, well mixed, then add a pt. of the water, in which the fish was cooked; bring it to a boil. Slice in some hard boiled eggs; also garnish the dish with eggs sliced, and pour over some of the drawn butter.

Marinade has come into such common use in boiling fish that it is well to know how to make it: Cut up 2 carrots, 3 onions, ½ doz. shallots, a single clove of garlic, and put them into a stewpan with a piece of butter, a bunch of parsley, and a bundle of sweet herbs; fry the whole for a few mins., then add, very gradually, 2 bottles of any light wine or cider. Put in a handful of salt, 2 doz. of peppercorns, the same quantity of allspice, and a couple of cloves. Simmer the whole together for 1½ hrs., strain the liquor, and put it by for use.

Large fish should be cut into steaks before it is put into the marinade, After the fish is boiled, and taken out, if carefully strained, the marinade may be used several times for the same purpose, only adding a little water each time. The French think boiling fish in this liquor gives them a superior flavor.

Fish, To Broil.

Split so that the backbone is in the middle, and take out the backbone. A few hours before cooking, sprinkle the inside of the fish with 2 teaspoonfuls of salt, and 1 of sugar; this will harden it and take away the strong taste. Lay the inside down upon a fish gridiron, so that you can turn it often without breaking, until it is browned. Cook slowly. Dress with pepper, salt and butter.

Fish, To Fry.

Clean, wash, and dry the fish and cut into pieces suitable to serve. Dredge with flour or roll in Indian meal, and fry in hot fat until each piece is a light brown. Send up hot in a chafing-dish. The many varieties of pan-fish may be cooked in this way.

Chowder, New England.

Cut a good haddock, cod, or any other solid fish in pieces 3 ins. square. Put 1 lb. of fat salt pork in strips into the pot, set it on hot coals, and fry out the oil. After taking out the pork, put in a layer of fish, then a layer of onions in slices, then a layer of fish with strips of fat salt pork, then another layer of onions and so on until the fish is used up. Mix some flour with water enough to fill the pot; season with pepper and salt to your taste, and boil for ½ hr. Soak some crackers in water until they are a little softened; throw them into your chowder 5 mins. before you take them up. Serve in a tureen.

Chowder, A Sailor's Dish.

Cut halibut, salmon or any rich fish into steaks an inch thick; season highly with cayenne, salt and pepper. In the bottom of a stew-pan put a layer of sliced raw potatos; then a layer of broken cabin-biscuit; then the fish; and then a layer of thin sliced ham. In this manner fill the stewpan and finish with a large piece of butter. Add water enough to moisten the whole; stew slowly 2 hrs. Do not stir but shake the pan occasionally so it will not burn to the bottom. Add more water if it gets too dry.

Crabs, To Boil.

The crab is considered by many a better flavored fish than the lobster, and also more digestible. Those of middling size are the sweetest, though the heaviest are usually thought to be the best. They should be boiled in the same manner as lobster for about 20 mins., and are usually eaten cold with oil and vinegar. After taking all the fish from the shell, divide it into small pieces, mixing the rich part well with the rest; moisten it with salad dressing and return it to the shell with an edge all around of sliced lemon. If hot put the meat with salt, pepper, bits of butter, a little nutmeg, crumbs of bread, and 3 spoonfuls of vinegar, into the shell again, and set it before the fire. It may be browned with a salamander, but should always be served in the shell. Serve dry toast to eat with it. Be sure to remove "the lady," as it is called.

Crabs Minced.

Remove the meat, mince small and place in a saucepan with a wineglassful of white wine, pepper and salt, nutmeg, cayenne pepper, and 2 tablespoonfuls of vinegar. Let it stew for 10 mins.: melt a piece of butter the size of a hen's egg, with an anchovy and the yolks of 2 eggs; beat up and mix well, stir in with the crab, and add sufficient stale bread-crumbs to thicken. Garnish with thin toast cut with a pastry leaf-cutter, or with the claws, and parsley. Lobster may be dressed in the same manner.

Collared Eels.

Select the finest eels that can be found; do not remove the skin but extract the bone carefully and cleverly. Spread out the fish and rub it well over with some finely chopped sage, parsley, and mixed spices; then bind up the fish tightly with some broad white tape; throw a good handful of salt and a couple of bay leaves into the water in which it is to be boiled. Boil ¾ hr., then take it out and hang to dry for 12 hrs. To the water in which the fish was boiled add a pt. of vinegar, a little whole pepper, and some knotted marjoram or thyme. Let this pickle stand, after boiling about 12 mins., as long as the eel is hung up. Before serving the fish must be unrolled so as to abrase the skin as little as possible, and put into the pickle. Serve in slices or whole according to taste; garnish with parsley.

Fried Eels.

Cut your eels into pieces 3 ins. long, trim them, dip the pieces into flour, egg over with a paste-brush, and throw them into some bread-crumbs; fry in hot lard.

Stewed Eels.

Procure as large eels as possible, which cut into pieces 3 ins. long, and put them into a stewpan, with an onion, a bouquet of 2 bay leaves, a sprig of thyme and parsley, 6 cloves, a blade of mace, a glass of sherry, and 2 of water; place the stewpan over a moderate fire, and let simmer about 20 mins., or according to the size of the eels; when done, drain upon a cloth, dress them in pyramid upon a dish without a napkin, with a matelote sauce over, made as directed for salmon sauce matelote, but using the stock your eels have been cooked in to make the sauce, having previously well boiled it to extract all the fat.

Frogs, To Cook.

To 1 onion cut fine, and browned with a little butter, add 1 spoonful of flour and water sufficient to make a paste. After adding a little more butter put in the frogs and cook them nearly ½ hr. Add minced parsley in about 10 mins.; and ½ can of mushrooms to a doz. frogs about 10 mins. before they are cooked to improve the flavor. When done add the yolks of 3 eggs, beaten with the juice of ½ a lemon or a little vinegar.

Fish Forcemeat.

Chop any kind of fish, and afterwards pound it in a mortar, adding an anchovy or so, or a teaspoonful of the essence of anchovies, and the yolk of a hard-boiled egg. If for maigre, pound butter with it; if not mix with it the fat of bacon pounded separately. To this add a third portion of bread that was soaked and pounded previously and mix the whole up with raw eggs. Or take veal forcemeat, add a little anchovy essence and use less herbs, for mackerel, pike, haddock, and soles.

Baked Haddock.

The inside of the fish should be filled with veal stuffing; then sew it up with pack thread and truss it with the tail in its mouth; rub a piece of butter over the back, or egg or bread-crumb it over; bake in a moderate oven about ½ hr. Run the point of a knife down to the backbone, and if the flesh parts easily from it, it is done. Place on a dish without a napkin and serve with a sauce.

Halibut.

Halibut should be cut into slices of 4 lbs. each, and may be baked or fried. The skin on the back must be scored. When *baked*, use a sufficient quantity of butter to keep it moist. If *boiled*, lay it in the kettle on a strainer, cover it with salted water; boil it slowly ½ or ¾ of an hr. and skim it well. Garnish it with horseradish, serve it with melted butter. To *fry* halibut, cut it in slices less than 1 in. thick; and with this, as with all other fish, take care to have plenty of butter, lard, or oil in the pan, and that it be hot before the fish is put in.

Fresh Herrings Baked.

Wash the herrings in clear cold water; when they are thoroughly clean drain them, and then, without wiping them, lay them in a dish or baking pan; pepper and salt them; chop finely 2 or 3 onions, some parsley, thyme, and strew over them; cover them with equal proportions of vinegar and small beer; tie them over, and let them bake 1 hr. in a slow oven.

Potted Herring.

Take off the heads and tails; clean the fish and shake salt on them to draw out the blood; leave them 1 night, then rub them with black pepper and allspice. Pack them in a tin pan; put slices of onions and bay leaves between the layers, and pour on vinegar enough to cover them. Lay over them a sheet of buttered paper, or a crust of oatmeal bread; bake them till the bones are dissolved. A little mace, whole pepper and butter improve them.

Plain Boiled Lobster.

Put into a large kettle water enough to cover the lobster, with ¼ lb. of salt to every gal. of water.

When it boils fast put in the lobster, head first. If the head goes in first it is killed instantly. Boil briskly 1 hr., then take it from the hot water and lay it out to drain. Wipe off all the scum from it. It will be a bright red when done. After it is boiled and cold, break off the tail, cut it in 2 pieces with a sharp knife; remove the small intestine; remove the meat; break the claws up; then break off the legs; open the body; take out everything but the stomach; cut the inner body open; arrange it all around a dish and serve for breakfast, dinner, or supper. Use vinegar and pepper.

Croquettes of Lobster.

Take the meat from the shell, chop it finely; mix it with a little salt, pepper and pounded mace; take ¼ part of fine bread crumbs, make it up into balls with melted butter. brush the balls with yolk of egg, and dredge them with bread crumbs, and fry them, serving with or without gravy; if dry, they must be sent up with crisp parsley.

Lobster Curried.

Take the meat of a fine lobster, or two, if they should be small, place in a stewpan 2 dessert-spoonfuls of curry powder, add of butter 2 ozs., an onion cut in very fine strips, and 3 large spoonfuls of fish stock. When they are stewed well, add the lobster, simmer gently for 1 hr., squeeze in ½ a lemon, season with a little salt. In the eastern method the expressed juice of spinach is usually added. This is obtained by simply putting spinach, without any water, into a saucepan, and when done enough, press out the juice, and add it with butter, cayenne, and salt, to the gravy. Prawns may be dressed in this fashion.

Lobsters, To Stew.

Pick the meat out of the shell, put it into a stewpan with ½ pt. of good gravy and a glass of claret; add an onion minced fine, some sweet herbs, and pepper and salt, stew till tender; add a large spoonful of mushroom ketchup, 1 of essence of anchovy, and a lump of butter rolled in flour. Serve hot, and garnish with bread sippets. If brought on cold as a supper dish, serve in a shape covered with clear jelly.

Fish Pate.

This consists of enclosing a fricassee of fish with a potato wall without a crust of pastry. Mash some potatos in a mortar with a good piece of butter; then, with the bowls of 2 spoons make a wall of it 2½ ins. high within the rim of the dish to be used. The upper part should be a little thinner than the lower; smooth it, brush it all over with egg, and put it in the oven to become hot and a little colored. The outside may be ornamented with flowers and leaves, by the small tin shapes used to cut paste, before egging it. The whole of a crab picked clean from the shell should be beaten in a marble mortar with white pepper, and salt, nutmeg, and a few crumbs of bread; warm it with a little gravy thickened with cream or butter and a spoonful of wine, and when warm add some lemon-juice. Pour it into potato walls previously baked; do not cover it like a pie, but serve it up hot, browning it with a salamander, or covering the top with fancifully arranged small claws.

Pickerel, To Boil.

Open and rub the fish within with salt and claret wine; save the milt and a little of the bloody fat; cut it in 2 or 3 pieces, and put it into boiling water, with sweet marjoram, savory, thyme, or fennel, and a good handful of salt. Boil nearly ½ hr. For the sauce, take butter,

anchovies, horseradish, claret wine, a little of the blood, shallot, or garlic, and lemon sliced; beat all together, and serve.

Baked Salmon.

Wash and wipe dry and rub with pepper and salt. Lay the fish upon a grating, set over your baking pan, basting freely with butter, and towards the last with its own drippings only. Should it brown too fast, cover the whole with white paper till it is cooked. When it is done put it in a hot dish and cover closely. Add to the gravy a little hot water, thickened with flour wet with cold water, a tablespoonful of tomato sauce and the juice of a lemon. Boil up and serve in a sauce-boat. Garnish with alternate sprigs of parsley and the bleached tops of celery with bits of firm currant jelly here and there. This is a fine dish for a dinner party.

Salmon Steaks.

Dry well with a cloth, dredge with flour, and lay them on a well buttered gridiron over a clear hot fire. Turn with a broad bladed knife slipped beneath and a flat wire egg beaten above, lest the steak should break. When done to a light brown lay in a hot dish, butter each steak, seasoning with salt and pepper. Cover closely and serve.

Salmon Potted.

Cut a handsome piece from the middle of the salmon; remove the scales, and wipe it with a clean cloth. Rub into it some common salt thoroughly. Beat up some mace, cloves, and whole pepper; season the salmon with it; place it in a pan with a few bay leaves; cover it with butter, and bake it until thoroughly done; remove it from the gravy, letting it drain thoroughly, then place it in the pots. Clarify sufficient butter to cover all the pots after the salmon has been put into them; put it to cool.

Salmon with Tomato Sauce.

Take 2 slices of salmon, ½ lb. of butter, ½ teaspoonful of chopped parsley; salt, pepper, and grated nutmeg to taste. Lay the salmon in a baking dish, place pieces of butter over it, add the other ingredients, rubbing a little of the seasoning into the fish. Baste it frequently. Bake about ¾ of an hr. When done, take it out and drain for 1 or 2 mins. Lay in a dish, pour tomato sauce over it, and serve.

Shad, To Bake.

Stuff it with mashed potatos and chopped parsley. Lay it in the oven on a pan which is well covered with butter chopped in pieces; baste the fish with the butter and add fresh quantities as fast as it is absorbed. ½ or ¾ lbs. of butter should be used for large-sized shad.

Shad, To Broil.

Shad should be well washed and dried. It may be cut in half and broiled, or you may split it open and lay a small quantity of salt over it,

and lay it upon a gridiron well buttered. It will broil in about 20 mins., and should be thoroughly done. Melted butter may be served in a sauce-boat with it.

Shrimp Toast. Croute aux Creveles (French).

Shell 5 pts. of boiled shrimps as soon as they are cold; bruise the heads in a mortar, put them into less than a qt. of water; let them boil 1 hr.; strain very clear and add 3 parts to ½ the quantity of good veal stock. Put a lump of butter the size of an egg into a stewpan, and when it commences to bubble, stir in 1 teaspoonful of flour, a little grated nutmeg, a sprinkling of cayenne, and ¼ of a teaspoonful of mace. Pour in the stock gradually when this browns, adding a glass of vin de Bordeaux, and let it boil; then add the shrimps. Take a French loaf, cut off the bottom crust, hollow out the crumb and fry the crust in fresh butter until a golden brown. In about 3 or 4 mins., that is as soon as the shrimps are heated, pour them into the hollowed toast.

Smelts. (English).

This very delicate fish requires careful handling and should be quickly cooked. Do not wash them but draw through the gills and wipe with a soft cloth. Then dip the smelts into the yolk of an egg beaten very smooth, and sprinkle them with bread-crumbs powdered very fine. Fry them till of a clear light brown which will take about 4 mins.

Broiled Smelts.

Cleanse them and wipe dry with a cloth; dip them lightly into flour, and put them upon a gridiron over a slow fire for 5 or 6 mins. Turn them carefully when half done; serve plain or with a little sauce. White fish is very fine cooked in this manner, and nothing is relished more by the sick, or is more digestible.

Water souchet of flounders, soles, and slips may also be prepared for invalids in the same way.

Smelts, To Fry.

They should be dried slightly in a cloth and dipped in flour, then melt ½ oz. of butter or clear fat in a basin, and into it break the yolk of 2 eggs, with which rub the smelts over with a brush, dip them in bread crumbs and fry them in very hot lard. Dress them on a napkin, garnish with parsley, and serve with shrimp sauce in a sauce-boat.

Terrapins.

Kill them by putting into boiling water; then skin them and take off the nails, wash and put them on again to boil, adding a teaspoonful of salt to every 2. Remove the shells, sand bags and gall carefully, when tender; cut up the meat, season it with mace, pepper, and nutmeg, and put in a stewpan with the juice that has come out, and for every 2 terrapins, 4 ozs. of butter in flour, the yolks of 2 eggs beaten, and a glass of white wine. The eggs and wine are to be added after the whole is stewed perfectly tender.

Trout, To Fry.

Scale, gut, clean, dry, and flour; fry them in butter until they are a rich clear brown; fry some green parsley crisp, and have ready some plain melted butter; put in 1 teaspoonful of essence of anchovy, and 1 glass of white wine; garnish when the trout are dished with the crisp parsley and lemon cut in slices; the butter may be poured over the fish, but it is most advisable to send it in a butter tureen.

Trout, To Fry. (2.)

Scale, gut and clean them; take out the gills; egg and crumb them; then fry in lard or oil, or a mixture of butter and lard, until of a light brown. Serve with anchovy-sauce and sliced lemon.

Turbot.

Soak the turbot, which has been previously cooked, in salt and water, in which a little vinegar has been poured; place it on its back in the fish-kettle and fill it 3 parts full with cold water. Throw in a handful of salt, and 1 gill of vinegar and let it boil very gradually; when it boils add cold water to check it. It should cook 30 mins. Serve on a cloth as boiled with its back to the dish. Garnish with horseradish scraped into curls and sprigs of parsley, or with fried smelts, or barberries and parsley. Use lobster sauce.

CLAMS AND OYSTERS.

Clam Chowder.

Put 50 clams on the fire in their own liquor, with a little salt. When they have boiled about 3 mins., strain them, and return the liquor to the fire. Chop a medium-sized onion (2 ozs.) into small pieces, and cut 6 ozs. of pork into dice. Fry both a light color in 2 ozs. (size of an egg) of butter; then stir in 3 ozs. of flour (2 tablespoonfuls). When thoroughly cooked, add the clam liquor, ½ pt. of good stock or milk, the same quantity of cream, a saltspoonful of mace, a saltspoonful of thyme, salt to taste, and 8 ozs. of potatos cut into dice. When these are cooked, and the chowder is about to be sent to table, add the clams cut in dice, and 4 ozs. of crackers broken in pieces.

Tunison Clam Chowder.

Ingredients: 200 soft clams, 1 large onion, 20 large crackers, can of tomatos, parsley (chopped fine), ½ lb. of butter, 1 large teaspoonful of sweet marjoram, thyme, sage, savory, ½ teaspoonful of ground cloves, and ½ teaspoonful of curry. Boil well; then add ½ pt. of milk and ½ pt. of sherry wine.

Clam Fritters.

Take 1 doz. clams and chop them fine. Add the liquor from the clams to a batter made of 1 pt. of milk, 6 tablespoonfuls of flour, 6 well beaten eggs, 2 tablespoonfuls of melted butter, a little salt and pepper. Drop from a tablespoon into hot lard; fry a light brown. Or, you can dip the whole clams in batter and fry as you do oysters. Fry quickly and serve hot.

Scalloped Clams.

Wash the clams well and boil, using but little water; when the shells open, remove the clams, chop them fine and season with pepper and salt. In another dish mix some powdered cracker moistened first with warm milk, then with the clam liquor, a beaten egg, and some melted butter, and stir in with this the chopped clams. Wash as many clam shells as the mixture will fill; wipe and butter them; fill, heaping up and smoothing over with a spoon. Place in rows in your baking-pan and cook until nicely browned. Instead of this you can bake in patty-pans, sending to the table hot in the tins as you would in the scallop-shells.

Canned Oysters, To Roast.

Drain them. Put them in a spider which is very hot; turn them in a moment, so that they may cook on both sides. It only takes a few seconds to cook them. Put them on a hot plate in which there are pepper, salt, and a little hot melted butter. They should be served immediately. They have the flavor of the oyster roasted in the shell. Some cook them in this manner at table in a chafing-dish by means of the spirit-lamp.

Oyster Curry.

Blanch and beard 6 doz. oysters, leaving them in their own liquor; then cut 2 middling-sized onions into small dice, and *saute* them in a stewpan, with 1 oz. of butter; when done, mix in 2 teaspoonfuls of curry powder and 1 of curry paste, and pass all through a tammy—it ought to be thick; then add the oysters with their liquor, and keep stirring over the fire until the oysters become enveloped in a thick sauce, which they should be in 2 mins., when turn them out upon your dish, and serve with rice separately.

Fried Oysters.

Use for frying the largest and best oysters. Lay them on a cloth to absorb the liquor; then dip first in beaten egg, and afterward in powdered cracker or Indian meal, and fry in hot fat or they will absorb too much grease; do not fry too long or they will be tough.

Oyster Fritters.

To the liquor drained from the oysters add the same quantity of milk, 3 eggs, a little salt, and flour enough for a thin batter. Chop the oysters and stir into the batter and fry in hot lard or butter. Some fry the oyster whole enveloped in batter, 1 in each fritter.

Oyster Omelet.

Chop 12 large oysters. Beat the yolks of 6 eggs into a teacupful of milk and add the oysters. Put in a spoonful of melted butter and then add the whites of the eggs beaten to a froth. Fry in hot butter or salted lard and do not stir while cooking. Slip a knife around the edges while cooking, that the center may cook equally, and turn it out so that the brown side be uppermost.

Pickled Oysters.

Scald the oysters in their liquor, or in water with a little salt; take them out with a skimmer, and throw them into cold water. Take whole allspice, black pepper and mace, and boil it up in the liquor in which the oysters were boiled; when it tastes enough of the spices take it off. Let the oysters drain on a sieve. When the liquor is cold add vinegar to taste, and then put in the oysters.

Oyster Pie.

Make a paste as for meat pie, roll quite thin, lay in a shallow, buttered dish; prepare the oysters as for scalloping, lay them in the dish with slices of butter, a dust of flour and cayenne pepper, until the dish is filled. Cover with a crust, rolled thin. Bake 20 mins.

Oyster Pie, with Sweetbreads.

Separate the oysters from the liquor, blanch them and take off the beards; blanch some throat sweetbreads, and when cold cut them in slices, then lay them and the oysters in layers in your dish, season with salt, pepper, a few grains of mace and nutmeg; add a little cream, some thick sauce, the oyster liquor, and some good veal stock; bake in a slow oven.

Oyster Rolls.

Take about a qt. of the largest and finest oysters you can procure, stew them in their own liquor with some pepper, a very little mace, and some green onion chopped fine, thicken them with a little butter and a dust of flour when nearly done enough. Take 2 French rolls of the square sort baked in tins, cut a piece off the top, and scoop out the greater part of the crumb, fill your roll with the oysters and the liquor, and set them near the fire on a chafing-dish filled with hot coals; as the liquor soaks in fill them with more, or if you have not any left, add a little good gravy boiling-hot.

Scalloped Oysters.

After draining the oysters, place in a buttered dish a layer of bread-crumbs, then a layer of oysters with a little salt, pepper and a small piece of butter, then a layer of bread crumbs, alternating with the oysters until you have filled the dish. Let the top layer be of crumbs, thicker than the rest, and put bits of butter on the top. When put to bake, strain in what liquor there is from the oysters; if not sufficient to

fill the dish, add milk. A dish holding from 1 to 2 qts. will require ½ hr. in cooking; if cooked too long the oysters will be tough. Many use rolled crackers, but rolled bread crumbs are better, as the former give the oysters an insipid taste. Do not use too many bread crumbs as they swell more than crackers.

Spiced Oysters.

Ingredients: 200 oysters, 1 pt. of vinegar, a nutmeg grated, 8 blades of whole mace, 3 doz. whole cloves, 1 teaspoonful of salt, 2 teaspoonfuls of whole allspice, and as much cayenne pepper as will lie on the point of a knife. Put the oysters with their liquor into a large earthen vessel; add to them the vinegar and all the other ingredients. Stir all well together and set them over a slow fire, keeping them covered. Stir them to the bottom several times. As soon as they are well scalded, they are done. To be eaten cold.

Oysters on Toast.

Take large shell oysters and wash clean. Lay them in your dripping-pan and put them into the oven; in a few mins. you can remove them, with the juice, from the shell into a dish; put butter, pepper and a little salt on them. Stew for a moment and lay on buttered toast. If shell oysters cannot be had, canned oysters will do.

SALT FISH.

Boiled Codfish.

Put the fish to soak early in the evening in lukewarm water. Change this for warm water at bed-time and cover closely. Change again in the morning. 2 hours before dinner take out the fish and plunge into very cold water to make it firm. Then set it over the fire with enough lukewarm water to cover it, and boil for ½ hr. Drain well; lay it in a hot dish, and pour over it egg-sauce made as follows:

Add 1 gill of milk to 1 gill of boiling water, and, when it is scalding hot, stir in 2 tablespoonfuls of butter, a tablespoonful of flour previously wet with cold water, and as it thickens, the yolks of 2 hard-boiled eggs, rubbed to a paste with butter. Season with salt and chopped parsley; let it boil up and put in a spoonful of vinegar in which celery seeds have been steeped.

Codfish Stewed with Eggs.

Soak, boil, and pick up the fish. Heat a pt. of milk almost to boiling, and stir into it gradually 3 well-beaten eggs and a tablespoonful of butter with a little pepper, then the fish. A little chopped parsley may be added.

To Broil Salt Mackerel.

Soak the mackerel over night and drain it well. Place it on your fish gridiron and cook slowly 10 or 15 mins. When taken upon the

platter, pour boiling water over it to rinse off the salt. If it has not lain in water sufficiently long to freshen it, repeat the boiling water, being careful to drain well before putting on butter and pepper. This is nice for breakfast with an omelette or boiled eggs.

POULTRY AND GAME.

Poultry, To Choose.

Choose those that are full grown but not old. If young and fresh killed, the eyes are full and bright, the skin is thin and tender, and the joints are not stiff. If the fowl is old the breast bone is tough and does not easily yield to pressure. The skin cannot be easily torn with a pin as when young. A young goose has yellow legs and few hairs. The pinfeathers in a young bird come out very easily.

The French adopt the following method to make old poultry eat tender: Let the bird soak in cold water for 24 hrs., with a handful or two of wood-ashes; pick off the feathers, and let it hang for another 24 hrs.; truss it, and let it boil ½ of an hr. in a little veal-broth; take it out, lard and roast it; when nearly done, baste it with very hot butter. By observing these directions, you will impart to an old bird all the delicate flavor of a young chicken.

Fowls, To Carve.

First take off the wings. Divide the joint with your knife, then take firm hold of the pinion with your fork, draw the wing toward the legs, and the muscle will separate better than as if cut with a knife. Slip the knife between the leg and body and cut to the bone; with the fork turn the leg back, and, unless the fowl is old and tough, the joints will give way. The four quarters removed, enter the knife at the breast and separate the merry-thought from the breast-bone. Press the knife under it to lift it up, and by pressing it backward upon the dish, the bone will be easily removed. Lift up the collar-bones, which are each side of the merry-thought by the broad end of the knife, and force them towards the breast-bone until the part which is fastened to it breaks off. Separate the breast from the carcass by cutting through the ribs on each side the whole length of the back. Turn the back upward, lay the knife across it near the middle and lift up the other side with the fork. Lastly separate the side bones by breaking the joints each side of the back-bone, and the work is done. Cut slices from the breast-bone of turkeys and geese to start with, always beginning at the wings and cutting towards the breast-bone.

Birds, To Bone.

Begin to bone any birds by first taking out the breast-bone, when you will have sufficient space to remove the back with a sharp knife, and then the leg bones; the skin must not be broken, but the meat of the legs must be pushed inwards.

Broiled Chicken.

Split the chicken down the back, and wipe perfectly dry. Place on a buttered gridiron, inside downward. Cover with tin pan or plate and broil till tender and brown, turning several times. This will require from ½ to ¾ of an hr. Put into a dish and butter well.

Chicken a la Creme.

Cut the chicken up, stew in a pan of water until done; then make a thickening of cream or rich milk and flour, seasoning with butter, pepper and salt. Have ready baked a pair of shortcakes, made as for pie-crust, but rolled thin and cut in small squares. Lay the crusts on a dish and pour over them the chicken and gravy while all are hot. This is a delicious substitute for chicken pie.

Fried Chicken.

Joint the chickens, wipe them dry, and dust on flour, pepper and salt. Fry in a mixture of hot butter and lard, and when brown on both sides, add 1 teaspoonful of powdered mace, 3 tablespoonfuls of sweet cream or milk. If milk is used add a little butter and flour to the gravy; pour over the chicken at the moment of serving.

Fricasseed Chicken.

Wash, joint, and lay in a stewpan, with pepper and salt, and stew till tender. To thicken the gravy dust in flour; add 1 cupful of thick cream and ½ a cupful of butter; if you have no cream, 1 cupful of butter. Adding pieces of salt pork is an improvement. Pour the chicken over some thin slices of toast in a hot dish.

Southern Gumbo.

Fry 1 chicken brown, and 2 slices of bacon. Pour on them 3 qts. of boiling water; add 1 onion and some sweet herbs tied in a rag. Simmer this gently 3½ hrs. Strain off the liquor, take off the fat, then put the ham and chicken, cut in small pieces, into the liquor. Add ½ teacupful of okra cut up, and just before serving add a glass of wine and a doz. oysters with their juice.

Chicken Pie.

Joint the chickens and boil in salted water just enough to cover them, and simmer slowly for ½ an hr. Line a dish with crust; then, when cold, put the chicken in layers, with thin slices of broiled pork, and butter the size of an egg, cut in small pieces. Put in enough liquor, in which the fowls were boiled, to reach the surface; salt and pepper each layer; dredge in a little flour, and cover all with a light, thick crust. Make a small slit in the center of the crust. Bake about 1 hr. in a hot oven.

Chicken Pot-Pie.

Cover jointed chickens with water, and boil them, if tender, ½ hr. before putting in the crust. Skim thoroughly. Add 1 tablespoonful of flour, stirred into 1 of butter, and season with pepper and salt. A few bits of pork cut thin is an improvement. Make the crust like baking powder biscuit, with the addition of a little butter. Cut in pieces and drop in. If a potato crust is preferred, boil and mash 6 small potatos, add 1 egg, 1 teacupful of milk, 1 tablespoonful of butter, 1 teaspoonful of salt, and flour enough to make it roll out easily. Keep the kettle closed to prevent the crust from becoming heavy. A better way is to put the crust in the steamer and steam it. It is then sure to be light. Then the chicken and gravy can be poured over it.

Chickens Pulled.

Remove the skin carefully from a cold chicken, then pull the flesh from the bones, preserving it as whole as you can. Flour them well, fry them a nice brown in fresh butter; draw them, and stew in good gravy well seasoned; thicken a short time before serving with flour and butter, and add the juice of ½ a lemon.

Roast Chicken.

Wash the chickens out well in 2 or 3 waters, and add a little soda to the last water but one, to remove any doubtful odor. Fill the bodies and crops of the chickens with a stuffing of bread crumbs, butter, pepper and salt; sew them up, and roast an hr. or more, according to the size. Baste 2 or 3 times with butter and water, afterward with their own gravy. Put a little water into the dripping-pan at first to prevent burning. Stew the giblets and neck in water enough to cover them, and after removing the fowls to a hot dish, pour this into the drippings; boil up once; add the giblets chopped fine; thicken with browned flour; boil again, and send to the table in a gravy boat.

Miss Corson's Saute.

After jointing the chicken, place it in a sauce-pan, with just enough olive oil on the bottom of the pan to keep it from burning. Olive oil is considered purer and the most wholesome of any kind of fat. After the chicken is thoroughly browned cover it with boiling water, stir it, and cook slowly for 1 hr.; season with salt and pepper, then add 1 tablespoonful of flour and put into it either small onions or mushrooms. Add the flour dry; by stirring avoid any lumps in the broth. If the chicken weighs 3 lbs., use 12 small onions, being careful not to cut the little ends of each as is usually done when they are served alone.

Roast Ducks.

After cleaning and washing the ducks, stuff and sew them up, reserving the giblets for the gravy. To the usual dressing a little sage may be added and a minced shallot. If tender, they will not require more than 1 hr. to roast. Baste well, and skim the gravy before putting in

the giblets and thickening. The giblets stewed in a very little water, and chopped fine, should be added to the gravy in the dripping-pan, with a shallot and a spoonful of browned flour. Serve with currant or grape-jelly.

Boiled Fowls.

Put the fowls in cold water; let them simmer ¾ of an hr., or until done, serve with parsley and butter, or oyster or celery sauce. The fowls may be covered with a white sauce if sent cold to table, garnished with colored calf's-foot jelly of the hue of beet-root.

Fowls Boiled with Oysters.

Take a young fowl, fill the inside with oysters, put it into a jar, and plunge the jar into a kettle or saucepan of water. Boil it for 1½ hrs. There will be a quantity of gravy from the juices of the fowl and oysters in the jar; make it into a white sauce, with the addition of egg, cream, or a little flour and butter; add oysters to it, or serve it up plain with the fowl. The gravy that comes from a fowl dressed in this manner will be a stiff jelly the next day; the fowl will be very white and tender, and of an exceedingly fine flavor—advantages not attainable in ordinary boiling—while the dish loses nothing of its delicacy and simplicity.

Fowls, Forced.

Cut a large fowl down the back; remove the skin from the whole of the body very carefully; cut the flesh from the bones, and chop it up finely with ½ pt. of oysters, and 1 oz. of beef marrow; then season with pepper and salt. Add sufficient cream to mix it well; lay the meat on the bones; draw the skin over, and sew up the back. Lay thin slices of bacon on the breast; tie them on in diamonds, and roast it 1 hr. by a moderate fire. Pour a good brown gravy sauce into the dish. Remove the bacon from the fowl, and then place the fowl in the dish. Garnish with oysters or mushrooms, and serve hot.

Roast Goose.

Clean and wash the goose, putting a teaspoonful of soda in next to the last water, rinse out well, and wipe the inside dry. Add to a stuffing of bread crumbs, pepper and salt, 1 tablespoonful of melted butter, 1 large-sized onion chopped fine, 1 tablespoonful of chopped sage, the yolks of 2 eggs, and some small bits of fat pork. Stuff body and craw, and sew up. If the fire is strong it will take 2 hrs. to roast. Cover the breast until it is half done with white paper, or a paste of flour and water, removing this when you are ready to brown. Make a gravy as for roast duck, adding a glass of sherry or port. Serve with cranberries.

Guinea Fowls.

These birds must be very young, for, being naturally very dry, they are not eatable if more than 12 months old; they are generally larded, and served plain roasted, rather well done; they are trussed like the

common fowl, and require nearly ¾ of an hr. to roast. It has very much the flavor of the pheasant, and should be allowed to hang as long as it can without being too far gone. Serve with a rich brown gravy and bread sauce; it will take from 45 to 50 mins.

To Stew Partridges.

Truss them with the wings over the back, and the legs drawn in; cut a piece of pork or bacon in long strips, and put them into a stewpan with a piece of butter the size of a walnut. Fry the bacon brown, and when quite done put in the partridges, and keep turning them until they are very brown, taking care that the bacon shall be as much on the breast as possible; then add about a teacupful of gravy, and some trimmings of meat and vegetables. Have ready a large cabbage boiled; when well drained, slice it with butter, pepper, and salt, put it while warm with the gravy to the partridges, and let them stew gently for 1 hr., turning the birds frequently. Serve up with the bacon underneath, and the cabbage round them, squeezed dry, and the sauce well skimmed. Some prefer the dish without the cabbage, in which case put the birds and trimmings upon toast.

Pea Fowls.

These magnificent birds make a noble roast, and when young are very excellent: they are larded, or plain roasted, and served with the tail feathers which have been preserved, stuck into the bird; the head, with its feathers on, being left folded up in paper, and tucked under the wing; roast about 1½ hrs.; take the paper from the head and neck; dress it upon your dish with watercresses, and the gravy and bread sauce separate in a boat.

Pigeons, To Roast.

Fill each bird, when dressed, with a stuffing made of bread crumbs, salt, pepper, and sweet herbs; put them in the dripping-pan, and add sufficient water to cover them. Stew until tender; then dredge on flour and put a piece of butter on each and let them brown. There will be enough gravy in the dish to serve with. Eat with cranberry sauce or currant jelly.

Prairie-chicken or Grouse Roasted.

Epicures think that grouse (in fact, all game) should not be too fresh. Do not wash them. Do not wash any kind of game or meat. If proper care be taken in dressing them they will be quite clean, and one could easily wash out all their blood and flavor. Put plenty of butter inside each chicken; this is necessary to keep it moist. Roast the grouse ½ hr. and longer, if liked thoroughly done; baste them constantly with butter. When nearly done, sprinkle over a little flour and plenty of butter to froth them. After having boiled the liver of the grouse, mince and pound it, with a little butter, pepper and salt, until it is like a paste; then spread it over hot buttered toast. Serve the grouse on the toast, surrounded with watercresses.

Broiled Quail.

Dress the quail and lay them flat by pressing the breast-bone gently. Place the inside to the fire first and cook slowly, lest they should burn, covering with a pan with a weight on it to keep them in place. Take a small teacupful of butter, a little salt and pepper, dredge in about a teaspoonful of flour and stir altogether until well mixed; then pour over a cup of boiling water and let it cook for 1 min.; then lay the quails in a hot platter. Serve with currant jelly.

Quail, To Roast.

Dress carefully, and lay them in cold water for 1 hr. Fill them with a dressing of bread crumbs, pepper, salt, and summer savory or thyme, and lay a little of it over them. Cook ½ hr., basting often; when almost done dust on flour and lay upon each a piece of butter, and let them brown. Snipe are delicious cooked in this way.

Fried Rabbit.

After cutting into joints, soak for 1 hr. in salt and water. Dip them in beaten egg, then in powdered cracker and fry brown in sweet lard or dripping. Serve with onion sauce. Garnish with sliced lemon. They must be very tender for this purpose.

Roast Rabbit.

Skin and clean out the interior of the rabbit and fill it with a stuffing made of bread crumbs and butter; season with pepper, salt, summer-savory and a little sweet marjoram, rubbed fine; put it in a good oven, and while roasting, baste it with plenty of butter and dredge it occasionally with flour. 35 mins. roasting will be sufficient. Boil the liver with a doz. sprigs of parsley; when quite tender chop up fine, and add them to melted butter, as a sauce; have also another sauce-boat with plain gravy, made of the drippings from the rabbits, thickened with a little flour and water, or, much better, a little Madeira wine.

Rabbits, To Skin.

Cut round the skin at the first joint of the hind legs, and pull the skin up a little, then run the knife between the sinew and the bone of the leg, so as to make a hole to hang it on a nail in a wall, with the head downwards; run a knife along the skin inside the thigh as far as the tail, so as to cut it, then run the hand under the skin, and it will easily separate from the body: pull it down towards the head, taking care not to tear the belly: when you have arrived as far as the head, pull up the fore legs, cutting the feet off at the first joint; then pull up the ears by running a skewer between the skin and the head, and pull the skin off, cutting the nose and lips; remove it from the nail, cut off the hind feet at the first joint; cut open the body, remove the inside, reserve the liver, heart and kidneys, and throw away the remainder; wash out the inside.

Broiled Squirrels.

Clean and soak to draw out the blood, and after wiping dry, broil over a hot, clear fire, turning them when necessary. Lay in a hot dish, when done, and spread with melted butter, seasoned with pepper and salt. Use at least 1 tablespoonful for each squirrel. Cover them with a hot dish for 5 mins. before sending to the table.

Boiled Turkey.

Fill the body with oysters, and let it boil by steam without any water. When sufficiently done, take it up, strain the gravy that will be found in the pan, and which, when cold, will be a fine jelly; thicken it with a little flour and butter, add the liquor of the oysters intended for sauce, also stewed, and warm the oysters up in it; whiten it with a little boiled cream, and pour it over the turkey.

Boned Turkey.

Boil a turkey in as little water as may be, until the bones can be easily separated from the meat. Remove all the skin; cut the meat into thin slices, mixing together the light and dark parts. Season with salt and pepper. Take the liquid in which the turkey was boiled, having kept it warm, and pour it on the meat, and mix it well. Shape it like a loaf of bread, wrap it in cloth and press it with a heavy weight for a few hrs. When served up it is cut in thin slices.

Turkey Hashed.

Cut up the remains of a roasted turkey, put it into a stewpan with ¼ gill of sherry wine, shallots, truffles, mushrooms, chopped parsley, salt, pepper, 2 spoonfuls of cullis, and a little stock; boil ½ hr., and reduce to a thick sauce. When ready add 1 lb. of anchovies, and a squeeze of lemon. Skim the sauce free from fat, and serve altogether.

Minced Turkey.

Take the remains of cold turkey and cut into very small pieces, weighing together perhaps ½ lb. Take ½ the amount in cold potatos and cut also in pieces the same as the turkey. Put on the fire in a saucepan, with 1 oz. of butter and 1 small spoonful of flour dissolved in ¼ cupful of water. Stir with a wooden spoon until it bubbles, when pour on 1 gill of boiling milk or cream; then add the turkey and potatos, a little salt, pepper and nutmeg. Serve very hot for breakfast.

Turkey, To Roast.

Lay the drawn turkey in cold water 1 hr., then drain well. Make a dressing of stale bread, pepper and salt, and fill the inside. Cut the neck-bone away enough to put some dressing in the breast; then bring the skin over and tie with a string; sew the lower part; fasten the legs together with a skewer and tie tightly; tie the wings also, and lay the

turkey in a dripping-pan. Baste often, and when partly done, dredge flour and lay small pieces of butter over to brown. Make the gravy from that in the pan, putting in the giblets chopped fine.

Turkey with Sausage Meat and Tongue.

Bone the turkey, then fill the inside with sausage meat, with or without tongue; if with tongue the tongue should be boiled the day before; cut off the root and tip to the length of the turkey; if you have a fowl to spare, wrap the tongue in this after it is boned, and place it in the middle of the turkey surrounded with sausage meat; introduce truffles if you like; if roasted, have a slow fire, and it will take a long time to roast through; if for boiling, cover it with fat bacon and slices of lemon tied in a cloth. Pour whatever sauce you propose to use over the turkey.

Baked Turkey, Chicken, Veal, and Lamb, Stuffing for.

Soak ½ lb. of bread (with the rust cut off) in tepid water, then squeeze dry. Put 3 ozs. of butter into a stewpan, and when hot stir in a small onion minced (1½ ozs.), which color slightly; then add the bread, with 3 tablespoonfuls of parsley (½ oz.) chopped fine, ½ teaspoonful of powdered thyme, a little grated nutmeg, pepper, salt, and a gill of stock. Stir it over the fire until it leaves the bottom and sides; then mix in 2 eggs.

Roast Turkeys, Chickens, Ducks and Geese, Stuffing for.

The commonest stuffing is this: 2 onions, 5 ozs. of soaked and squeezed bread; 8 sage leaves, 1 oz. of butter, pepper, salt, 1 egg, a little piece of pork minced. Mince the onions, and fry them in the *saute* pan before adding them to the other ingredients. Some chopped celery is always a good addition.

Turkey Giblets a la Bourgeois.

The giblets consist of pinions, feet, neck, liver, and gizzard; scald, and put them into a stewpan with a piece of butter, parsley, scallions, garlic, thyme, bay-leaf, basil, mushrooms, and a clove or 2; moisten with stock, season with pepper and salt, make it hot, thicken with a little flour, and when almost done add a few turnips fried slightly in a little butter.

Venison, To Roast.

To keep in the juice of the meat, dust with plenty of flour. Baste often, and send to the table quite rare. Make the gravy of the drippings from the meat, a little flour, a piece of butter the size of an egg, and a little currant jelly. Serve on hot plates, or chafing dishes. In roasting venison the saddle is to be preferred.

Venison Steaks.

These are taken from the neck or haunch. The gridiron should be well buttered, and fire clear and hot. Lay the steaks on the bars and broil rapidly, turning often so as not to lose any juice. They will take

3 or 4 mins. longer to broil than beefsteaks. Pepper and salt the steaks when broiled, and lay butter upon them, a piece about the size of an egg for each lb. of steak, letting them stand between two hot dishes 5 mins. before they go to the table, turning them 3 times in the gravy that runs off from them to mix with the melted butter.

MEATS, TO CHOOSE.

Beef.

Young ox beef which is considered the best, has its lean of fine open grain of a deep coral red color, the fat white rather than yellow, and the suet firm and white. The meat is always inferior when the fat is yellow. Heifer beef stands next, in quality, has a closer grain, with lean of paler red, and the fat whiter. Cow beef is a little coarser in grain and harder to the touch. When you see beef, of which the fat is hard and skinny, you may suppose it to be of an inferior kind; and when the meat is old, you may know it by a line of horny texture running through the meat of the ribs.

The standing ribs are used for roasting, the second is the best, but the sirloin is the roasting piece of all. The porter-house steak is the best for broiling, the sirloin stands next, and the round is poorest.

Bacon.

The rind should be thin, the fat firm and slightly tinged with red, and the lean adhere closely to the bone, and with no yellow streaks.

To judge of a ham in purchasing, stick a sharp knife in it to the bone. If there is no disagreeable smell and no meat adhering to it, the ham is good. Short hams are best.

Lamb.

The younger it is the more delicate. It should also be very fresh. The fore-quarter is sure to be stale if the vein in the neck is not blue In the hind-quarter a faintness in the smell of the kidney shows that the animal has been too long killed. It should be small and white, and well covered with fat.

Mutton.

The best is fine grained, of bright color, and its fat firm and white. A good haunch is of small size and moderately fat.

Pork.

The principal thing to be observed in this is the firmness of the fat. The rind should also be thin and easily impressed by the finger. Pigs with thick necks, and short in the legs and bodies are the best. When the meat is clammy to the touch, and looks flabby, it is tainted. If the fat contains enlarged glands or kernels, the animal was diseased. The most delicate porkers are from 3 to 4 months old.

Veal.

If the kidney is well surrounded with white and firm looking fat, the meat is sure to be of good quality, therefore observe that if possible. It is more juicy and well flavored, when not of the delicate whiteness usually preferred. To know whether it is fresh, look at a very perceptible vein in the shoulder. If this is bright red or blue, it is recently killed.

Venison.

This meat should have clear, bright and thick fat. To know whether it is sweet run a knife into the shoulder, and the scent will tell the story. Venison can be kept longer and be good than any other kind of meat. Forest venison is much better than stall-fed deer.

MEATS BAKED.

Calf's Liver.

Soak the liver 1 hr. in salt and water to draw out the blood. Make incisions from side to side at short distances, and place in them thin slices of salt pork. Bake for 1 hr., basting twice with water and butter, afterward with the gravy in the dripping-pan. Baked liver is very good cold, cut into slices like tongue.

Ham.

After soaking for 12 hrs., trim away the rusty part from the under side and edges; wipe very dry and cover the bottom with a paste made of flour and hot water. Place the ham upside down in the dripping-pan, with water enough to keep it from burning, and bake 5 hrs., or allow fully 25 mins. to a lb. Baste frequently to keep the crust from cracking and scaling off. When done, peel off this and the skin, and glaze as you would a cold ham. Put cut paper about the knuckle, and garnish with parsley and sliced red beet pickled.

MEATS BOILED.

Beef Tongue.

When you have washed the tongue well, soak it over night in cold water. Next morning put it into a pot with plenty of cold water, and boil slowly until it is tender throughout. This can be determined by testing it with a fork. When cold, pare off the thick skin, cut in round slices, and dish for tea; garnish with fresh parsley.

Tongue sandwiches are preferred to those made of ham.

Corned Beef.

If the piece is a round, skewer it well into shape, and tie it up with stout twine when you have washed it in 3 or 4 waters, and removed all the salt from the outside. Put into a pot, and cover with cold water. Allow, in boiling, about 20 mins. to a lb. Turn the meat 3 times while cooking.

Ham.

Soak the ham over night; then wash in 2 waters with a brush. Boil slowly, allowing 15 mins. for each lb. Take off the skin when cold, and ornament with dots of pepper and fringed paper tied around the shank. Boiled ham is much improved by setting it in the oven ½ hr., making it sweeter, while the fat that tries out can be used in cooking. Some, after removing the skin from cold boiled ham, rub it over with beaten egg, and then spread over powdered cracker, wet with milk, and let it brown in the oven.

Mutton.

Put it into a pot with hot water (salted) enough to cover it, and boil until you find, by probing with a fork, that it is tender in the thickest part. Skim off all the scum as it rises. Allow about 12 mins. to each lb. Serve with melted butter, with capers, or nasturtium seed; or some cucumber or gherkin-pickle stirred into it. If you wish to use the broth for soup, put in very little salt while boiling.

Veal Pot-Pie.

The breast or loin is best, cut in pieces the size you wish to serve. Place it, with strips of salt pork, in enough water to cover the meat. Skim well, and let it simmer instead of boiling rapidly. It will require from 45 mins. to 1 hr. in cooking. Dust with flour, season with salt and pepper. Make a biscuit dough, quite soft, of 1 pt. of flour, 2 teaspoonfuls of baking powder, and 1 teaspoonful of lard or butter; roll thin, and cut in squares of about 3 ins. Put the crust in with the meat or in a steamer. Be careful to keep the vessel well covered after the crust is put in. When you send it to the table, add butter to the gravy. Some prefer not to cut the crust, but place it in one large piece over the meat.

MEATS, BROILED.

Beefsteak.

Have the steak cut thick, if you like it rare. If possible, have your gridiron of the kind to catch the fat; turn it but once that you may not lose the juice. Place the steak upon a hot platter, and season with butter, pepper and salt. Send it to the table as soon as done. For broiling, porter-house is preferred.

Lamb.

Broil as you would chickens, first taking out all the bones except the small ribs. For the gravy, crack the bones in small pieces and put in a covered sauce-pan with a little water; strain and add a teaspoonful of flour. When boiled there should be a teacupful, to which add a piece of butter the size of an egg; do not let it boil after the butter is put in, as that will make it oily. Some think this equal to spring chicken.

Ham.

The ham should be cut in slices, washed well, and soaked in scalding water, in a covered vessel, for ½ an hr. Pour off the water and add more boiling water. When the ham has stood ½ an hr. in the second water, wipe it dry, and lay in cold water for 5 mins. Wipe again and broil over a clean fire. Pepper before serving. For broiling, cold boiled ham, that is not too much done, is better than raw.

Pork Steak.

To broil or fry, cut the steak ½ an inch thick; take off part of the fat to broil it; sprinkle the pepper on it and broil over a clean, moderate fire ½ of an hr., or more. Just before taking up, sprinkle over some fine salt. In frying, flour them well, and season with pepper, salt and sage; they may also be dipped into egg and then into bread crumbs mixed with minced sage.

MEATS FRIED.

Lamb Chops.

The chops should be cut from the loin of the lamb, about ¾ of an in. thick. Broil them over a clear fire, and when done season with pepper and salt.

Mutton Chops.

The meat should be cut from the large bone, or chine, leaving the ribs or small bones. Fry from 10 to 15 mins. Dip each piece in a well beaten egg, that is seasoned with salt and pepper, then into bread crumbs, and return them to the pan to brown. Serve on hot platter and plates.

Ham.

Cut the slices rather thick. Put them into cold water for a few moments, after which wipe them dry with a cloth. Have the spider hot, and turn them in a moment, for ham to be good must be fried quickly, and not too much. Serve on a hot platter.

Calf's Liver.

Cut the liver into thin slices, dip them in flour, and put it in a *saute* or fryingpan, in which some slices of bacon have been previously

cooked, with sufficient fat left in it; *saute* the liver until quite brown and rather crisp, when take out and place it upon a dish with the bacon, then dredge a spoonful of flour in the pan, or enough to absorb all the fat in it, then add a little broth or water, so as to make it a thinnish sauce, season it, and add, if liked, 2 spoonfuls of Harvey's sauce or mushroom ketchup. If the above is nicely done, and the pieces cut the size of cutlets, it will make a nice *entree* for an ordinary dinner. It should be served immediately, and very hot.

Sausage, To Make and Fry.

Take 10 lbs. of meat, 3½ ozs. of table salt, 1 oz. of sage, 1 oz. of pepper. Grind the meat, fat and lean, in a sausage mill, or chop very fine. Mix well, and put in cloth bags. Fry in a clean, dry frying-pan, until brown.

Tripe, To Cook.

Tripe may be dressed in several ways, but whatever mode may be employed, it will always be found an improvement to soak it for a whole night in milk. Some say, 7 or 8 days in salt and water. If left in the milk until that gets sour, the acidity thus imparted to it will render it still better. Take 2 lbs. of fresh tripe, cleaned and dressed by the tripe-dresser; cut away the coarsest fat, and boil it in equal parts of milk and water; 20 mins. to ½ hr. will be long enough. Boil in the same water which boils the tripe, 4 large onions; the onions should be put on the fire at least ½ hr. before the tripe is put in the stewpan, and then made into a rich onion sauce, which serve with the tripe. Another way to cook it is to clean, then dry it, cut into pieces, and fry in batter, then serve with melted butter.

A good way is to cut it into slices; 3 eggs are beaten up with minced parsley, sweet herbs, onions chopped exceedingly fine, parsley and mushrooms. The tripe is dipped into this mixture, and fried in boiling lard. Tripe can be stewed in gravy in which put parsley, onions, and mushrooms, or in lieu of the latter, mushroom ketchup. Thicken the gravy with flour and butter. When the tripe is tender, it will be done. A lemon may be sent to table with it.

Veal Cutlets, Sauted and Fried.

These are cutlets cut from the round, although any veal cutlets may be cooked in the same way. Cut them into equal-sized pieces, beat them a little with a knife to get them into shape; season, egg, and bread-crumb them. Now, fry in a *saute* pan, or rather *saute* some thin slices of ham in a little hot lard, and when done take them out on a hot dish; fry slowly the cutlets in the same fat, and when done pour out some of the fat, if there is more than a teaspoonful; add a little flour, then a little hot water, and, when cooked a few moments, season it with lemon-juice, adding pepper and salt to taste; then strain it. Serve the cutlets in the center of a dish, with the gravy poured over; and place alternate slices of the ham and lemon in a circle around them.

They are also very good *sauted* in a little lard, and served with a cream gravy poured over; or they are nice egged (with a little chopped

parsley and onion mixed with the egg), and bread-crumbed, and fried in hot lard.

Veal Steak.

Broil upon a well greased gridiron over a clear fire, and turn often while cooking until the steak, which is thinner than beef-steak, is done throughout. Put into a saucepan 1 large teaspoonful of tomato ketchup or 2 of stewed tomato, a lump of butter the size of an egg, and a little thyme or parsley, with a small teacupful of hot water; also 4 or 5 young onions minced fine if you like them. Let them stew together while the steaks are broiling, thickening the gravy with 1 spoonful of browned flour. Add ½ a glassful of wine. Boil up hard once, and when the steaks are dished with a small bit of butter on each, pour the mixture over them. Spinach is a natural accompaniment to veal.

MEATS ROASTED.

Beef.

For roasting, sirloin and rib pieces are the best. Remove most of the bone and skewer the meat into the shape of a round. Dash a small cupful of boiling water over the meat when you first put it down, letting it trickle into the pan, as this checks the escapes of the juices. If there is much fat upon the upper surface, cover with a paste of flour and water until it is nearly done. Baste frequently, first with salt and water, afterward with the drippings. If you like rare meat, allow ½ of an hr. to the lb. Some, when the meat is almost done, dredge with flour and baste with butter.

Remove the beef, when done, to a heated dish; skim the drippings; add a teacupful of boiling water, boil up once, and send to the table in a gravy boat. Some prefer the red liquor that runs from the meat when cut. Serve with mustard, or scraped horseradish and vinegar.

Lamb or Mutton.

Prepare the roast as you would one of veal, with the stuffing. It should be eaten with gravy made from the meat, with parsley, or with mint sauce.

Leg of Veal.

Ask the butcher to take out the bone in the leg, also have the lower joint, or hock, taken out. Make a dressing of ½ lb. of salt pork chopped fine, stale bread, pepper and salt; fill the inside, and cover the outside with this, dredge on flour and baste often. Simmer all the bones, broken fine, in a close kettle or stewpan, with as little water as possible; use this to baste your meat with. Just before it is done, dust on flour and lay on some pieces of butter, or strips of salt pork, which may be served with the meat. This roast is very nice cold. The pieces may be warmed for breakfast, and laid on toast. Veal requires more cooking than beef; a leg weighing 6 lbs. will require 2 hrs. in cooking.

Loin of Veal.

The chine should be nicely cracked. Put a dressing made of bread, pepper and salt, upon the meat, then turn the thin part of the loin over and skewer it so that the dressing will keep its place. On the top lay some strips of salt pork, dredge with flour and baste often.

A few sausages may be cooked with the meat, and served on the same dish.

Pork or Spare-Rib.

It should be covered with greased paper till half done; then dredge with flour, and baste with the gravy. When nearly done, cover the surface with cracker or bread crumbs; wet with pepper, salt and powdered sage, let it cook 10 mins. longer, and then baste again. Skim the gravy, thicken it with brown flour, season with a little powdered sage and lemon juice or vinegar; strain it and pour over the meat. Cook slowly and very thoroughly, and serve with apple-sauce. Tomato ketchup improves the gravy.

MISCELLANEOUS.

Beef, To Corn.

If you wish to eat part of it cold, the round or rump pieces are to be preferred; many like the brisket best. Make a brine of 6 qts. of cold water and 2 qts. of salt, 1 pt. of molasses, or 1 lb. of brown sugar, 1 tablespoonful of saltpetre. Turn the meat often, and be sure that you cover it well. It will be fit for use in 3 or 4 days. If you prepare a large quantity at once, let it lay in the brine longer. The same brine will answer many times, if it is scalded and skimmed, with the addition of a little more sugar and saltpetre.

Beef Fricandeau. (Entree.)

In a stewpan place an eschalot, a branch of sweet herbs, a faggot of parsley, some cloves, part of a quart of broth, 1 glass of sherry, pepper and salt to taste. You may add a clove of garlic to the eschalot, if it is not found strong enough to flavor it without. Take a piece of lean beef, lard it well over, on one side, with pieces of bacon; put it in a stewpan and stew till tender; take out the gravy, keep the meat covered down close. Skim and strain the sauce, and boil it until reduced to a glaze. Glaze the beef with it on the side larded, and serve with sauce piquante.

Beef Heart. (Entree).

After washing carefully, put in a well-seasoned stuffing. Bake or roast it, and serve with a rich gravy and currant jelly sauce.

Beef a la Mode. (Entree).

4 lbs. round of beef, put in a stewpan, with ½ teaspoonful of thyme, same of sage, 3 bay-leaves, ½ doz. whole cloves, a doz. allspices, ½ tea-

spoonful of black pepper, and a pinch of red pepper, a tablespoonful of salt, a turnip, peeled and cut small, 2 carrots scraped and cut very small, 2 onions, also chopped, ½ pt. of boiling water; stew slowly for 3 hrs., then add 6 potatos, and let it stew an hr. more. If, when it is done, the gravy seems thin, add a tablespoonful of browned flour.

Beef a la Polonaise. (Entree).

Take a few lbs. of the best beef, without bones; beat it for some time with a rolling-pin, and make deep incisions in it, but without cutting the meat apart. Mince some onions, and mix them with bread crumbs, butter, salt and pepper; fill the incisions with the mixture, and skewer up the meat. Stew it, with some butter, in a saucepan, over a moderate fire. Serve with brown sauce, made from the gravy which is drawn from the meat.

Beef Saute, Fillet of. (Entree).

Melt 2 ozs. of butter in a clean frying pan; in this lay the fillet, cut in slices, seasoned with a saltspoonful of salt, and ½ that quantity of pepper to each piece. While cooking turn them over 3 or 4 times, and when done, dress upon your dish with either anchovy or maitre d'hotel butter.

Blanquettes. (Entree.)

Melt a piece of butter the size of a walnut in a stewpan; into this put a little thyme, parsley and onion, all chopped fine, and a pinch of flour. Brown the herbs, adding pepper, salt and 2 or 3 cloves. Cut cold or undressed veal in thin slices, the size of ½ crown and put into the pan with broth or gravy, according to the quantity of meat you want to dress. Stew it gently 1 hr; add ½ teacupful of cream and stir well a few mins.; then take it from the stove and before turning it out of the dish add the yolks of 2 eggs well beaten. Give it a few shakes over the fire, but do not let it boil, or it will curdle.

Croquettes of Brains. (Entree.)

Blanch calf's brains, and beat them up with 1 or 2 chopped sage-leaves, a little pepper and salt, some bread crumbs soaked in milk, and an egg beaten; roll into balls and fry.

Fricandels. (Entree.)

Chop 3 lbs. of the best end of a loin of veal, fat and lean together, very fine; add to this a French roll, soaked in milk; 3 eggs, well beaten, pepper, salt, nutmeg and mace. Make the mixture up about the size and shape of a chicken and rub it over with egg and bread crumbs; when it is fried brown pour off the fat, boil water in the pan, and in this gravy stew the fricandels; 2 will make a fine looking dish. Thicken the gravy before serving.

Lamb a l'Espagnole.

In the Peninsula an entire lamb is often roasted with no other preparation than merely skinning it, taking out the fry, and cutting off the feet. This is done when the lamb is not more than 6 weeks or 2 months old; the bones eat like gristle, and the meat is very delicate. Sometimes it is stuffed with bread and sweet herbs and served with bread-sauce; but more frequently eaten with lemon-juice.

Nice Dinner Dish.

Boil a piece of beef gently until very tender in well salted water—a rib cut is nice, if not too fat. Stew some tomatos and strain out the seeds; then place them in a saucepan over the fire and season with butter, salt, pepper, and a little sugar; lastly, add a spoonful of corn-starch or arrowroot, wet with water, and boil until of the consistence of thick gravy and perfectly smooth. Place the meat on a hot platter and pour the sauce over it. This is an excellent way for cooking and serving a beef tongue.

Sweetbreads a la Daube. (Entree.)

Take 2 or 3 of the largest sweetbreads, blanch and lard them; place in a stewpan with some good veal gravy, a little browning, and the juice of ½ a lemon; stew till tender and just before serving thicken with flour and butter; glaze them, and serve with their gravy, with bunches of boiled celery round the dish.

Irish Stew.

Cut up about 2 lbs. of the neck of the mutton into small cutlets, which put into a proper sized stewpan with some of the fat of the mutton; season it with ½ tablespoonful of salt, ½ ozs. of pepper, the same of sugar, 6 middle-sized onions, 1 qt. of water; set them to boil and simmer for ½ hr., then add 6 middling-sized potatos, cut in halves or quarters. Stir all together, and let it stew gently for about 1 hr. longer. Any other part of the mutton may be served in the same way.

Veal Cutlets a la Milanaise. (Entree.)

Dip the veal cutlets in liquified butter, then roll them in equal parts of Parmesan cheese and bread crumbs. Let them stand for a couple of hours, then fry them a nice color in butter. Boil a small quantity of macaroni in the usual way, dress it with some butter and plenty of tomato sauce, into which the yolk of an egg has been stirred, and sprinkle it freely with Parmesan cheese. Lay the macaroni in the middle of the dish, the cutlets round, and serve.

Veal Scallop.

Put a layer of cold roast or stewed veal, chopped very fine, in the bottom of a buttered pudding dish, and season with pepper and salt. Next have a layer of finely powdered crackers. Strew some bits of butter upon it and wet with a little milk; then add a layer of veal, seasoned as

before, and another round of cracker crumbs, with butter and milk. When the dish is full, wet well with gravy or broth, diluted with warm water. Spread over all a thick layer of cracker, seasoned with salt, wet into a paste with milk, and bound with 1 beaten egg, or 2, if the dish is large. Stick butter bits thickly over it; cover with an inverted tin pan, to keep in the steam, and bake—if small, ½ hr.; ¾ will suffice for a large dish. Remove the cover 10 mins. before it is served, and brown.

SAUCES, SALADS, AND KETCHUPS.

Anchovy Sauce.

Soak 6 anchovies in cold water 2 hrs.; pull them to pieces, and simmer for ½ hr. in just enough water to cover. Strain the liquor into 1 teacupful of drawn butter, boil a min., and add a wineglassful of pale sherry wine; heat gradually until it boils, and stew 5 mins. longer. Serve with boiled fish.

Bread Sauce.

Cut the crumb of a French roll in slices; add a few peppercorns, 1 onion, a little salt, and enough boiling milk to cover it. Let it simmer gently till the bread soaks up the milk, then add some thick cream, take out the onion, and rub the whole through a sieve. Serve hot with game or fowls.

Caper Sauce.

Melt 2 ozs. of butter in a saucepan. Into this stir 1 oz. of flour and ½ pt. of milk; when this comes to the boiling point, pour in by degrees ½ pt. of cold water. Let the mixture again boil up, season with ½ teaspoonful of salt, and ¼ teaspoonful of white pepper, and let all boil together for 2 mins. Then throw in 2 tablespoonfuls of capers, and remove the saucepan from the fire, the sauce being now ready for use.

Celery Sauce.

A good sauce for fowls, either roasted or broiled, is made as follows: Wash and pare a bunch of celery, cut it into pieces and boil till tender. To this add ½ pt. of cream, and a small piece of butter rolled in flour, and boil it gently.

Chili Sauce.

Peel and slice 1 doz. ripe tomatos; add 4 onions chopped fine; 6 tablespoonfuls of brown sugar, 2 of salt, 4 teacupfuls of vinegar, 2 teaspoonfuls of ginger, 2 of cloves, 1 of cayenne pepper. Boil 2 hrs. and seal in glass jars.

Cranberry Sauce.

Wash and pick 1 qt. of ripe cranberries, and put into a saucepan with a teacupful of water. Stew slowly, stirring often until they are thick as marmalade. They should cook at least 1½ hrs. Sweeten abundantly with white sugar, when you take them from the fire. If sweetened

while cooking the color will be bad. Put them into a mold and set aside to get cold.

Currant Jelly Sauce (for Venison).

A simple sauce made of currant jelly melted with a little water is very nice, yet the following recipe is much better, viz.: Bruise ½ stick of cinnamon and 6 cloves; put them into a stewpan with 1 oz. of sugar and the peel of ½ lemon, pared off very thin, and perfectly free from any portion of white pulp; moisten this with 1½ sherry-glassfuls port-wine, and set the whole to gently simmer or heat on the stove for ½ hr.; then strain it into a small stewpan containing ½ glassful of currant jelly. Just before sending the sauce to the table, set it on the fire to boil, in order to melt the currant jelly, and so that it may mix with the essence of spice, etc.

Drawn Butter.

Take 6 tablespoonfuls of butter, ½ teaspoonful of salt, 2 teaspoonfuls of flour or of fine bread crumbs worked into the butter, and 1 teacupful of hot water. Heat very hot but do not let it boil. It is an improvement to add 2 hard-boiled eggs chopped fine. For fish, add a tablespoonful of vinegar and chopped capers or green nasturtion seeds.

Garlic Sauce.

Put 10 tablespoonfuls of demi-glaze and a little tomato sauce in a stewpan; after boiling it a few mins., scrape ½ a clove of garlic, put it in with a little sugar and serve.

Gooseberry Sauce.

Wash some sorrel, put it into a cloth and press out the juice; melt a piece of butter with flour, using this juice instead of water; let it be very thick. Scald green gooseberries until very tender, and add them to the sauce. This is a fine acid sauce if not spoiled with sugar. If not sweetened add a little cayenne pepper.

Sauce aux Fines Herbes.

Ingredients: ½ pt. of good stock, 3 tablespoonfuls of mushrooms, 1 tablespoonful of onions, 2 tablespoonfuls of parsley, and 1 shallot, all chopped fine. Fry the shallot and onion in a little butter until they assume a light-yellow color, then add a teaspoonful of flour and boil it a min.; stir in the stock, mushrooms and parsley, simmer for 5 mins., then add a little Worcestershire sauce, and salt to taste. If no Worcestershire sauce is at hand, add pepper to taste in its place.

A l'Hollandaise.

To serve with meat, fowl, or fish. Warm 6 tablespoonfuls of water, 2 of tarragon vinegar, and 1 oz. of butter, in a stewpan; thicken it with the yolks of 2 eggs. Stir it until it is quite hot, but do not let it boil.

Squeeze in the juice of ½ a lemon, and strain it through a sieve. It should be quite thick and seasoned with salt and cayenne.

Lemon Sauce, White, for Boiled Fowls.

Into 1 pt. of sweet cream put the peel of a small lemon, cut very thin, with a sprig of lemon, thyme, and 10 white peppercorns. Let it simmer until it tastes well of the lemon, then strain and stir in ½ lb. of butter, rubbed in a dessertspoonful of flour; let it come to a boil, then pour the juice of a lemon, strained, into it, stirring well. Dish the fowls, and then mix a little white gravy, quite hot, with the cream, but do not boil them together; add salt to suit the taste.

Macaroni Sauce.

Take ½ can of tomatos, 4 red carrots, sliced, 2 onions, 10 cloves, 4 sticks of cinnamon, cayenne pepper and salt, ½ lb. of butter, 2 lbs. lean beef, cut fine; add a little water if necessary; let it simmer 2 hrs., then strain in a colander. Add a teaspoonful of dried mushrooms; pour over the macaroni after it has boiled tender.

Maitre d'Hotel Sauce.

Take 1 teaspoonful of drawn butter, 1 of minced parsley, 1 lemon, and cayenne and salt to the taste. Drain the butter; boil the parsley 3 mins., then put it in cold water for 5 mins.; chop it and stir in the butter; squeeze in the lemon juice, add pepper and salt, then beat hard with an egg-whip; return to the fire and let it boil up once.

Matelote Sauce.

For about 1 lb. slice of salmon make the following quantity of sauce: Peel 30 button onions, and put ½ teaspoonful of sugar in a quart-sized stewpan, place it over a sharp fire, and when melted and getting brown, add a piece of butter (the size of 2 walnuts) and the onions; toss them over now and then until rather brown, then add a glassful of sherry; let it boil; then add ½ pt. of brown sauce and 1 gill of broth; simmer until the onions are quite tender; skim it well, and add a few mushrooms, if at hand; season with a little salt and sugar, and sauce over any kind of fish where described. The addition of 1 teaspoonful of essence of anchovies is an improvement. Use where directed.

Sauce Mayonnaise.

In a middle-sized dish placed in cracked ice, place the yolks of 2 fresh eggs, a little salt, some white pepper, and some vinegar *a l'estragon*. Stir this mixture briskly with a wooden spoon, and as soon as it begins to thicken, mix in gradually 1 tablespoonful of oil and a little vinegar, taking care to beat the sauce against the sides of the dish. On this repeated beating depends the whiteness of the sauce Mayonnaise. In proportion to the bulk add oil and vinegar together, putting in but little at a time. As it comes nearer perfection it grows thick and strong-bodied. When finished add a squeeze of citron and some drops of

water. This sauce is delicious for chicken salad—*mayonnaise de volaille*—and serves for all kinds of fish and poultry.

Mince Sauce for Roast Lamb.

To ½ a coffeecupful of vinegar add a heaping tablespoonful of sugar and 3 tablespoonfuls of green mint chopped fine. Stir them while heating and cool before using.

Nasturtion Sauce

Is eaten with boiled mutton. It is made with the green seeds of nasturtions pickled simply in cold vinegar. Cut about 6 ozs. of butter into small bits, and put them into a small saucepan. Mix with a wineglassful of water sufficient flour to make a thick batter, pour it on the butter, and hold the saucepan over hot coals, shaking it quickly round, till the butter is melted. Let it just boil up, and then take it from the fire. Thicken it with the pickled nasturtions, and send it to table in a boat.

Onion Puree Sauce.

Take 6 onions, peel and cut them in slices and put in a stewpan with ½ lb. of butter, 1 teaspoonful of salt, 1 of sugar, and ¼ of pepper. Let them simmer on a slow fire till in a pulp, stirring now and then to keep them from getting brown; add 1 pt. of milk and 1 tablespoonful of flour, and boil till a little thicker than melted butter; pass through a tammy, warm again, and serve with mutton chops, cutlets, boiled rabbits, or fowl; if not passed through a tammy it will do for roast mutton and boiled rabbit as onion sauce.

Orange Sauce for Game.

Peel ½ an orange, removing all the pith; cut it into slices, and then in fillets; put them in a gill of water to boil for 2 mins.; drain them on a sieve, throwing the water away; place in the stewpan 2 spoonfuls of demi-glaze, or 10 of broth; and, when boiling, add the orange and a little sugar; simmer 10 mins., skim and serve. The juice of ½ an orange is an improvement. This is served with ducklings and water fowl; those that like may add cayenne and mustard.

Oyster Sauce.

Drain the liquor from 1 pt. of oysters. Melt 2 ozs. of butter in a saucepan, stir into it 1 oz. of flour and add to this by degrees the liquor from the oysters. When the mixture boils throw into it the oysters and boil all together until the leaves of the fish begin to shrivel. Throw in ½ teaspoonful of pepper, ½ teaspoonful of salt and 1 saltspoonful of grated nutmeg, and having boiled ½ pt. of milk in a separate saucepan, stir it in also; then remove the saucepan from the fire at once or the milk will curdle and the sauce be ruined.

Sauce Royale

Is made by cutting a slice of white bread, and stewing it in white broth until it is quite thick; then take it off the fire; pound in a mortar the yolks of 2 hard-boiled eggs, and ½ doz. almonds reduced to paste, with the breast of a cold roast fowl; mix this with the eggs and breast, and pound them all together with a little pepper and salt; add a sufficient quantity of cream to make it of a proper consistence, and simmer the whole over the fire, stirring it all the time without letting it boil.

Shrimp Sauce.

Take ½ pt. of shrimps, pound them, skins and all, in a mortar and boil them 10 mins. in ½ pt. of water. Then pass the liquor through a hair sieve into a stewpan, adding a piece of butter the size of 2 walnuts, with which has been mixed a good teaspoonful of flour. Stir over the fire until upon the point of boiling; add a little more water if too thick. Season with a teaspoonful of essence of anchovies, and a little cayenne; serve very hot. In it you might also serve a few pickled shrimps.

Sauce a la Tartare.

Drop a tablespoonful of sweet-oil very slowly into the yolk of an egg, beating it up by degrees until perfectly mixed; to this add 1 tablespoonful of vinegar, some chopped parsley, 1 tablespoonful of French mustard, salt and pepper; beat the whole together; make and keep the sauce in a cold place; when beaten until it resembles cream, place the sauce in a dish and lay the boiled fowl upon it.

Tomato Sauce a l'Italienne.

Slice 5 or 6 onions and put them into a saucepan with a little thyme, bay-leaf, 12 tomatos, a bit of butter, salt, ½ doz. allspice, a little Indian saffron, and a glassful of stock: place on the fire, stirring as often as it is apt to stick. When thick enough strain through a tammy.

Sauce Tournee.

Dilute some white thickening with some *consomme* or broth of fowl; neither too thin nor too thick. Let it boil slowly. Put in a bunch of parsley and green onions. Skim all the grease off and strain it through a tammy, to use when wanted.

Sauce for Venison.

Stir together 1 tablespoonful of currant jelly, 1 teaspoonful of mustard, a little salt, a little cayenne pepper; then take sufficient gravy from the dish of roast or steak, to moisten the quantity wanted. This is nice for roast mutton or steak.

Sauces for Wild-Fowl.

1. Mix 1 teaspoonful of made mustard, 1 of essence of anchovies and red pepper, 1 tablespoonful of ketchup and a glass of claret.

2. Take 1 teacupful of port wine, 1 of good meat gravy, a little shallot, a little pepper, salt, a grate of nutmeg and a bit of mace. Let the mixture simmer for 10 mins.; add a bit of butter and a little flour, give it one good boil and pour it through the birds. Usually the birds are not stuffed, but they may be if you prefer to have them.

Cabbage Salad.

Select a large head of cabbage that is white inside and chop it fine. Beat 4 eggs with a large teaspoonful of mustard, 2 of salt, a tablespoonful of white sugar, a piece of butter the size of an egg; put the butter into ½ pt. of vinegar, and let it come to a boil, then add the egg, stirring briskly, to make it smooth; the hot vinegar will cook the eggs enough. Pour this dressing over the cabbage while hot, put in a tablespoonful of celery and add a little cayenne pepper.

Celery Salad.

2 boiled eggs, 1 raw egg, 2 tablespoonfuls of melted butter, or 1 of oil, 1 tablespoonful of sugar, 1 teaspoonful of mustard, ½ teaspoonful of pepper, ½ teacupful of vinegar. Rub the yolks of eggs smooth, then add the oil, mustard, etc., the vinegar last. Cut the celery into pieces ½ in. long. Set all in a cool place. Just before serving, sprinkle over a little salt and black pepper, then pour over the dressing. If you have any cold fowl, chicken or turkey left from dinner, chop it up and mix it with some of the above—equal proportions of both—and it will make a delicious salad; or a few oysters left in the tureen will be a great addition to the celery salad.

Chicken or Turkey Salad.

Mince well the meat of a cold boiled or roasted chicken or turkey, removing every bit of fat, gristle and skin; cut ¾ of the same bulk of celery into bits ½ an in. long, or less, mix them and set aside in a cold place while you prepare the dressing. Rub the yolks of 2 hard boiled eggs to a fine powder, add 1 teaspoonful of salt, 1 of pepper, 2 of white sugar, and 3 of salad oil, grinding hard and putting in but a few drops at a time. Add 1 teaspoonful of made mustard and let the mixture stand while you whip a raw egg to a froth. Beat this into the dressing and pour in ½ a teacupful of vinegar, spoonful by spoonful, whipping the dressing well as you do it. Sprinkle a little dry salt over the meat and celery; toss it up lightly with a silver fork; pour the dressing over it, tossing and mixing until it is saturated throughout; turn into the salad bowl, and garnish with the white of boiled eggs cut into rings, or flowers and sprigs of celery tops. If you cannot get celery, substitute crisp white cabbage and use celery vinegar. Turkey makes even better salad than chicken.

Fish Salads.

All fish salads are made from the remains of fish from a previous dinner, especially turbot and salmon; the same dressing may be used as for chicken salad. Fillets of soles must be dressed thus: When filleted, melt 1 oz. of butter in a sautepan, lay the fillets in, season with pepper

and salt, and the juice of ½ a lemon; *saute* them on a slow fire until done, which may be from 4 to 5 mins. and put by to get cold; cut in middle-sized pieces and use as lobster.

Green Pea Salad.

For a small dinner use a pt. of cold boiled peas; they should be very young and tender. Mix a little powdered sugar among them and serve with a few slices of cucumber and a mayonnaise sauce made with tarragon vinegar.

Lettuce Salad. (Prize Recipe.)

From 6 or 8 coss (or cabbage) lettuces remove outer or coarse leaves and strip from remaining ones the good part. The pieces should be 2½ to 3 ins. long and may be broken up, but not cut; then wash them and let them remain about ½ hr. in water. Rinse in second water, place in napkin and swing till dry. For dressing take the yolks of 2 hard boiled eggs, crush them to paste in a bowl, adding ½ tablespoonful French vinegar, 3 mustardspoonfuls of mustard, 1 saltspoonful of salt, and beat up well together; then add, by degrees, 6 to 8 tablespoonfuls of Lucca or Provencial oil, 1 of vinegar, and, when thoroughly mixed, a little tarragon finely chopped, a dessertspoonful of coarse white pepper, as pepper in powder irritates the palate. When all is well mixed place the salad in it and turn over and over, thoroughly and patiently, till there remains not one drop of liquid at the bottom of the bowl. Put the white of the eggs in slices on the top and serve shortly after it is mixed.

Lettuce Salad. (2.)

Rub the yolks of 2 hard boiled eggs to a powder, add 1 teaspoonful white sugar, 1 of pepper, ½ of salt, ½ of made mustard, and 2 of salad oil. After standing 5 mins. beat in 4 tablespoonfuls of vinegar. Cut up with a knife 2 or 3 heads of lettuce, put into a bowl, add the dressing and mix by tossing with a silver fork.

Salad Dressing for Lettuce.

Stir the yolks of 2 eggs in a deep dish until light, then add 1 teaspoonful of salt, 1 of white sugar, 1 of English mustard, a shake of cayenne pepper from the box, and 1 tablespoonful of Olive oil; instead of the oil melted butter may be used; add slowly 4 tablespoonfuls of vinegar, stirring constantly, until thick and light. Put upon ice until wanted. Do not cut the lettuce, but pick it up in small pieces and lay it upon the ice; pour the dressing over it when ready for the table. This dressing is nice for celery. Cut the celery about ½ an in. long, lay in the dish, and put dressing on as above.

Lobster Salad.

Boil the lobster ½ hr. Remove from the shell all nice pieces of meat, shred it and lay it in the dish in which it is to be served. Pour over the lobster, thus prepared, the same dressing as for lettuce, with the addition of celery cut in small pieces.

Garnish the dish with sliced boiled eggs, lemon or celery.

Lobster Salad. (2.)

Extract the fish from the shell, place it in the center of the dish in which it is to be served, in the form of a pyramid; arrange the salad round tastefully, and add salad mixture. This dish is not infrequently garnished with the smallest claws of the fish. This is a matter of fancy —or the salad may be formed into a heap, ornamented with the claws of several lobsters. The first row is formed of cut cucumbers, the second of eggs boiled hard, and each egg split into 4 pieces, and the points laid round the salad; the third and bottom row is composed of slices of beet-root and lobster.

Potato Salad. (Excellent.)

Beat the yolk of 1 egg, and as you beat with the right hand hold the bottle of olive oil, letting its contents drop slowly in; when about ½ a teacupful is in, that will do. As you beat, it will grow stiff; then put in a little cayenne pepper and a teaspoonful of salt. That will make it so hard you can almost roll it; then put in ½ cupful of vinegar, and ½ of a small onion chopped fine. Chop or slice your cold potatos and pour the dressing over them. This amount of dressing will cover enough potatos for a good-sized family. Let it stand 1 or 2 hrs. before eating, so that the dressing will get through it.

Salmon Salad.

Take 1½ lbs. of cold boiled or baked salmon, or 1 can, mince it fine, and mix it with the same dressing used for chicken salad.

Salad Dressing.

Mash fine 2 boiled potatos and mix with the yolks of 2 well-boiled eggs rubbed fine; add to this a teaspoonful of mustard, 2 of salt, and gradually mix in 4 of sweet-oil, stirring well all the while. Stir in 3 teaspoonfuls of sharp vinegar. Instead of sweet-oil melted butter may be used. The more the salad is stirred the better it will be.

Salad Dressing. (2.)

For a dressing take ½ pt. vinegar, butter the size of an egg, 1 egg well beaten. Stir the egg into the vinegar and butter before it begins to boil, 1 teaspoonful of flour mixed smoothly with ½ cupful of cream or milk; put this in the vinegar before boiling, 1 teaspoonful of mustard, 1 of salt and pepper and 1 tablespoonful of sugar.

Camp Ketchup.

1. Take 2 qts. of old strong beer and 1 of white wine, add ½ lb. of anchovies, 8 ozs. of shallots peeled, ½ oz. of mace, the same of nutmeg, 8 large races of ginger cut in slices; put all together over a moderate fire till ½ is wasted. The next day bottle it with the spice and the shallots. It will keep for many years.

2. 1 pt. of claret, the same quantity of ketchup, 4 ozs of anchovies, 1 oz. of fresh lemon peel pared thin, 2 cloves of garlic minced fine, ½ oz. of allspice, the same of black and of red pepper, 1 dr. of celery seed bruised, and ¼ pt. of pickle liquor. Put these ingredients into a wide-mouthed bottle; stop it close, shake it every day for a fortnight, and then strain it off.

Cucumber Ketchup.

Peel and grate 12 large cucumbers, and lay in a deep dish with 1 teacupful of salt. Let it stand until the next morning. Then lay it on a fine sieve; when well drained, put in vinegar to make it of proper consistence, and season with pepper. Bottle and seal.

Spiced Grape Ketchup.

For this purpose Isabellas or Concords are the best. Pulp 12 lbs. of grapes, saving the skins. Put the pulp in 1 pt. of boiling water. Cook it a few mins. and strain it through a sieve to extract the seeds. Put the skins to the pulp and add 6 lbs. of brown sugar; boil slowly 1 hr. When done add 1 dessertspoonful each of cloves, allspice, and cinnamon. Seal hot in jars.

Gooseberry Ketchup.

Wash 9 qts. of gooseberries carefully, rubbing off the blossoms. Pour in enough water to about cover them and cook slowly in a porcelain kettle, adding 6 lbs. of brown sugar, a little at a time, until it has cooked 2 hrs. When done add 1 tablespoonful of ground cloves, 1 of cinnamon, 1 of ginger, also 1 pt. of good vinegar. Bottle hot in large mouthed bottles. Seal with cement.

Horseradish Vinegar.

Scald 1 qt. of vinegar and pour boiling hot over 6 tablespoonfuls of scraped or grated horseradish; add 1 tablespoonful of white sugar. Steep a week, strain and bottle.

Made Mustard.

Put 4 tablespoonfuls of best English mustard in a bowl and wet it with 2 teaspoonfuls of salad oil, rubbing it in with a silver spoon until it is absorbed. Wet with vinegar to a stiff paste; add 2 teaspoonfuls of salt, 1 of white pepper, 2 of white sugar, and 1 small garlic minced small, and work all together thoroughly, wetting little by little with the vinegar until you can beat it as you do cake batter. Beat 5 mins. very hard; put into wide-mouthed bottles, pour a little oil on top, cork tightly, and set away in a cool place. It will be ready for use in 2 days.

Mock Capers.

Gather green nasturtion seed when they are full grown, but not yellow; dry for a day in the sun; put into small jars or wide-mouthed bottles, cover with boiling vinegar slightly spiced, and when cold, cork closely. They will be fit for use in 6 weeks. They are a great improvement to drawn butter for fish, or boiled beef or mutton.

Tomato Ketchup.

Slice ½ bu. tomatos and leave in salt 24 hrs.; drain before cooking; use liquor for cooking. Put 1 oz. allspice, 1 oz. cloves, ½ oz. cinnamon, 1 oz. pepper, 1 oz. mace, and 1 oz. ginger root in a bag and boil with the tomatos.

Walnut Ketchup.

Gather the nuts when they can be pierced with a pin. Beat them to a soft pulp and let them lie 2 wks. in quite salt water. Drain off this liquor, and pour on a pt. of boiling vinegar and mix with the nuts and then strain it out. To each qt. of this liquor put 3 tablespoonfuls of pepper, 1 of ginger, 2 teaspoonfuls of powdered cloves, and 3 of grated nutmeg. Boil an hr. and bottle when cold. See that the spice is equally mixed.

VEGETABLES.

Vegetables, to Preserve the Color of.

The French cooks very generally use carbonate of ammonia to preserve the color of vegetables. What would lie on the point of a penknife is mixed in the water in which the vegetables (such as peas, spinach, string-beans, and asparagus) are boiled. The ammonia all evaporates in boiling, leaving no ill effects. They say also that it prevents the odor of boiling cabbage. It may be obtained at the drug stores.

Apples, Fried.

Sour apples should be selected: Pippins, Northern Spies, etc. First fry some thin slices of pork, then the slices (without peeling them) of apples in the same hot fat.

Artichokes.

Cut off the outside tough leaves, and trim the bottom; throw them into boiling salted water, with a few drops of vinegar. When quite done, drain, and serve with drawn butter, or, what is still better, a *sauce Hollandaise.*

Asparagus, To Cook.

Tie in bunches after removing the white or hard ends. Cook about 20 mins. Place the bunches on some thin buttered toast; spread over a little butter with a dust of pepper. Put salt in the water before putting in the asparagus.

Beans, To Cook.

It is said that the healthiest way to cook beans is as follows: Parboil a pt. of beans with a little saleratus in the water. Then boil them in another water until quite tender; put in ¼ lb. butter, salt to taste, a

little pepper and a coffeecupful of new milk. Let them simmer a short time after the seasoning is put in.

Baked Beans.

Soak 1 qt. of dried beans over night in cold water; drain off the water in the morning and stew for ½ hr. in a little water, put them in a deep dish, with 1 lb. of salt pork, cut the rind in strips, and place in the center of the dish. The pork should be sunk a little below the surface of the beans. Bake 3½ hrs. A lump of saleratus should be thrown in while the beans are boiling, and a pt. of water be added when they are put into the bakepan.

Beets, To Cook.

Boil in a larger quantity of water than most vegetables require. When done remove the skin. Slice round, and pour vinegar over them, with a small piece of butter and a little salt and pepper. Nice when cold. When they are young the tops may be boiled with them, to be eaten with vinegar and butter.

Lima and Butter Beans.

Shell into cold water; let them lie a while; put in a pot with plenty of boiling water and a little salt, and cook fast until tender. Large ones require nearly 1 hr.'s boiling. When done drain and butter well, seasoning to taste. Kidney and other small beans should be shelled into cold water, and boiled until tender. It is an improvement to boil a small piece of fat bacon with them. If you do this do not salt them.

String Beans, To Cook.

Taking off the stem end will help remove the strings. With a sharp knife cut lengthwise and divide once or twice. Boil from 1 to 1½ hrs. Drain and put into a dish with a piece of butter. Put what salt the beans will need in the water before boiling, to preserve the color.

Boiled Cabbage.

Take off the green leaves, quarter, and lay for 1 hr. in cold water. Put into a pot with plenty of boiling water and cook 15 mins. Throw away the water and fill up the pot with boiling water from the teakettle. Cook until tender — ¾ of an hr. if the cabbage is young. Drain well, chop, and stir in a tablespoonful of butter, pepper, and salt. Serve very hot. If at the same time you boil corned beef or pork, let the second water be taken from the pot in which this is cooking, as this will flavor it nicely.

Boiled Carrots.

Scrape well, wash and lay in cold water ½ hr. Split them if large, or cut across in 2 or 3 pieces. Put into boiling water, slightly salt, and boil until tender. Large ones will require nearly 1½ hrs. to cook. Wash young carrots before boiling, and rub off the skin afterward with a cloth. Butter well, and serve hot.

Carrots a la Creme.

Pick out the smallest new carrots that can be obtained, boil them in salted water till almost done, then drain off the water. Melt 1 oz. of butter in a saucepan, add to it a dessertspoonful of flour, pepper, salt, grated nutmeg, a pinch of powdered sugar, and a small quantity of cream. Put in the carrots, simmer gently a few mins. and serve.

Boiled Cauliflower.

Unless very large do not cut it; if you do, quarter it neatly. Pick off the leaves, cut the stalk close to the bottom of the bunch of flowers, and lay in cold water for ½ hr. Tie a close net of coarse lace about it to prevent breaking or bruising; put into boiling water salted, and cook until tender. Remove the net and lay the cauliflower in a hot dish. Pour over it a large cupful of nice drawn butter. As soon as done, take out of the water, serve quickly and eat hot. Standing makes it dark.

Celery Fried.

Cut the celery into pieces 3 or 4 ins. long; boil them tender in salted water; drain them. Make a batter in the proportion of 2 eggs to a cupful of rich milk; mix flour, or fine bread or cracker crumbs, enough to give it consistence; roll the pieces of celery in it, and fry them to a light brown in hot lard. Serve very hot. Celery can also be cooked as asparagus, boiled tender, and served with a white sauce.

Baked Green Corn.

6 ears of corn, good size, 2 eggs, 2 tablespoonfuls of sugar, 1 tablespoonful of butter, saltspoonful of salt, ½ pt. sweet cream, 1 doz. crackers pounded fine. Mix together and bake 3 hrs.

Boiled Green Corn.

Take young sugar-corn, full grown, but not hard. Put into boiling water, salted, and cook fast from 20 mins. to ½ hr. Cut off the stalks close to the cob, and send whole to the table.

Sweet Corn Fritters.

Take 1 pt. of grated corn, 1 egg, butter the size of an egg, 2 tablespoonfuls of cream or milk, 1 tablespoonful of flour, season with salt and pepper.

Stewed Green Corn.

Having cut the corn from the cob, stew it 15 mins. in boiling water. Turn off most of this, cover with cold milk, and stew until very tender, adding, before you take it up, a large lump of butter cut into bits and rolled in flour. Season with pepper and salt; boil 5 mins. and serve.

Cold corn may be cut from the cob and stewed a few mins. in a little milk, adding seasoning as above.

Cucumbers.

Slice the peeled cucumbers into cold water, and in ½ hr. drain and season with salt, pepper and vinegar. Some slice them ¼ of an in. thick into enough boiling water to cover them, and in 15 mins. drain through a colander, and season with butter, salt, pepper and vinegar.

Egg-Plant, To Fry.

Cut into slices 1 in. thick and peel. Lay these in salted water an hr.; then dip into egg, rub in bread or cracker crumbs, and fry a light brown in ½ lard and ½ butter.

Egg-Plant, To Bake.

Cut off the top. Take out the inside and mix it well with 1 onion chopped fine, some bread crumbs, 1 egg, a small piece of butter and a little pepper and salt. Put the mixture into the cavity; replace the top. Take off the skin and dust the outside with flower. Baste with butter, when partly baked. Serve as a vegetable.

Broiled Mushrooms.

Take the finest and freshest you can get, peel them, score the under side, and cut the stems close. Place in a deep dish and anoint well, once and again, with melted butter. Salt and pepper and leave in the butter 1½ hrs. Broil over a clear, hot fire, using an oyster gridiron, and turning it over as one side browns. Serve hot, well buttered, pepper and salt, and squeeze a few drops of lemon juice on each.

Scalloped Onions.

Place a layer of white onions, chopped fine, in a buttered baking dish, then a layer of bread crumbs, pepper, salt and a little butter; then onions again, and lastly bread crumbs, pepper, salt and butter. Over this pour 1 teacupful of milk. Bake ½ hr. About 1 doz. onions should be used.

Stuffed Onions.

Peel some onions, parboil and drain them; then take out the inside, being careful to keep the onions whole. Chop up the inside of the onion, a little beef, and a little fat bacon; add some bread crumbs, a sprig of parsley, a lemon peel minced up, and a seasoning of pepper, salt and mace; beat it all up, with a well beaten egg, into a paste, and stuff the onions with it. Put them into a dripping pan with a very little hot water, and simmer in the oven for 1 hr., basting often with melted butter. Make gravy by adding to that in the dripping pan the juice of ½ a lemon, a little cream or milk, and some browned flour.

Baked Onions.

Wash clean and boil 1 hr. with the skins on. The water should be boiling when they are put in, and slightly salt, and should be changed

twice. After draining, bake in a slow oven nearly 1 hr. Peel when done; eat with sauce. For baking, Spanish or Bermuda onions should be used.

Boiled Onions.

Cut off the tops and tails and skin them. After laying in cold water ½ an hr., put them into a saucepan with boiling water enough to cover them. Cook 15 mins., drain off the water, and cover them again with boiling water. When done so that a straw will pierce them, drain and put into a dish with pepper, salt, and plenty of butter. Send around drawn butter with them. Never cook them in iron.

Fried Onions.

Peel and slice them into cold water. After putting some pieces of salt pork or fat meat in the pan, lay on the onions, with a little pepper and salt. Cover closely, and when nearly done remove the cover and dredge on a little flour, add a piece of butter and brown them.

Mock Oysters.

The roots must be scraped thoroughly and placed in cold water 10 or 15 mins. Boil the whole until tender, drain, and when cold, mash with a wooden spoon to a smooth paste, picking out all the fibres. Then moisten with a little milk; add 1 tablespoonful of butter and 1½ eggs for every cupful of salsify. Beat the eggs light. Make into round cakes, dredge with flour, and fry brown.

Corn Oysters.

While on the cob, split each row of kernels through the middle. Shave off thinly, then again in the same way, and finally scrape off the eyes and milk. This way is much better than grating the corn. Add to the corn cut from 8 to 10 common-sized ears, the whites of 3 eggs, beaten to a stiff froth, and 3 tablespoonfuls of flour. Add the egg and flour alternately in several portions, stirring them in with a fork. Fry as oysters, seasoning lightly with salt and pepper and putting a spoonful at a time on the griddle. Use for frying a little lard and butter mixed. When brown on both sides serve on a heated platter.

Corn Oysters. (2.)

Take ½ doz. ears of sweet corn (those which are not too old); with a sharp knife split each row of corn in the center of the kernel lengthwise; scrape out all the pulp; add 1 egg, well beaten, a little salt, 1 tablespoonful of sweet milk; flour enough to make a pretty stiff batter. Drop in hot lard, and fry a delicate brown.

Parsnips, To Boil or Fry.

Scrape them before boiling. When done, pour over them a dressing made of a teaspoonful of flour, and a lump of butter the size of a wal-

nut. With corned beef they are nice without butter. Before frying, scrape and boil until tender. Split lengthwise and lay in a pan with drippings, or fry a piece or two of salt pork to eat with them. Fry them brown and sprinkle upon them a little salt.

To make parsnip balls, boil the parsnips until you can mash them; add 1 cupful of milk, a small piece of butter, 1 egg, a little salt, and enough flour to make them into flat cakes. Dust on flour, and fry to a light brown, in ½ lard and ½ butter.

Green Peas.

Shell and place in cold water until you are ready to cook them. Cook from 20 mins. to ½ an hr. in salted boiling water. If tender and fresh season only with salt. The English always put in a small lump of white sugar to improve the taste and color, also a sprig of mint to be removed when the peas are dished. Drain well, and dish, with a great lump of butter stirred in and a little pepper. Keep hot.

Baked Potatos.

Take large, ripe potatos, wash and wipe them, and bake in a quick oven until tender. If of good size, this will take from ¾ to 1 hr. Serve with the skins on. When you eat them tear or cut a hole in the top, put in a bit of butter with salt and pepper.

Potato Balls.

Wet crumbs of mashed potatos with an egg and form into balls. Fry as you do sliced potatos. Some roll the balls in flour or cracker crumbs.

Boiled Potatos.

Have the potatos of uniform size, and boil in cold water with a pinch of salt. Cook steadily until a fork will pierce easily to the heart of the largest. Pour off every drop of water; sprinkle with salt and set back on the range, with the lid of the pot off. Let them dry 3 or 4 mins.; peel quickly, and serve in an uncovered dish.

To boil without the skins, pare very thin, as much of the starch or meal lies next the skin. Lay in cold water ½ hr., then put in boiling water, slightly salted, and boil rapidly until tender.

Potatos in Cases.

The following is an exceedingly nice way of serving baked potatos: Bake potatos of equal size, and when done, and still hot, cut off a small piece from each potato; scoop out carefully the inside, leaving the skin unbroken; mash the potato well, seasoning it with plenty of butter, pepper, and salt; return it with a spoon to the potato skin, allowing it to protrude about an in. above the skin. When enough skins are filled, use a fork or knife to make rough the potato which projects above the skin; put all into the oven a min. to color the tops. It is better, perhaps, to color them with a salamander. They will have the appearance of baked potatos burst open.

Fried Potatos.

Pare and wash some raw potatos and slice them as thin as wafers. Lay in ice-water for ½ an hr., and wipe dry by spreading them upon a cloth and pressing another cloth upon them. Fry in boiling lard until they are of a light brown and sprinkle with salt. To dry them of the fat, take out from the frying-pan with a perforated skimmer, put into a colander and shake for an instant. They should be crisp and free from grease.

Grilled Potatos.

Slice some cold boiled potatos lengthwise, and lay them on the grid-iron to brown. Take them up on a hot dish, butter each piece and sprinkle over a little pepper and salt.

Kentucky Potatos.

Raw potatos, peeled, sliced very thin; put into a pudding dish and cover with milk; add pepper and salt and a teaspoonful of flour, wet; bake till nicely browned; do not put them in water after they are sliced.

Potatos, To Mash.

Let them be thoroughly boiled; peel them, and take out all the specks, and little hard lumps which are sometimes found. Beat them till quite fine in a wooden bowl or mortar, or break them thoroughly with a three-pronged fork; sprinkle a little salt, and mix them up smoothly with butter or boiling milk. Take care that the potatos shall not be too wet, or they will become heavy and watery; great smoothness, lightness, and a rich taste are required in mashed potatos: if required to be very fine, rub them through a colander or sieve before adding the boiling milk and butter.

New Potatos, To Cook.

To take off the skin, wash with a brush; put a little salt in the water, when you boil them. Drain them dry, when done. Put into the kettle 1 teacupful of cream or milk, with a teaspoonful of flour, and a lump of butter; boil for a moment. Many prefer to omit the flour and cream and brown them in butter.

Potato Puff.

Stir together 2 tablespoonfuls of melted butter, and 2 cupfuls of cold mashed potato, and beat the mixture to a white cream. Add to this 1 teacupful of cream or milk and 2 eggs whipped very light, salting to the taste. After beating well, pour into a deep dish, and bake in a quick oven, until it is nicely browned. It will come out of the oven light and puffy, if properly mixed.

Potato Roses.

Pare carefully with a thin penknife some peeled potatos, round and round, until all of each potato is pared to the center. Do not attempt

to cut the slices too thin, or they will break. Place them in a wire-basket, and dip into boiling lard. These potatos are a pretty garnish around a roast, and are supposed to resemble roses.

Saratoga Potatos.

Pare the potatos and shave them as thin as possible into cold water, to keep them crisp and white. After draining them, add salt and place them in a kettle of boiling fat; cook for a minute, turning constantly with a skimmer. Then drain.

Sweet Potatos, To Bake.

The best way is to parboil the potatos with the skins on, and then bake until done.

Sweet Potatos, To Fry.

The potatos should be parboiled, skinned, and cut lengthwise into slices ¼ of an in. thick. Fry in butter or sweet drippings. You can cook cold boiled potatos in this way.

Cold Slaw.

Beat the yolks of 2 eggs, add ½ pt. cream or milk, 1 tablespoonful of sugar, 1 of mustard, 4 of vinegar, teaspoonful of celery seed, 2 of salt, a little cayenne pepper and butter the size of an egg. Stir in a saucepan until it boils. Have cabbage chopped fine, and pour the mixture over it while hot. Let stand, and send to table cold.

Hot Slaw.

Shave the cabbage fine; put it on with just water enough to cook it; when it is done put a little milk in, salt and pepper; then rub a little flour in some butter and stir in. An egg may be stirred in place of the flour.

Spinach.

Pick it over carefully, wash in several waters, and let it lie in the last ½ hr. Take it out with your hands, shaking each bunch well, put into boiling water, with a little salt and boil from 15 to 20 mins. Drain thoroughly when tender, and chop very fine; put into a saucepan with a piece of butter the size of an egg, and pepper to taste. Stir until very hot, turn into a dish and smooth nicely with a silver spoon; slice some hard boiled eggs and lay on top.

Summer Squash.

Peel thin as possible, cut in quarters, and boil until you can put a fork through them. Drain through the colander; press out all the water possible with a potato masher, then return them to the kettle, and put in a piece of butter, salt, and dust pepper on the top. Leave in the kettle until dry.

Winter Squash.

Pare, cut into small pieces, take out the seeds and stew until soft and tender. Drain, and press well, to take out all the water, and mash with pepper, salt and butter. It must cook much longer than summer squash, and before putting into hot water, should lie in cold water 2 hrs. The Hubbard are the best.

Succotash.

Cut the corn from the cobs, and let the cobs boil 10 mins., then take them out and put in the corn. Have only water enough to cover the corn when cut. When the corn is boiled ½ an hr. there should be 1 teacupful of water, to which add as much milk, and let it continue boiling till the corn is soft, then stir in 1 tablespoonful of flour. Let it boil 3 or 4 mins., take up the corn and add the beans, which should be boiled by themselves. Have twice as much corn as beans, and add pepper, salt, and butter. Some use string beans cut up.

Summer Squash, To Fry.

Cut the summer squash, or cymling, in slices ¼ in. thick, rub slightly with salt, and pile one slice upon another that some of the water may be drawn from it. Let it stand ½ hr.; then wipe the slices dry, dust very lightly with pepper, and freely with flour, and fry until thoroughly done, and nicely brown, in a small quantity of fat. It is better to fry it in a cast-iron pan or spider than one made of lighter metal. Equal parts of lard and butter are better for frying than either lard or butter alone. A small quantity should be first placed in the pan or spider, and, when hot, the slices of squash should be laid in. When nicely browned they must be turned and more butter and lard added. To keep the slices from soaking fat, some coat them with egg and bread crumbs; when this is done it requires much more cooking than without the coating of crumbs.

Broiled Tomatos.

Wipe and halve large tomatos, but do not peel them. Put them on a gridiron and cook until done. Lay them around some beefsteak; pepper, salt and butter them.

Some make a dressing of hot butter, seasoned with pepper, salt, sugar, and ½ teaspoonful of made mustard.

Scalloped Tomatos.

Peel the tomatos and cut in slices ¼ in. thick; pack in a pudding-dish, in alternate layers, with a forcemeat made of bread crumbs, butter, salt, pepper; spread thickly on each layer of tomatos; and when the dish is nearly full, put tomatos uppermost, a good bit of butter on each slice. Dust with pepper. Strew with dry bread crumbs, and bake covered ½ hr. Remove the lid then, and bake brown.

Some like a little sugar in the forcemeat. Green corn, cut from the cob, may be substituted for bread crumbs; the corn is seasoned with some fat pork chopped very fine, pepper and salt.

Stewed Tomatos.

Peel the tomatos, cut them in slices, and stew for 10 mins. Add crumbs of bread, cayenne pepper, salt, sugar, and butter the size of an egg; then cook about 5 mins.

Turnips, To Cook.

Pare the turnips and put into cold water to keep them white; if large, cut them in pieces so that they will cook quickly or they will be black when done; drain off the water, add a lump of butter and a little salt, and set them on the range to dry and keep hot.

PUDDINGS.

Almond Pudding, To Make.

Pound in your mortar ½ lb. of sweet almonds, add a tablespoonful of water when you are pounding; take it out of the mortar; have ready broken 7 eggs, leaving out 5 of the whites; add ½ lb. of sifted sugar; mix all lightly together; cut in small dice a little candy, orange, and lemon-peel, and stick over the top; butter and paper a plain mould, or one that will open; bake it in a moderate oven.

Apple Batter Pudding.

Peel and core 8 apples, and place them closely together in a deep dish. Make a batter of 1 pt. of rich milk, 2 cups of flour, 4 eggs, 1 teaspoonful of salt, and ½ teaspoonful of soda, dissolved in hot water; beat it very light and pour over the apples. Unless the apples are very ripe, fill the center of each with white sugar. Bake an hr., and eat hot with sweet sauce.

Baked Apple Dumplings.

Take ½ lb. of suet chopped fine, 1 pt. of flour, ½ a teaspoonful of salt, and water enough to make a stiff paste; roll and cut thin. Pare and core some large apples, put each neatly in a portion of the paste, placing a clove or two in the center. Close the paste perfectly around the apple; put into the bake-pan, and bake for ½ hr.; eat with sauce, or use sugar and cream.

Baked Apple Pudding.

Boil 4 large apples; to these add some grated bread, 4 ozs. of butter, 4 yolks and 2 whites of eggs well beaten, and sugar to taste. Edge a dish with puff-paste and bake ½ hr.

Apple Meringue Pudding.

Take 1 pt. stewed apples, ½ a cup of white sugar, 1 teaspoonful of nutmeg and cinnamon mixed; and while the apple is very hot, stir in 1

teaspoonful of butter, and, a little at a time, the yolks of 3 eggs. Beat all light; pour into a buttered dish, and bake 10 mins. Cover, without taking from the oven, with a meringue made of the beaten whites, 2 tablespoonfuls of white sugar, and 1 teaspoonful of essence of bitter almond. Spread smoothly and quickly; close the oven again, and brown very slightly. Eat cold with white sugar, sifted over the top, and cream.

Apple Snow.

Place 12 good tart apples in cold water, over a slow fire; when soft, drain off the water, skin and core the apples, and place them in a large dish. Stir ½ lb. of powdered sugar with the apples, and add the whites of 12 eggs beaten to a stiff froth. Beat the whole to a stiff snow, and turn into a dessert-dish.

Apple Trifle.

Stew and sift 6 large apples, and add sugar, butter and nutmeg, as for pies. Put in a deep dish. Boil 1 pt. of cream and 1 of milk; when boiling, add the beaten yolks of 6 eggs, and sugar to taste, and stir until thick. Pour it over the apple, when cold; bake, and when nearly done, spread the whites of the eggs, beaten with lemon and sugar, on the top, and let it brown slightly.

Apple and Tapioca Pudding.

Put a cup of tapioca into 1½ pts. of water, and soak over night. Set it where it will become warm but not cook; pare and core 6 apples, steam them until tender, and put in a dish. Add 1½ cupfuls of sugar, a little salt, 1 cupful of water, to the tapioca; flavor with lemon and pour over the apples. Bake slowly 1½ hrs.

Baked Indian Pudding.

Scald 10 heaping tablespoonfuls of Indian meal with 3 pts. of milk; stir in a piece of butter as large as a hen's egg, and 3 gills of molasses, and bake 4 or 5 hrs. Instead of butter some use a little chopped suet. This pudding can be boiled if you prefer.

Batter Pudding.

Stir together 1 pt. of milk, 4 eggs—whites and yolks beaten separately, —2 even cupfuls of flour, 1 teaspoonful of salt, 1 pinch of soda. Bake about ¾ of an hr., in a buttered dish. As soon as taken from the oven, serve in a pudding-dish, with rich sauce.

Bird's-nest Pudding.

Peel tart apples, take out the cores, leaving the fruit whole. For a custard, take 8 well beaten eggs, ½ pt. of cream, and 1½ pts. of scalded milk, thickened with a tablespoonful of flour and a little salt. Bake 20 mins. The pudding will be done when the apples are tender. Serve hot, with butter and sugar stirred to a cream.

Do not put any sugar into the custard.

Boiled Fruit Pudding.

For the crust, use 1 qt. of flour, 1 tablespoonful of lard and 1 of butter, 3 teaspoonfuls of baking powder sifted through the flour, 1 saltspoonful of salt, 2 cupfuls of milk, or enough to make the flour into soft dough; roll into one sheet about ½ an in. thick. Lay apples, peaches, or berries in the center, paring and slicing the fruit; sprinkle with sugar and close the paste over them as you would a dumpling. Dip a stout cloth in hot water, flour the inside, put in the pudding, tie tightly, and boil 2½ hrs. Eat hot with sauce.

Boston Cream Cakes.

Stir ½ lb. of butter into 1 pt. of warm water; set it on the fire in a saucepan and slowly bring it to a boil, stirring it often. When it boils, put in ½ lb. of flour, boil 1 min., stirring all the time; then take from the fire, turn into a deep dish, and let it cool. Beat 8 eggs very light and whip into this cooled paste, first the yolks, then the whites. Drop in great spoonfuls, upon buttered paper, being careful not to let them touch or run into each other. Bake 10 mins.

Boston Plum Pudding without Eggs.

Take ½ lb. of currants, ½ of grated bread, ¼ of chopped suet, 1 tablespoonful of flour, more than 2 ozs. of sugar, 1 glass of brandy, and milk enough to make a stiff batter. Boil in a cloth 4 hrs., or bake it, adding ¼ lb. of raisins.

Boston Snow Pudding.

Dissolve 1 box of gelatine in a little cold water; over this pour 1½ pts. of boiling water, add the juice of 2 lemons and 2 cupfuls of sugar, strain, and when partly hardened, stir in the whites of 4 well beaten eggs; put into a mould. Make a soft custard of the 4 yolks, 1 pt. of milk, 2 tablespoonfuls of sugar, and flavor with lemon. Pour this custard, which must be cold, over the pudding, when ready to send to the table.

Bread and Butter Pudding.

In a deep dish, place thin slices of buttered bread, with raisins or fresh fruit between; pour a rich custard over and bake ½ hr. Beat the white of 1 egg to a stiff froth, stir in pulverized sugar, pour over the top, and brown for 1 min. This may be eaten cold.

Bread Pudding.

Soak 1 pt. of bread crumbs in milk; to this add 4 eggs, butter the size of an egg, and a little salt. Place in a buttered bowl; split some raisins, and lay them around it, and steam for 2 hrs. Serve with a liquid sauce.

Bread Pudding. (2.)

Soak 2 cupfuls of fine bread crumbs—stale and dry—in 1 qt. of milk; beat the yolks of 4 eggs very light and stir with the bread crumbs; then

add 2 tablespoonfuls of melted butter, nutmeg to suit the taste, and ½ of a teaspoonful of soda dissolved in hot water; lastly stir in the whites, well beaten. Bake to a fine brown, and eat hot with pudding-sauce. If you prefer, you may boil this pudding in a floured cloth or buttered mould.

Chocolate Pudding.

Boil 1 pt. of new milk; dissolve it in 1 oz. of chocolate; sweeten it with loaf-sugar; add the yolks of 8 and the whites of 4 eggs well beaten; strain and pour into a plain mould buttered and papered; steam it for ½ hr.; let it settle for 10 mins., and serve with the following sauce: Boil ½ a stick of vanilla in 1 pt. of milk till it is reduced ½; strain it, sweeten with loaf-sugar, and thicken with arrowroot.

Cocoanut Pudding.

Grate a cocoanut fine into a qt. of milk; place on the fire and boil slowly ½ of an hr. When cool add 4 well beaten eggs; sweeten to taste, and add the milk of the cocoanut; line a deep dish with puff paste, pour in the mixture and bake a light brown.

Corn-Starch Pudding.

Dissolve 4 tablespoonfuls of corn-starch in a little cold milk, and having heated nearly a qt. of milk to boiling, stir this in and boil 3 mins., stirring all the time. Remove from the fire, and while still very hot, put in 1 tablespoonful of butter. Set away until cold; beat 4 eggs very light — the whites and yolks separate — put ½ of a cupful of sugar, some cinnamon and nutmeg, with them, and stir into the corn-starch, beating thoroughly to a smooth custard. Turn into a buttered dish and bake ½ hr. Eat cold with sugar and cream.

Custard Pudding.

Beat together the whites of 3 eggs, 1 cupful of sugar, ½ cupful of butter, same of sweet milk, 1 cup of flour, and 1 teaspoonful of baking powder, and bake in jelly tins. Make a custard of 1 cupful of sweet milk, 2 tablespoonfuls of sugar, 1 of flour, and the yolks of the eggs; place it between the cakes, laid one upon another. Flavor with vanilla or lemon.

Dandy Pudding.

Beat together the yolks of 4 eggs, 6 tablespoonfuls of flour, and 4 of sugar; add a teaspoonful of salt and stir all together into 1 qt. of boiled milk; put into a well buttered baking dish. Bake ½ hr.; beat the whites with a little white sugar and put on the top of the pudding to brown, when it is done; flavor with lemon. This should be eaten cold.

Egg Dessert.

For each person allow 1 egg, for each egg 1 tablespoonful of sugar, and a small glass of wine for every 4 eggs; beat the yolks and sugar together, stir in the whites, beaten to a stiff froth, then add the wine, and put into the oven as you go to the table.

English Plum Pudding.

Mix thoroughly together 1 lb. of stoned raisins, 2 of currants, 1 of suet chopped fine. 1 of brown sugar, ¾ lb. of flour, 2 tablespoonfuls of bread crumbs, 2 of ground ginger, 2 teaspoonfuls of cinnamon, 2 of allspice, 1 nutmeg grated, ¼ lb. each of citron and candied lemon peel. Wet the mixture with 8 eggs well beaten, stirring until it is well mixed. Butter a good strong cloth, tie very tight, and boil 10 hrs. You can boil it 5 or 6 hrs., then carefully lift the pudding into a colander, save the liquid and finish boiling the next day.

Farina Pudding.

1 qt. of boiling milk, 4 tablespoonfuls of farina, a little sugar and salt, and a small piece of butter; stir until it thickens. Add the yolks of 4 eggs; after it is cooked flavor with lemon, beat the whites to a froth, and stir all together in a buttered dish. Eat cold with a sugar syrup.

French Pudding.

Beat the yolks of 4 eggs with 4 tablespoonfuls of sugar, 1 of flour, and a teaspoonful of salt; when well beaten, pour it into 1 qt. of boiling milk, cook for a moment, stirring briskly; pour the custard, flavored with lemon or vanilla, into the dish in which it is to be served. Spread the whites of the eggs, beaten with 2 tablespoonfuls of pulverized sugar, over the top, and set in the oven to brown. Eat when cold.

Green Corn Pudding.

Grate 12 ears of sweet corn. With this mix 1½ pts. of milk, 4 well beaten eggs, and 1½ teacupfuls of sugar. Bake it 3 hrs. in a buttered dish. If common corn is used more sugar is needed.

Hasting's Pudding.

Mix together 1 cupful of molasses, ½ cupful of butter, 1 cupful of sweet milk, 4 cupfuls of flour, 3 teaspoonfuls of baking powder, 2 of cinnamon and 1 of cloves. Then put in currants and raisins, just as many as you please. Steam it 4 or 5 hrs. in a tin pan, set in the steamer. It is good made 2 or 3 days before you want to eat it, and then steamed over. It will keep almost as long as fruit cake. Eat with wine sauce.

Huckleberry Pudding.

Make a batter of 2 eggs, 1 pt. of milk, 1 qt. of flour, or enough for a thick batter, 1 gill of baker's yeast, 1 saltspoonful of salt, and 1 teaspoonful of soda, dissolved in boiling water, and set it to rise in a warm place about 4 hrs. When you are ready to boil it, stir in nearly a qt. of berries, well dredged with flour, quickly and lightly. Boil for 2 hrs. in a buttered mould or floured cloth. Eat hot with sweet sauce.

Lemon Meringue.

Soak 2 cups of bread-crumbs in 1 qt. of milk; add the beaten yolks of 4 eggs, with ½ cupful of butter and 1 cupful of white sugar, rubbed to a cream, also the juice and ½ the grated rind of a large lemon. Bake in a buttered dish until firm and slightly brown. Draw to the door of the oven and cover with a meringue of the whites whipped to a froth with a little lemon-juice, and 3 tablespoonfuls of powdered sugar. Brown slightly; sift powdered sugar over it, and eat cold. An orange pudding may be made in the same way.

Marlborough Pudding.

Into 1 pt. of strained apple, beat a pt. of cream and 4 eggs; flavor with lemon, and sweeten to taste; put in a deep plate, with an under crust; lay some pieces of citron, cut fine, upon the top, and sift sugar over it, when put in to bake.

Mary's Fruit Pudding.

Put any kind of small fruit in a well buttered dish, and pour over it a batter, made as follows: 1 cupful of sweet milk, 1 of sugar, 2 of flour, with 2 tablespoonfuls of baking powder sifted into it, 2 well beaten eggs. Steam 1 hr., and eat with hard sauce.

Minute-Pudding.

Ingredients: 1 qt. of milk, salt, 2 eggs, about 1 pt. of flour. Beat the eggs well; add the flour and enough milk to make it smooth. Butter the saucepan, and put in the remainder of the milk, well salted; when it boils, stir in the flour, eggs, etc., lightly; let it cook well. It should be of the consistence of thick corn mush. Serve immediately with the following simple sauce, viz.: milk sweetened to taste, and flavored with grated nutmeg.

Omelet Souffle.

Scald together 1 pt. of milk, 1 cupful of flour, a piece of butter the size of a walnut, and 1 spoonful of sugar. Stir in the yolks of 5 eggs, after the batter is cold, then the whites beaten to a stiff froth, just before baking. Bake ½ hr. in a quick oven, and take from the oven to the table.

Oatmeal Pudding.

Take 1 pt. of the best fine oatmeal, pour 1 qt. of boiling milk over it, and let it soak all night; the next day put it in a basin just large enough to hold it, add 2 eggs beaten, and a little salt; cover it tight with a floured cloth, and boil it 1½ hrs. It may be eaten hot, with cold butter and salt; or cold, sliced and toasted.

Orange Pudding,

May be made with 6 ripe oranges, large, juicy, of the best kind, and peeled; the rinds to be beaten in a mortar with ¼ lb. each of fresh butter

and moist sugar, to which add the yolks of 6 or 8 eggs, and make the whole into a batter with the juice of only 3 of the oranges; the number of eggs to be regulated by the size of the fruit. Put the materials into a mould with a paste around but not over it, and bake it for ½ hr.

Orange Roley-Poley.

Roll in an oblong sheet, a light paste made as for apple dumplings, and lay oranges, peeled, sliced, and seeded, thickly all over it. Sprinkle with white sugar; scatter a teaspoonful or more of the grated yellow peel over all, and roll up closely, folding down the end to secure the syrup. Boil 1½ hrs. in a pudding cloth. Eat with lemon sauce. Use only sweet oranges.

Plain Plum-Pudding.

Chop ½ lb. of suet fine, and mix with 1 qt. of flour, ½ a teaspoonful of salt, ½ lb. of raisins, ½ lb. of currants, 1 teacupful of bread crumbs, 1 egg beaten well; add water to make a stiff paste, also 1 teaspoonful of cinnamon. Tie tight in a cloth, and boil 2½ hrs.

Plum-Pudding.

Ingredients: 1 cupful of butter, 1 cupful of sugar, ½ cupful of cream, ½ cupful of rum, 1 cupful of ale, 1 cupful of suet (chopped), 1 cupful of fruit (currants and raisins), ½ cupful of candied orange cut fine, 6 eggs well beaten, 2 grated nutmegs, 1 teaspoonful of ground cinnamon, ½ teaspoonful of ground cloves, bread crumbs. Beat the butter and sugar together to a cream. The bread crumbs should be dried thoroughly, and passed through a sieve. Beat all well together before adding the bread crumbs, then add enough of them to give proper consistency. Put the pudding into a tin mold (not quite filling it), and boil it 4 hrs. *The sauce.* Use equal quantities of butter and sugar. Cream the butter, then add the sugar, beating them both until very light. Add then the beaten yolk of an egg, and a little grated nutmeg. Heat on the fire a large wineglassful of sherry wine, diluted with the same quantity of water, and when just beginning to boil, stir it into the butter and sugar.

Poor Man's Pudding.

Mix together 1 cupful of chopped suet, 1 of raisins, 1 of currants, 1 of molasses, 1 of milk, 3½ of flour, a teaspoonful of soda, and a little salt. Flavor with nutmeg and cinnamon. Steam 3 hrs., and serve with a liquid sauce.

Pop-Overs.

Stir 2 cupfuls of flour with a little milk until it is smooth; then add nearly 2 cupfuls of milk, 2 eggs, beaten separately, and a teaspoonful of salt. Put in well buttered cups, and bake 10 mins. in a quick oven. To make a sauce for pop-overs, take 1 cupful of sugar, ½ a cupful of butter, and 1 egg. Stir in 1 tablespoonful of boiling water, just before sending to the table, and flavor to taste.

Queen's Pudding.

Take 1 pt. of bread crumbs, chopped fine, the yolks of 8 eggs, 3 tablespoonfuls of white sugar, and 1 of butter, and 1 qt. of milk. Bake ½ hr. Spread jelly on top; beat the whites, stir in a tablespoonful of sugar, and spread this over the jelly. In strawberry time, substitute fresh fruit for the jelly.

Quince Pudding.

Pare 6 large quinces, cut out the cores and blemishes, chop them as fine as possible, and boil them 2 hrs. with as little water as possible, stirring them frequently that they may not burn. Drain off the water and mix them, when cold, with a pt. of cream and ½ lb. powdered sugar.

Rice Dumplings.

Boil 1 lb. of rice, without stirring, until soft and dry at the top; let it cool upon a sieve or coarse cloth, that it may dry at the same time. Dip your dumpling cloths in hot water; wring them out and flour well inside. Put a handful of cold rice upon each, spreading it out into a smooth sheet. Lay in the center an apple pared and cored; fill the hole left by the core with strawberry marmalade or crabb-apple jelly; draw up the cloth carefully to enclose the apple with a coating of rice; tie and boil 1 hr. Turn out with care; pour sweet sauce or rich sweetened cream over them. 1 lb. of rice will cover 12 pippins.

Rice Pudding.

Soak ½ cupful of rice in 1 pt. of milk 1 hr., then set the saucepan containing it where it will slowly heat to a boil. Boil 5 mins.; remove and let it cool. Beat the yolks of 4 eggs, add ½ of a cupful of sugar, 1 tablespoonful of butter, the rice and the milk in which it was cooked, with a pt. of unboiled milk, the beaten whites of the eggs, and finally the raisins. Grate nutmeg on top and bake ¾ of an hr., or until the custard is of a light brown color. Eat cold.

Snow Pudding.

Dissolve ½ box of gelatine in a pt. of boiling water; mix with this 1 lb. of white sugar, the whites of 4 eggs, and the juice of 2 lemons. Beat until it becomes a stiff broth; this will take about an hr.

Sponge Pudding.

1. Butter a mould thickly, and fill it 3 parts full with small sponge cakes, soaked through with wine; fill up the mould with a rich cold custard. Butter a paper and put on the mould; then tie a floured cloth over it quite close, and boil it an hr. Turn out the pudding carefully, and pour some cold custard over it.
2. Bake it, and serve with wine-sauce instead of custard.

Sunday Rice Pudding.

Take 1 qt. of milk, ½ a cupful of rice, well washed, the yolks of 4 eggs, beaten with 2 tablespoonfuls of sugar, and a little salt. After baking 1 hr. beat the whites of the eggs with a little sugar, and lay upon the top; let it brown, and sift over some powdered cinnamon. Nice eaten cold.

Steamed Fruit Pudding.

Take 1 pt. of cherries, 1 cupful of sour milk, 2 eggs, ½ teaspoonful of soda, 1 tablespoonful of butter, and flour to make it the consistence of muffins. Steam 1½ hrs.

Steamed Pudding.

1 cupful of sugar, ½ cupful of butter, ½ cupful of water or milk, 2 eggs, 2 cupfuls of flour, 2 teaspoonfuls of baking powder. Steam 1 hr. Sauce. ½ cupful of sugar, ½ cupful of butter; stir to a cream; flavor with lemon, or some kind of liquor.

PUDDING SAUCES.

Brandy Sauce. (Hard).

Warm ½ cupful of butter very slightly, work into this 2 cupfuls of powdered sugar, and when this is light, 1 wineglassful of brandy, and 1 teaspoonful of mixed cinnamon and mace. Beat hard, put into a mould, and leave in a cold place until wanted.

Butter Sauce.

Ingredients: ¾ of a cupful of butter, 1½ cupfuls of powdered sugar, 4 tablespoonfuls of boiling hot starch, made of flour or corn starch, with either brandy, maraschino, wine, lemon juice and zest, vanilla, or other flavoring preferred. Stir the butter with a fork to a light cream; add the sugar, and continue to beat it for 1 or 2 mins. Just before serving, stir in with an egg-whisk the boiling starch and the flavoring.

Cream Sauce.

Heat 1 pt. of cream slowly in a vessel set in a saucepan of boiling water, stirring often. When scalding, but not boiling hot, remove it from the fire, put in 4 tablespoonfuls of powdered sugar, and 1 teaspoonful of nutmeg; stir 3 or 4 mins., and add the whites of 2 eggs beaten stiff. Mix thoroughly and flavor with 1 teaspoonful of extract of vanilla or bitter almonds, setting the bowl containing it in a pan of hot water until the pudding is served, stirring frequently.

Fruit Pudding Sauce.

Rub to a cream ½ cupful of butter and 2½ cupfuls of sugar; pour 1 dessertspoonful of corn-starch wet in a little cold milk into 1 cupful of

boiling water and stir over a clear fire until it is well thickened; put all together, adding the juice of a lemon and ½ the grated peel and beat 5 mins. before returning to the saucepan. Heat once almost to the boiling point, add the wine, and serve.

Fruit Sauces.

The French bottled apricots, greengage plums, or strawberries make delicious sauces for a Bavarian cream, *blanc-mange*, *charlotte-russe*, or corn-starch pudding. They may simply be poured around the pudding on a platter, or the juice may be thickened by boiling it with a very little corn-starch, then adding the fruit to it when cold.

Ti American canned May-duke cherries (Shrivers) make a good pudding sauce. Boil the juice, and add a slight corn-starch thickening and a little sugar; when cold, add the cherries. It makes a good sauce poured around these puddings.

Fresh red cherries, stewed, sweetened, passed through a sieve, and slightly thickened with corn-starch, make another pudding sauce. The Colorado wild raspberries make a fine berry pudding, with the same kind of berry sauce around it. Marmalades and preserves, if not too stiff, make pretty garnishes as well as good sauces.

German Sauce.

Mix the yolks of 8 eggs, ½ lb. of sugar, 3 gills of Madeira, and the grated peel of ½ a lemon. Stir it over the fire until the spoon is coated. Serve in a boat. Or serve a common brandy sauce, or the same kind of sauce flavored with rum, if rum should be used in the pudding.

Hard Sauce.

Stir to a cream 1 cupful of butter and 3 cupfuls of powdered sugar. When light, beat in ½ of a cupful of wine, the juice of a lemon and 2 teaspoonfuls of nutmeg. This must be beaten hard and long until creamy and lighter in color than at first. Dip a broad knife into cold water and smooth the sauce into shape; then stamp it with a wooden mould, first scalded and then dipped in cold water. Keep upon the ice until you serve the pudding.

Hard Sauce. (2.)

Mix some sugar with ½ as much butter, and heat it 15 mins. in a bowl set in hot water. Flavor with wine or grated lemon-peel, stirring until it foams.

Jelly Sauce.

Stir ½ a dessertspoonful of arrowroot or corn starch, wet with cold water, into 3 tablespoonfuls of boiling water, and heat, stirring all the time, until it thickens; add 1 tablespoonful of melted butter, and set aside until almost cool, when beat in, spoonful by spoonful. ½ a cupful of currant jelly to a smooth pink paste. Pour in 1 glassful of pale sherry wine: stir hard, and heat in a tin vessel, set within another, containing boiling water, until very hot.

Lemon Sauce.

Cream a large cupful of sugar, and nearly ½ cupful of butter, and beat in an egg whipped light, a lemon, — all the juice and ½ the grated peel, — and 1 teaspoonful of nutmeg. Beat hard 10 mins., and add, a spoonful at a time, 3 tablespoonfuls of boiling water. Put in a tin pail and set within the uncovered top of the teakettle, which must be kept boiling, until the steam heats the sauce very hot. Stir constantly.

A Plain Sauce.

Ingredients: 1 pt. of water, 3 tablespoonfuls of flour or corn starch, ½ cupful of butter, 2 cupfuls of sugar, 2 eggs, ½ of a nutmeg, ½ pt. of Madeira or sherry. Beat the butter and sugar to a cream; add the eggs well beaten, then the nutmeg; heat the wine as hot as possible without boiling; bring the water to a boil in another vessel, and stir in the corn starch or flour (rubbed smooth with a little cold water), and cook it well for about 2 mins. Mix well the ingredients off the fire.

Pudding Sauce.

Beat well together ½ of a cupful of butter, 1½ of sugar, 1 egg, and the juice and grated rind of a lemon; pour on this 1 pt. of boiling water just before serving. This may be used with any kind of pudding.

Sirup Sauces.

Boil 2 cupfuls of sugar with 2 or 3 tablespoonfuls of water, until it thickens slightly; take it from the fire; stir in a piece of butter the size of a hickory-nut, and either lemon-juice, fruit-juice, or, in winter, fruit sirups, wine, brandy, or any of the flavoring extracts.

Whipped Cream Sauce.

Mix a plateful of whipped cream (flavored with wine or vanilla), the beaten whites of 2 or 3 eggs, and pulverized sugar to taste, all together. Pile a bank of this mixture in the center of a platter, and form a circle of little fruit puddings or Swedish puddings (steamed in cups or little molds), *blanc-manges*, corn-starch puddings, etc., around it; or place a large pudding in the center, with a circle of the sauce around.

Wine Sauce.

Take ½ cupful of butter and 2 of sugar, rub them together, and when well mixed, add slowly 1 cupful of wine and a little brandy. Float the dish on hot water without stirring, pour it into your sauce-boat and it will foam.

PIES.

Rule for Pastry.

Rub 1 cupful of lard into 1 qt. of flour, leaving out a cupful to roll with 1 cupful of butter. Add 1 cupful of ice-water and roll out the

dough. Spread on ¼ of the butter; sprinkle with flour; make into a scroll and roll again. Repeat the process until all the butter is used. Cut what is needed to cover 1 plate, as it makes it heavy to handle it. Roll each time from the center of the piece.

Pastry.

For 4 medium-sized pies, take 1 qt. of flour, 1 teaspoonful of salt, and ¾ of a cupful of lard. Work the lard into the flour; then put in water enough to roll, ¾ of a cupful of butter spread on, sprinkled with a little flour.

Puff-Paste.

Mix 1 pt. of flour, 1 tablespoonful of butter, the beaten yolk of 1 egg, and 1 gill of ice-water, into a paste with a wooden spoon. Flour your pastry board, and roll out the crust very thin. Put the rest of the batter, ½ lb. in all, when you have washed it, in the center of this sheet in a flat cake. Turn the 4 corners of the paste over it, and roll out carefully, not to break the paste. When very thin, sprinkle lightly with flour, fold up, and roll out 4 times more. Set it in a cool place for 1 hr., roll out again, and cut into tartlet shells or top crust for pies. You may make the bottom crust of plainer pastry than the upper.

Apple Pie.

Pare, core, and slice ripe, tart. winter apples; line your dish with a good crust, and put in a layer of the fruit; then sprinkle light brown sugar thickly over it, scatter a few whole cloves upon this, lay on more apple, and so continue, until the dish is filled. Cover with a crust and bake. Before sending to the table, sift powdered sugar over the top.

Apple Pie. (2).

Slice the apples quite thin; if juicy and rich do not put in water; prepare the crust as usual. When baked, remove the upper crust, without breaking; stir into the apple a tablespoonful of sugar, a few thin slices of butter; and a little cinnamon or grated nutmeg. Then replace the upper crust.

Apple Pudding Pie.

1 pt. of strained apples, 2 eggs, a small piece of butter, 1 cup of sugar; flavor with lemon. Separate the eggs, and stir in the whites last. Bake in a thick paste.

Apple Custard Pie.

Sweeten 3 cupfuls of stewed apples with nearly a cupful of white sugar, and let it cool. Beat the yolks of 6 eggs, and mix well with the apple, seasoning with nutmeg only. Stir in gradually 1 qt. of milk, beating as you go on; then add the whites; fill the crust and bake without cover.

Apple Meringue Pies.

Pare and slice some ripe, juicy apples. Stew and sweeten them, season with nutmeg, and mash sweet. If you wish, stew some lemon

peel with the apple, and remove when cold. Fill the crust, and when baked, spread over the apple a thick meringue, made by whipping to a stiff froth the whites of 3 eggs for each pie, and sweetening with a tablespoonful of powdered sugar for each egg. Flavor this with rose-water or vanilla; beat until it will stand alone, and cover the pie ¾ in. thick. Place in the back part of the oven until the meringue is well set. If too dark, sift powdered sugar over it when cold. Eat cold. Peach pies are excellent made in the same way.

Apple Jonathan.

Peel and core 1 qt. of apples, and place them in a deep dish; add 1 teacupful of sugar, a little cinnamon, or nutmeg, and a few thin slices of butter. Make a crust as for soda biscuit, having the upper crust thick; bake ½ hr. and eat warm. Serve with butter and sugar.

Berry Pies, or Tarts.

In England, only an upper crust is made. In this country there is generally only an under crust, with bars of paste crossed over the top. These tarts should always be served fresh, or the under crust will become soaked and unwholesome. The berries or fruits are first stewed with sugar to taste, then baked, or not baked in the crust, as preferred.

Cherry Pie.

Line a deep plate with crust; wash and stone as many cherries as the plate will hold, being careful to save the juice; add 1 cupful of sugar and a little flour. Cover with a rich pastry. Huckleberry, blackberry, raspberry and currant pie may be made in the same way, except that currant pie will require more sugar and a little more flour.

Cocoanut Pie.

Take 1 pt. of cream, 3 tablespoonfuls of sugar, and 4 eggs, leaving out 2 whites; to this add 1 pt. of grated cocoanut, and bake in a dish lined with pastry. Make a meringue of the 2 whites beaten to a stiff froth, and pulverized sugar. Replace it in the oven to brown.

Cocoanut Pie. (2).

Rub ½ a lb. of butter and ½ a lb. of powdered sugar together; beat light with 1 glassful of brandy and 2 teaspoonfuls of lemon juice; stir in the beaten yolks of 4 eggs; lastly 1 lb. of grated cocoanut, and the whites of the eggs. Bake in open shells. Eat cold, with powdered sugar sifted over it.

Peach Cobbler.

Line a deep dish with pastry, and peel and halve enough peaches to fill it; put in the center a small cup for the juice to collect under, so that the bottom crust will not be heavy; lay the fruit around it, frequently putting in one of the pits of the peaches to improve the flavor, add 1 teacupful of sugar, and cover with a thick crust.

Cream Pie.

To make 2 pies, take 1 pt. of milk, 1 cup of sugar, 2 tablespoonfuls of flour, and 2 eggs. Mix all well together, and stir in the milk when boiling. Flavor with almond. When cool, spread between the cake, which must be baked thin. The cake is made of 1 cupful of sugar, 2 of flour, 4 eggs, the whites beaten separately, and 1 teaspoonful of baking powder.

Chocolate Custard Pie.

Dissolve ¼ of a cake of Baker's chocolate, grated, in a very little milk, stir into 1 pt. of boiling water, and boil 3 mins. When nearly cold, beat up with this the yolks of 6 eggs and whites of 3. Stir this mixture into 1 qt. of milk, add ¼ a cupful of white sugar, and 2 teaspoonfuls of vanilla, and pour into shells of good paste. When the custard is set, but not more than ½ done, spread over it the whites, whipped to a froth, with 2 tablespoonfuls of sugar. These custards may be baked without paste, in a pudding-dish or cups set in boiling water.

Cracker Pie.

1½ soda biscuits, 1 teacupful of white sugar, 1 lemon, 1 teacupful of boiling water. Break the biscuit into small bits, pour over them the boiling water, cover, and leave them to swell. Grate the yellow part of the rind of the lemon, add to it the juice and the sugar, mix with the cracker when it is sufficiently swelled; make a nice crust, and prepare as apple pies. Sift sugar over the pies when baked.

Cocoanut Custard Pie.

Boil 1 qt. of unskimmed milk, take it from the fire, and whip in gradually 6 eggs beaten to a froth. When nearly cold stir in ½ lb. of powdered sugar, 1 teaspoonful of nutmeg, and 2 of vanilla or rosewater; add 1 lb. of grated cocoanut and pour into paste-shells. Do not boil the egg and milk together. Bake 20 mins. This makes a nice cocoanut cup-custard, if baked in cups placed in a pan of boiling water.

Corn-Starch Custard Pie.

Boil 3 pts. of milk, stir in 2 tablespoonfuls of corn-starch wet in a little cold milk and boil 1 min. When nearly cold, stir in 6 tablespoonfuls of white sugar, the yolks of 6 eggs, and the whites of 2; flavor with 2 teaspoonfuls of essence of bitter almonds, and pour into paste-shells. Whip the remaining whites to a meringue, with 2 tablespoonfuls of white sugar and a teaspoonful of vanilla, and when the custard is set, draw your pies to the edge of the oven and spread it over them quickly. This may be baked as a pudding by omitting the pastry. Eat cold.

Custard Pie.

Beat the yolks of 4 eggs and 4 tablespoonfuls of white sugar together, and mix with 1 qt. of milk; flavor with vanilla or other essence, whip in the whites, which should be already a stiff froth, mix well, and pour

into shells. Grate nutmeg upon the top. Bake as cup-custard, or a custard pudding, in cups or a deep dish set in a pan of boiling water.

Pie-Plant Custard Pie.

The pie-plant must be stewed until you can strain it through a colander. Allow 1 cupful of sugar, 1 tablespoonful of corn-starch, 2 eggs, and a piece of butter the size of a hickory-nut, to each cup of pie-plant. Bake with an under-crust and sift sugar on the top when put in to bake.

Glazing for Tarts.

Mix sifted sugar and water into a thick paste like cream, and brush it over the crust.

Ripe Gooseberry Pie.

Top and tail the berries, and fill a dish lined with crust with them, strewing among them plenty of white sugar. Cover and bake.

Icing for Fruit Pies and Tarts.

The common mode is to take the white of an egg, whisked to a froth, mixed thickly with pounded sugar, and laid on with a quill feather. For larger tarts it should, however, be laid on more thickly, and comfits or lemon peel may be stuck into it.

Lemon Pie.

Take the chopped rind of one lemon, and the juice of 2, 1 cupful of chopped raisins, 2 eggs, a little over a tablespoonful of flour, 1 cupful of sugar, and a little water, about a tablespoonful.

Lemon Pie. (2).

Grate 1 lemon; stir together ½ cupful of butter, 1 cupful of sugar, and the yolks of 3 eggs; add the grated lemon peel, then the juice, and 2 tablespoonfuls of milk, and lastly the beaten whites. Bake immediately.

Lemon Pie. (3).

1 pt. of milk, 1 cupful of sugar, 6 teaspoonfuls of flour, 2 eggs, and the juice of 2 lemons. Put the milk in last. Spread frosting on the top.

Lemon Cream Pie.

Stir 1 tablespoonful of corn-starch, dissolved in cold water, into 1 teacupful of boiling water, cream 1 tablespoonful of butter, and 1 teacupful of powdered sugar, and pour on them the hot mixture. When quite cool, add 1 lemon—the juice and grated rind, removing the seeds with care—and 1 beaten egg. Take the inner rind off the lemon, and mince very small. Bake in open shell.

Lemon Tart.

Beat up well 1 cupful of sugar, 2 lemons—all the juice and a teaspoonful of grated peel—½ teaspoonful of corn-starch, dissolved in a little cold water, 1 doz. raisins stewed, cut in two and seeded. Bake with upper and lower crust.

Lent Pies.

Boil 1 doz. eggs quite hard, and chop the yolks very fine; chop also 1 doz. moderate-sized juicy apples, peeled and cored, together with 2 lbs. of stoned raisins; add 2 lbs. of currants, 1 lb. of sugar, and a tablespoonful each of powdered cinnamon, nutmeg, and beaten mace; take also the juice and grated peel of 3 ripe lemons, with ½ lb. of citron cut into slips; mix all these thoroughly, and moisten the whole with ½ pt. each of white wine and brandy. If at hand, a little rose-water may be added, and ratafia may be used instead of brandy.

Marlborough Pie.

Stew and strain apples enough for 1 pie; add 1 tablespoonful of thick cream, 1 well beaten egg, sugar and nutmeg to your taste. Bake without a top crust. Make a meringue of the white of an egg beaten to a stiff froth, thickened with pulverized sugar and flavored with lemon, and spread over the top of the pie when done; replace in the oven to brown.

Mince Meat, To Keep.

Boil 2 lbs. of lean, fresh beef, and, when cold, chop fine. To this add 1 lb. of beef-suet. cleared of strings and minced to powder, 5 lbs. of apples, pared and chopped, 2 lbs. of raisins, seeded and chopped, 1 lb. sultana raisins, washed and picked over, 2 lbs. of currants, washed and carefully picked over, ½ lb. of citron, cut up fine. With these mix 2 tablespoonfuls of cinnamon, 2 of mace, 1 of cloves, 1 of allspice, 1 of salt, 1 of powdered nutmeg, 2½ lbs. of brown sugar, 1 qt. of brown sherry and 1 pt. of best brandy. Keep in a cool place, in stone jars, tied over with double covers. When you make a batch of pies, add a little more liquor, if necessary. Lay strips of pastry, notched with a jagging-iron, in a cross-bar pattern, upon the pie, instead of a top-crust.

Apple Mince Meat.

2 lbs. of apples pared and chopped, ½ lb. of beef suet, cleared of strings and powdered, 1 lb. of currants, ½ of raisins, seeded and chopped, ½ of sultana raisins, ½ of citron, cut in shreds, 1 lemon, juice and rind, 1 tablespoonful of cinnamon, 1 of allspice, 1 teaspoonful of cloves, 1 of mace, and 2 of salt, 2 lbs. of brown sugar, ½ pt. of best brandy, and 1 glassful of wine. Pack down in a stone jar, with a close cover, and keep in a cool place.

Mock Green Apple Pie.

Soak 1½ soda crackers in ½ a teacupful of boiling water; to this add 1 cupful of sugar, 1 grated lemon, and 1 tablespoonful of butter.

Summer Mince Pies.

Soak 4 soda crackers in a cupful of cold water, 1 cupful of sour wine, or boiled cider, 1 cupful of molasses, 1 cupful of sugar, 1 cupful of chopped raisins, 2 of currants, nearly a cupful of melted butter, a little sliced citron, cloves and cinnamon to the taste; stir well. When the butter is put in add 1 glassful of brandy. This will make 3 large pies.

Orange Pie.

Press out the juice of 3 oranges and grate the rind; add ½ pt. of cream, ½ cupful of melted butter, 1 teacupful of powdered sugar, and 6 eggs; beat the yolks with the butter and sugar; beat the whites to a stiff froth with some pulverized sugar, and when the pies are baked, place this on top. Bake in deep dishes, with an under-crust, and replace in the oven to brown.

Orange Pie. (2.)

Cream ½ of a cupful of white sugar and 2 tablespoonfuls of butter, beating in 1 orange—the juice and ½ the grated rind, and ½ a lemon—the juice and grated peel, until very light; add the beaten yolks of 3 eggs, and nutmeg to taste; fill 2 pastry shells and bake. Beat the whites stiff with 2 tablespoonfuls of powdered sugar, and when the pies are done, spread over them, and return to the oven for 3 or 4 mins.

Peach Pie.

Line a plate with pastry, and fill with the sliced peaches; sprinkle over a little sugar and cover with a top crust; if the peaches are not juicy, add 1 or more tablespoonfuls of water.

Peach Pie. (2.)

Line a pie plate with good crust, and lay in the sliced peaches, sprinkling plenty of sugar over the fruit. To each pie allow 3 peach-kernels, chopped fine; pour in a little water, and bake with an upper crust, or with cross-bars of paste across the top. Some pare the peaches and put them in whole, packing them well, sweetening freely, and covering them entirely with the crust.

Pineapple Pie, (Choice Recipe).

Ingredients: A grated pineapple and its weight in sugar, ½ its weight in butter, 5 eggs (the whites beaten to a stiff froth), 1 cupful of cream. Cream the butter, and beat it with the sugar and yolks until very light; add the cream, the pine-apple, and the whites of the eggs. Bake with an under crust. To be eaten cold.

Pippin Pies.

Pare and grate 12 fine, ripe pippins. Cream ½ lb. of butter and 1 lb. of white sugar; stir in the beaten yolks of 6 eggs, then the grated peel

and juice of 1 lemon, some nutmeg, and the grated apple; lastly the whites, very lightly. Bake in paste, with cross-bars of the same on top.

Pumpkin Pie.

Beat together 1 qt. stewed pumpkin—pressed through a sieve—9 eggs, whites and yolks beaten separately, 2 qts. of milk, 1 teaspoonful of mace, 1 of cinnamon, 1 of nutmeg, and 1½ cupfuls of white sugar, or very light brown. Bake in crust without cover.

Pumpkin Pie. (2).

Mix 6 well beaten eggs with 6 tablespoonfuls of sugar, 3 teaspoonfuls of cinnamon, 3 of ginger, a little salt, and 1 qt. of strained pumpkin; stir all together. Add 3 pts. of boiling milk, when ready to put the pies to bake; bake in deep plates or lay an extra piece of crust around the edge of the plate.

Rhubarb Pie.

Strip the skin from the stalks, and cut in lengths of ½ in.; cover well with sugar, and fill the crusts with the raw fruit. Scatter seedless raisins among the rhubarb. Cover and bake ¾ of an hr.; then brush with egg, and return to the oven to glaze. Eat cold.

Simnel, To Make.

1 lb. of flour, ¼ lb. of butter, ¼ lb. of lump sugar, 1 lb. of currants, 2 ozs. of candied lemon, ¼ oz. of carbonate of soda mixed with an egg, and a little milk; to be put in a tin mould, and baked till done.

Squash Pie.

To make 2 pies, beat 4 eggs with 1 teacupful of sugar, 1 teaspoonful of salt, 1 of ginger and 1 of cinnamon; pour upon this, 1 qt. of boiled milk, and then add 1 pt. of squash. Bake in deep plates.

Strawberry Pie.

Pick over and cap the berries, arrange in layers in a shell of pastry, and sprinkle with a good coating of sugar. Fill the shell very full, as strawberries shrink very much in cooking. Cover with crust and bake. Other berry pies can be made in the same way, using sugar according to the sweetness of the berry.

Sweet-Potato Pie.

Parboil 1 lb. of mealy sweet potatos, and grate them when quite cold. Cream ½ a cupful of butter and ¾ cupful of white sugar; add the yolks of 4 eggs, 1 tablespoonful of cinnamon, 1 teaspoonful of nutmeg, and 1 lemon, the juice and rind; beat the potato in by degrees and continue beating until all is light; then put in 1 glassful of brandy and stir in the whites. Bake in dishes lined with good paste, without cover. A pud-

ding may be made of this by baking in a deep dish, well buttered, without paste. Cool before eating.

Peach Souffle.

Peel and slice the peaches, and place in a plate lined with pastry; sprinkle a little sugar over them and bake. Beat the whites of 2 eggs, with 1 tablespoonful of pulverized sugar, and spread over the top; return to the oven to brown.

Cranberry Tarts.

Pick over and wash the cranberries. Let them simmer in a porcelain saucepan, with a very little water, until they become soft and burst open. To remove the skins, run them through a colander, and sweeten to taste. Bake in pastry shells, with a cross-bar of pastry over the top.

Cream Raspberry Tart.

Fill a dish, lined with pastry, with raspberries, made very sweet with powdered sugar. Cover with paste, but do not pinch it down at the edges. When done, lift the top crust, which must be thicker than usual, and pour upon the fruit a mixture made as follows: Heat 1 small cupful of milk, ½ cream, to boiling; add the whites of 2 eggs, beaten light, and stirred into the boiling milk, 1 tablespoonful of white sugar, ½ a teaspoonful of corn-starch, wet in cold milk. Boil all together 3 mins., and let them get perfectly cold before putting them into the tart. Replace the crust and set the pie aside to cool. Dust powdered sugar over the top before serving. Strawberry cream tart may be made in the same way.

Currant and Raspberry Tart.

Allow 1 cupful of red raspberries to 3 cupfuls of currants. Before you fill the crust, mix the berries well together and sweeten abundantly. Cover with crust and bake. Eat cold, with white sugar sifted over it.

Lemon Tartlets.

Pare, rather thick, the rinds of 4 lemons, which boil tender in 2 waters, and beat fine; add to it 4 ozs. of blanched almonds cut thin, 4 ozs. of lump-sugar, the juice of the lemons, and a little grated peel; simmer to a sirup: when cold, turn it into a shallow tin tart dish lined with a rich thin puff paste, and lay bars of paste over; as soon as the paste is baked, serve it.

Lemon Paste for Tarts or Patties.

To 1 lb. of lump-sugar add 6 eggs, leaving out the whites of 2, the juice of 4 large lemons, with the grated rinds of 3 of them, and ¼ lb. of very good butter. Put all in a stew-pan, and stir gently over a slow fire (or set the basin into a pan of boiling water) until it becomes thick and looks like honey; do not let it boil. Pour it into bottles or jars,

and keep it in a cool place. It will keep 3 or 4 years. Bake the crust for the tarts. Put in a little of the lemon paste while the crusts are hot. Then return them to the oven, to remain until the paste is nicely melted, when the tarts will be quite ready.

Orange Tartlets.

Beat together the juice of 2 oranges and the grated peel of 1, ¾ of a cupful of sugar, 1 tablespoonful of butter, ½ a lemon, the juice only, to wet 1 teaspoonful of corn-starch, and bake in tartlet shells without cover.

CUSTARDS, CREAMS AND ICES.

Blanc-Mange.

Soak 1 box of gelatine in 1 pt. of cold water 1 hr., add 1 qt. of new milk, the peel of 1 lemon, and sweeten to taste. Place this over the fire, and stir until the gelatine and sugar are dissolved; strain and pour into moulds. When cold, turn out into dishes from which it is to be served. Lay around the dish canned fruits or jellies. In the same manner sirups of all kinds of preserved fruits can be jellied, by dissolving the gelatine in the sirup, and putting into ornamental moulds, first wetting the moulds in cold water to prevent sticking.

Blanc-Mange, Almond.

Heat 1 qt. of milk to boiling, having previously soaked 1 oz. of gelatine in a cupful of it for an hr. Turn this in when the milk is scalding hot; add 3 ozs. of almonds, blanched and pounded in a mortar, with 1 tablespoonful of rose-water, added to prevent oiling, and stir all together 10 mins.; then put in ¾ of a cupful of sugar. When the gelatine has dissolved, remove the blanc-mange from the vessel of boiling water, in which you have cooked it, and strain through a thin muslin bag, pressing it well to get out the flavor of the almonds, among which there should be 3 or 4 bitter ones. Put the blanc-mange in a mould, wet with cold water, and set in a cold place until firm. Instead of rose-water you may substitute vanilla, and leave out the almonds, but the blanc-mange will not be so nice.

Almond Custards.

Scald 1 pt. of milk (½ cream), add the beaten yolks of 3 eggs, 4 tablespoonfuls of sugar, the whites of 2 eggs and ¼ lb. of almonds, blanched and pounded to a paste, a few at a time in a mortar. Boil, stirring constantly until it thickens. Stir up well when almost cold and pour into cups. Make a meringue of the whites of 2 eggs and 2 tablespoonfuls of powdered sugar, flavored with 1 teaspoonful extract of bitter almond, and heap upon each cup.

Apple or Gooseberry Custard.

Boil the fruit; pulp it through a sieve; season with sugar and flavor with grated lemon or nutmeg. Put a thick layer of fruit in a dish. Mix 1 pt. of milk, 1 pt. of sweet cream, the yolks of 2 eggs; scald it over the fire, stirring well; add sugar to the taste, and let it cool. Lay it over the fruit with a spoon, and over the whole place a whip, made of the whites of the eggs.

Arrowroot Custard.

1 pt. of milk, 1 tablespoonful of arrowroot, 1 of sugar, boil the milk with a stick of cinnamon in it, wet the arrowroot with a little cold milk, add to it 1 egg well beaten, add the sugar, stir the whole into the boiling milk, flavor it with vanilla, wine, or rose, when nearly cold. You may flavor custards with lemon-peel, vanilla, or anything you choose, and make them as rich as you like.

Baked Custard.

Scald but not boil 1 qt. of milk; add by degrees to the beaten yolks of 4 eggs, mixed with 5 tablespoonfuls of sugar, and when well mixed stir in the whites. Flavor with nutmeg and vanilla, and pour into a deep dish or custard cups. Grate nutmeg on the top of each, set them in a pan of hot water, and bake until firm. Eat cold from the cups.

Boiled Custard.

Pour 1 qt. of boiled milk over 6 eggs, beaten with 6 tablespoonfuls of sugar; stirring constantly one way. Flavor with lemon or vanilla, then pour into custard cups, put into a steamer and cover tightly, 5 or 10 mins. Try with a broom corn, and if done, the milk will not follow the stick.

Charlotte Russe.

Put ½ of an oz. of gelatine in a pt. of cold water. Boil until reduced ½. While this is cooking, beat together the yolks of 4 eggs with ½ lb. of sugar. Strain the gelatine, when a little cooled, into the eggs; have whipped to a froth 1 qt. of rich cream, beat all together quickly and pour into a dish lined with cake.

Charlotte Russe. (2.)

Take 1 pt. of whipped cream, ½ box of gelatine, dissolved in a little milk, and a soft custard, made of 1 pt. of milk and the yolks of 3 eggs. Line a dish with sponge cake, cut thin, and alternate the custard, cream and gelatine, until you have put all together. Flavor with vanilla. If you wish to frost it, dip the sponge cake in the gelatine, that it may be whole when removed from the mould.

Mock Charlotte Russe.

Dissolve ½ box of gelatine in just enough water to cover it; beat the yolks of 3 eggs with 1½ cupfuls of sugar, add a pinch of salt; stir into 1

qt. of boiling water as for custard. Strain the gelatine into the mixture, and when cool, stir in the whites of the eggs beaten to a stiff froth. Flavor with vanilla, and pour into dishes lined with sponge cake.

Coffee Custard.

1. This is made by putting 1 qt. of milk on the fire, with about 6 ozs. of white sugar. In another vessel beat up the yolks of 10 eggs, and pour the milk gradually upon them. Roast your coffee (3 or 4 ozs.) till it is of a very light brown color, and gives out all its flavor; break it in a mortar, slightly, and add it, while hot, to your hot custard. Strain through a jelly-bag, pour the cream into cups, and put them to cool. Everything depends on the coffee being used whilst hot, so as to catch the aroma which goes off as it cools.

2. Pour ½ pt. of cold water on the same quantity of fresh ground coffee in a French coffee-pot, press it down and put on the lid. Stop the mouth of the spout, and when the water has filtered down, pour it off, and return it to the top to filter a second time. Have a custard made with 8 eggs to 1 pt. of milk, sweetened to taste. Stir in the coffee, put it in custard cups, and bake in a pan with water half to their tops. Send cold to table.

Floating Island.

Beat the yolks of 4 eggs well, stir in 4 heaping tablespoonfuls of white sugar, and add 1 qt. of hot, not boiling, milk, a little at a time. Boil until it begins to thicken; when cool, flavor with 2 teaspoonfuls extract of bitter almond or vanilla, and pour into a glass dish, first stirring it up well. Heap upon it a meringue of the whites into which you have beaten, gradually, ½ cupful of currant, cranberry, or other bright tart jelly. Dot with bits of jelly cut into stars or rings, or straight slips laid on in a pattern.

Flummery.

Blanch 2 ozs. of almonds—a few bitter among them—and, when cold, pound them to a paste in a mortar, adding 1 tablespoonful of orange-flower or rose-water to prevent oiling. Heat 1 cupful of milk to boiling, put in 1 oz. of gelatine, soak 1 hr. in a cupful of cold water, ½ cupful of sugar, and the almonds, and stir 5 mins., or until they are thoroughly dissolved. Strain through thin muslin, pressing the cloth well. When cool, beat in 1 pt. of cream, a little at a time, with an egg-whip, until thick and stiff. Wet the mould, before putting in the mixture, and let it stand 7 or 8 hrs. in a cold place.

Snow Meringue.

Pour about 4 cupfuls of sugar, and 1 box of gelatine into 1 qt. of boiling water; when dissolved add the juice of 4 lemons. Strain the whole through a fine sieve. When partially cold, stir in the whites of 6 eggs, beaten to a stiff froth. Put on the ice in the dish in which it is to be served. To be eaten with a boiled custard made of the yolks of the eggs.

Syllabub.

Mix 1 qt. of cream with ½ pt. of sherry wine, and sweeten it to taste, adding essence or grated rind of lemon, and, if desired, the juice of the fruit. Churn or beat the mixture to a thick froth, which skim off and put in a glass bowl, over slices of sponge cake.

German Trifle.

Put 1 pt. of strawberries or any other fresh fruit in the bottom of a glass dish. Sugar the fruit, put over it a layer of macaroons, and pour over it a custard made with 1 qt. of fresh milk, and the yolks of 8 eggs beaten, sweetened to taste, and scalding hot. When cold place on the top the whites of the eggs beaten to a froth with a little sugar, or cream whipped to a froth. The egg may be made ornamental by beating currant jelly with part of it, and putting it in alternate hills of white and pink.

Tipsy Charlotte.

Heat 1 pt. of rich sweet cream almost to boiling; put in ½ oz. of gelatine, soaked in a cupful of cold water 2 hrs., and ½ a cupful of sugar, and stir until dissolved. Remove from the fire, flavor with 1 teaspoonful of vanilla or bitter almond extract, and, when cool, beat to a standing froth. Cut off the top of a large stale sponge-cake in one piece, and scoop out the middle, leaving the sides and bottom ¾ of an in. thick. Over the inside of these pour 1 cupful of sherry wine, in spoonfuls, that all may be evenly moistened. Fill with the whipped cream, replace the top, which should also be moistened with wine, and set in a cold place until needed. Serve with it a custard made of 3 eggs, the yolks and whites beaten together, very light, 1 pt. of milk, and ½ cupful of sugar.

Bavarian Cream.

Soak ½ oz. of gelatine in just enough cold water to cover it, for 1 hr. Drain and stir into a pt. of boiling hot cream. Beat the yolks of 4 eggs smooth with a small cupful of sugar, and add the boiling mixture, beaten in a little at a time. Heat until it begins to thicken, but do not boil; remove it from the fire, flavor with 2 teaspoonfuls of vanilla or bitter almond extract, and while it is still hot, stir in another pt. of cream, whipped to a stiff froth. Dip a mould in cold water, pour in the mixture and set on the ice to form.

Bavarian Cream, with Peaches.

Cut 18 fine peaches into small pieces, and boil them with ½ lb. of sugar. When they are reduced to a marmalade, squeeze them through a sieve or colander. Then add ½ a package of dissolved gelatine, and a glassful of good cream. Stir it well, to make it smooth when it is about to set, then add 1 pt. of cream whipped, and mould it. It makes a still prettier dish to serve halves or quarters of fresh peaches half frozen, around the cream.

Biscuit Glaces, in Small Cases.

Beat well 8 yolks of eggs, with 10 ozs. of sugar, and a very little salt; add 1 pt. of cream. Stir over the fire until slightly thickened. Flavor with vanilla powder, the extract of almonds, lemon, or with coffee or chocolate. It may also be made by adding a *puree* of peaches, strawberries, raspberries, or pine-apple to the custard. When just beginning to set in the freezer, stir in lightly ½ pt. of cream (whipped); then partly fill paper cases with the mixture. Smooth over the tops. Set the cases in the freezer well dried, and allow them to harden until ready to serve.

Bohemian Cream.

Rub 1 pt. of strawberries, 6 ozs. of sugar, and the juice of 1 lemon through a sieve; dissolve 1½ ozs. of gelatine in ½ pt. of water. Mix these ingredients well together with 1 pt. of cream, and freeze.

Champagne Cream,

Is made by beating up the yolks of 6 eggs with as much powdered sugar as will make it quite stiff—so much so as to nearly make the spoon stand in it. Then pour on it very gradually—stirring it all the time—a bottle of sparkling champagne; grate on it a little nutmeg, and serve it.

A bottle of good cider or perry will be a tolerable substitute.

Chocolate Cream.

Put 1 square of baker's chocolate cut fine into enough boiling water to dissolve, set on the stove until smooth; to this, add 4 eggs beaten with 2 cupfuls of sugar, and beat all together; put in a pail with 1 qt. of sweet milk; steam in boiling water, and stir constantly until it is like thin custard; strain through a fine sieve and pour into glasses while hot.

Chocolate Ice Cream.

Sweeten 1 pt. of hot milk with ½ lb. of loaf sugar; then stir carefully into it the yolks of 8 eggs, and ½ pt. of strong made chocolate. Put it on the stove and stir it one way until the eggs are set in the milk, but do not let it boil; then strain it through a fine silk, or hair sieve, and stir into it ½ pt. of thick cream, and freeze.

Chocolate Fruit Ice Cream.

Make a chocolate cream. When set in the freezer, add about ½ lb. of assorted French candied or preserved fruits cut into small pieces. Put it into a melon-shaped mold, to imitate a plum-pudding. When ready to serve, turn the cream on a platter, and make a circle around it of whipped cream, sweetened and flavored with vanilla. This cream is a decided success, and a beautiful dessert for a dinner party. It may be improved by sprinkling over it chopped almonds dried of a light-brown color, mixed with chopped pistachios. This is intended to imitate the rugged appearance of the rind of a melon.

French Cream.

To 3 tablespoonfuls of corn-starch, wet with a little milk, add the yolks of 2 eggs and a cupful of sugar. Beat all together, and stir into 1 qt. of boiling milk; cook for 1 min.; turn into a dish to cool. Beat the whites of 3 eggs to a stiff froth and pour over the dish, just before serving; sift pulverized sugar and drop bits of jelly or jam over the float.

Frozen Pudding.

Cut up about ½ lb. of preserved fruits—such as peaches, plums, citron, raisins, and currants—add ½ lb. of Baker's chocolate, and 1 pt. of best Madeira wine; simmer on the fire about 15 mins., and when perfectly cold add about 1 qt. of vanilla ice cream. Freeze it in a 2 qt. mould, and for the sauce whip ½ pt. of sweet cream flavored with vanilla.

Ice Cream.

Dissolve ½ of a box of gelatine in ½ a cupful of warm water. Beat together 1 teacupful of sugar, and the yolks of 4 eggs. Add the gelatine and stir well, and upon the mixture pour 1 qt. of cold milk. Then strain it, and flavor with about 2 teaspoonfuls of vanilla before freezing.

Ice Cream. (2).

Stir into 1 qt. of boiling milk, 5 eggs, beaten with ½ lb of sugar; when cold, flavor with vanilla before freezing.

Ice Cream. (3).

Beat 4 heaping tablespoonfuls of arrowroot, wet with a little cold milk, until it is smooth. Stir it into 2 qts. of boiling milk, and strain through a sieve. Add 2 qts. of cream; when cold flavor with vanilla or lemon; sweeten to taste, and mix thoroughly before freezing.

Almond Ice Cream.

Take 6 ozs. of bitter almonds, (sweet ones will not do), blanch them, and pound them in a mortar, adding by degrees, a little rose-water. Boil them gently in 1 pt. of cream till you find that it is highly flavored with them. Then pour the cream into a bowl, stir in ½ lb. of powdered loaf-sugar, cover it, and set it away to cool gradually. When it is cold, strain it, and then stir it gradually and hard into 3 pts. of cream. Put it into the freezer, and proceed as directed. Freeze it twice. It will be found very fine. Send round always with ice cream sponge cake; afterwards wine and cordials, or liquors, as they are now generally called.

Italian Cream.

To 1 qt. of cream, whipped to a froth, add 4 tablespoonfuls of sugar, 1½ ozs. of gelatine, 1 teaspoonful of white gum arabic, dissolved in a little water. Put in a form on ice.

Lemon Ice Cream.

Sweeten 1 qt. of cream with 2 cupfuls of sugar, beat 2 lemons—the juice of 1 and the grated peel of 1½—gradually into it, and put at once into the freezer. Freeze rapidly in a patent freezer, or the acid will turn the cream. Orange ice-cream may be made in the same way.

Neapolitaine Cream.

To make a form of 3 colors: Vanilla, chocolate, and strawberry ice-creams are frozen in 3 different freezers, and filled in a mold the form of a brick in 3 smooth layers of equal size.

Orange Cream.

Squeeze the juice of 4 oranges on a cupful of sugar with ¼ cupful of water. Add 3 eggs; beat all together for ½ hr., and steam through a cloth. Set on the stove and stir till scalding hot. Serve as a custard in cups.

Pineapple Ice Cream.

Slice 1 large ripe pineapple thin, and scatter 1 lb. of powdered sugar between the slices. Cover it and let the fruit steep 3 hrs. Cut or chop the fruit up in the sirup, and strain it through a hair sieve or bag of double coarse lace. Beat gradually into 1 qt. of cream, and freeze as rapidly as possible. If you like, reserve a few pieces of the fruit un sugared, cut into square bits, and stir them through the cream when ½ frozen.

Raspberry or Strawberry Ice Cream.

Scatter ½ lb. sugar over 1 qt. of ripe sweet berries and let them stand 3 hrs. Press and smash them and strain through a thin muslin bag. Add ½ lb. of sugar, and when dissolved beat in 1 qt. of cream little by little. Freeze rapidly; if the freezer is not a patent one, open it frequently to beat and stir the cream.

Snow Cream.

Beat the whites of 4 eggs to a froth; stir in 2 spoonfuls of white sugar; add 1 pt. of sweet cream and flavor with lemon or rose-water. Beat the whole together to a froth and serve with a dessert of sweetmeats.

Spanish Cream.

Into nearly 1 pt. of water put 1 oz. of isinglass and the rinds of 2 lemons and let stand in a dish over night. Add 1 pt. of milk in the morning, put it in a stewpan over the fire, and stir until entirely dissolved; then add 5 eggs, 1 qt. of milk, and sugar to the taste. Keep it over the fire till thick; put in moulds.

Tapioca Cream.

Soak 2 tablespoonfuls of tapioca for 2 hrs.; boil 1 qt. of milk, add the tapioca, stir in the yolks of 3 eggs well beaten, with ½ cupful of sugar. Let it just boil up; then remove from the fire, flavor with vanilla, and put in a deep dish. Have ready the whites beaten to a stiff froth, sweetened and flavored, and spread over the hot cream, to cook slightly. To be eaten cold. This same recipe can be baked. Just bake about 10 mins. Beat the whites to a stiff froth, add 1 cupful of sugar, spread this over the pudding and bake.

Tea Cream.

Infuse 1 oz. of the best green tea in ½ pt. of boiling milk, simmer it 5 mins., then strain it through a tammy, pressing the leaves well; boil 1 pt. of rich cream, add to it the yolks of 4 eggs beaten, and sufficient quantity of clarified sugar; pour this, whilst hot, to the milk, stir them together well, put in as much clarified isinglass as will set it, and pour the cream into the mould or glasses; place them on ice; when perfectly cold, turn it out of the mould, or serve in the glasses.

Vanilla Cream with Fruit Sauce.

Make a nice custard with 1 pt. of rich milk, and the yolks of 5 eggs, a scant cupful of sugar, and vanilla to taste. When this custard thickens take it off the fire, and add. while still hot, ½ box of gelatine previously dissolved in cold water. Wet a mould, pour in the cream, and set it on ice. When set, turn it out on a deep dish, arrange a bunch of fine candied cherries on top, and pour around it a sauce made of red cherries stewed, sweetened, strained and slightly thickened with cornstarch.

Whipped Cream.

Mix 1 pt. of cream and 4 tablespoonfuls of sugar thoroughly, and add 2 tablespoonfuls of brandy, or a wineglassful of sherry wine, and 1 teaspoonful of cinnamon. Put the mixture into a deep dish, and use a whip churn. As the froth rises take it off into a glass dish with a spoon. You can flavor with almond, vanilla or lemon, and omit the cinnamon if you do not wish to use brandy or wine. Nice as a substitute for ice cream, or to eat with fruit.

Currant and Raspberry Ice.

Squeeze out the juice of 1 qt. of red currants and 1 pt. of raspberries —red or white. With this mix 1 pt. of water and 1½ pts. of sugar and freeze quickly.

Lemon Ice.

Squeeze out the juice of 6 lemons and 1 orange, and steep in it the grated rind of the orange and 3 of the lemons, 1 hr. Strain, squeezing the bag dry; mix in 1 pt. of sugar, and 1 of water. Stir until dissolved, and freeze by turning in a freezer—opening 3 times to beat all up together.

Pineapple Ice.

Peel and cut in small pieces 1 juicy ripe pineapple; sprinkle over it 1 pt. of sugar and let it stand 1 hr. Add the juice and grated peel of 1 lemon; mash all up together, and strain out the sirup through a hair sieve. Stir in 1 pt. of water and freeze.

Water Ices

Are made with the juice of lemon, currant, or raspberry, or any other sort of fruit, being gained by squeezing, sweetened, and mixed with water. Rub some fine sugar on lemon or orange, to give the color and flavor, then squeeze the juice of either on its peel; add water and sugar to make a fine sherbet, and strain it before it be put into the icepot. If orange, the greater proportion should be of the juice.

PICKLES.

Barberries.

Barberries make very good pickles, and are always useful in ornamenting certain dishes. Leave the barberries on the stem, lay them in a stone jar and fill it up with cold vinegar.

Beef Tongues, To Pickle.

Remove all the refuse pieces at the base of the tongue and wash clean; rub them thoroughly with a mixture of 1 pt. of salt, 1 oz. of saltpetre, and 1 teacupful of brown sugar or molasses; lay remainder of mixture in a stone jar and add 2 qts. of water to the brim. Boil and skim this, and when cold pour it over the tongues. In 3 days they will be ready to boil. When done, skim them, and roll tight, beginning at the small end; tie around a small piece of cloth, to keep them in shape; lay in a jar, and use the same pickle as for lambs' tongues. When served, slice thin through the whole length and garnish with sliced lemon.

Pickled Cabbage.

Halve and quarter 25 small heads of cabbage. Lay them in a wooden tray, sprinkle thickly with salt, and set in the cellar until next day. Drain off the brine, wipe dry, lay in the sun 2 hrs. and cover with cold vinegar for 12 hrs. Season enough vinegar to cover the cabbage with equal parts of mace, cloves, and whole white peppers; a cupful of sugar to every gallon of vinegar, and a teaspoonful of celery seed for every pt. Pack the cabbage in a stone jar; boil the vinegar and spices 5 mins. and pour on hot. Cover and set away in a cool dry place for 6 weeks.

Pickled Cauliflower.

Choose firm, full sized heads; cut off the leaves and pick the flowers off in bunches; let them stand in brine 2 days; then lay them in the

steamer and cook for 10 mins. Put into glass jars while hot, with whole black peppers, allspice and stick cinnamon; mix mustard with boiling vinegar, putting but little vinegar at a time on the mustard, to make it smooth; mix just thick enough to run easily into the jars; pour over the cauliflower, and seal while hot.

Celery, To Pickle.

Separate the stalks from the head, clean them thoroughly, and put them into salt and water strong enough to bear an egg; let them remain in this for 1 week or 10 days, or until wanted to pickle; then take them out, wash them well in clean water, drain dry, place in a jar, and pour boiling vinegar over, to which any approved spices may have been added. As is usual for pickling, keep it well covered with vinegar; if the celery is allowed to remain a long time in salt and water, it will be necessary to soak it in clean water for a day or two, changing the water occasionally.

Chow-Chow.

Take 3 heads of cauliflower, 2 qts. of cucumber pickles, cut in slices, 15 good-sized onions, sliced, 6 large red peppers, 5 cts. worth of celery seed, ½ lb. of sugar; put all in a large vessel and cover with cold vinegar; set on the stove till it comes to a boil. Then take ½ lb. of druggist mustard and put in a dish with enough cold vinegar to make a thin batter, and stir all the lumps out; add this to the mixture on the stove, with 1 bottle of imported chow-chow, (as it gives a better flavor); let it all boil 20 mins., then bottle.

Cucumber Pickles.

The cucumbers should be small, fresh, and sound. Make a brine strong enough to bear up an egg, boil and skim it, pour upon the cucumbers and let it stand 24 hrs. Take good vinegar, cloves, pepper, and cinnamon, and boil together. Place the cucumbers in a large stone jar, and pour the hot spiced vinegar over them. If you wish them green, add a little alum with the spices, to boil in the vinegar. Cover them well. Some add 2 cupfuls of sugar to every gal. of vinegar.

East India Pickle.

Take radish pods, green peppers, long and round, green grapes, capers, nasturtions, walnuts, butternuts, peaches, apricots, cherries, and button onions; pour over them a hot strong brine, and let them stand for 4 days, stirring them every day. Boil a well spiced pickle and pour over them boiling hot; mustard seed may be added, and then it must be covered close from the air. This will keep 2 yrs. Pickles should be kept in stone or wood.

Lambs' Tongues, To Pickle.

The tongues should be soaked in salt and water 2 days and then boiled until the skin can be taken off. Place in a jar and cover with scalded

vinegar, to which add 1 cupful of brown sugar, 1 tablespoonful of whole black pepper, 1 of cloves and allspice mixed. It is better to split the tongues lengthwise. They can be used in 3 or 4 days.

Pickled Mangos.

Take small green melons that are fine and hard, cut out an oval shaped piece, remove the inside and lay them in weak brine 24 hrs. Drain them and fill with green cucumbers, small onions, horseradish shreded fine, mustard seed, whole black pepper, allspice, cloves and ginger root. Sew in with coarse thread the piece that was taken out. Place in a jar and cover with scalded vinegar, to which add 1 coffee-cupful of brown sugar and 2 doz. bird-peppers, or capsicum.

Nasturtions, To Pickle.

As you collect the nasturtions, soak them in salt and water 3 days, changing it once; when you have enough, pour off the brine, and pour on scalding vinegar.

Pickled Onions.

Take fine white onions—not too large—peel them, and let them stand in strong brine for 4 days, changing the brine twice. Heat more brine to a boil, throw in the onions, and boil 3 mins. Throw them in cold water and leave them there for 4 hrs. Scatter among them whole mace, white peppercorns, and cloves; pack in jars. Fill up with scalding vinegar, and put in 1 cupful of sugar for every gal. Cork while hot. They can be used in a month, but will be better at the end of 3 months.

Pickled Oysters.

Drain a qt. of large fresh oysters, and cover them with cold sharp vinegar; add a little cayenne pepper, a tablespoonful of sugar, and a few blades of mace. Hot vinegar or cloves should not be used, as they make the oysters dark and shriveled. They can be used in a few hrs.

Peppers, To Pickle.

After taking out the seeds carefully from green peppers, soak them 9 days in salt and water, changing the water every day, and keeping them in a warm place. Stuff them with chopped cabbage, seasoned with cinnamon, cloves and mace; put them in cold spiced vinegar.

Plums, To Pickle Like Olives.

Take the plums before they are quite ripe, and put them into a saucepan with some white wine vinegar, salt water, fennel seed, and dill, as much of each as will impart a flavor to the pickle; when it boils put in the plums, let it boil again, then take it off; let it stand till cold, then put them into jars.

Pickled Tomatos.

Mix in a stone jar 1 oz. of mustard, ½ oz. of cloves, ½ oz. of pepper, with ½ a jar of vinegar. Lay in the tomatos with 1 doz. onions, and

cover it close for a month. They will then be fit for use, and if the jar is kept well covered, will keep for a year. The onions may be omitted and more spices substituted. Do not select tomatos that are very ripe.

Green Tomato Pickles.

Slice green tomatos and put them in a basket, in layers, to drain, scattering salt over them, about a teacupful to each gal. Next day slice ½ the quantity of onions, and lay them and the tomatos in alternate layers in a jar, with spices between the layers. Fill the jar with cold vinegar.

SWEET PICKLES.

Pickled Cherries.

The cherries must be pitted and put into jars. Make a sirup of 5 lbs. of brown sugar, 1 pt. of vinegar, a few cloves, and some allspice, always taking care to pour the liquid over the fruit boiling hot, after being well skimmed, each morning until the sirup is thick.

Sweet Cucumber Pickles.

Slice 2 doz. large cucumbers, boil them for 1 hr. in vinegar enough to cover them, and set aside in the hot vinegar. Allow to each gal. of cold vinegar 1 pt. of sugar, 1 tablespoonful of celery seed, 1 of black pepper, 1 of ginger, 1 of cinnamon, 1 of garlic, sliced, 1 of horseradish, scraped, 1 of turmeric, 1 teaspoonful of cloves, 1 of allspice, 1 of mace, and ½ a teaspoonful of cayenne pepper. Stew the cucumbers in this pickle 2 hrs. They can be used when cold.

Ripe Cucumber Pickles.

Pare and seed ripe cucumbers. Slice each cucumber lengthwise into 4 pieces, or cut into fancy shapes, as preferred. Let them stand 24 hrs. covered with cold vinegar. Drain them; then put them into fresh vinegar, with 2 lbs. of sugar and 1 oz. of cassia-buds to 1 qt. of vinegar. Boil all together 20 mins. Cover them closely in a jar.

Pickled Melons.

Peel off the skin, and cut the rind in pieces about 2 ins. long and 1 in. wide. Cover them with boiling alum water and let them remain in it for a day or more, then drain well. Make a sirup of 2 lbs. of sugar to 1 pt. of vinegar. After boiling the melon in this until clear, boil down the sirup and pour over the melon hot.

Pickled Peaches.

Lay 10 lbs. of pared peaches in 4½ lbs. of sugar for 1 hr.; drain off the sirup and put over the fire with about a cupful of water. Boil until the

scum ceases to rise. Skim; put in the fruit and boil 5 mins. Take out the peaches with a skimmer and spread on dishes to cool. Add 1 qt. of vinegar, some mace, cinnamon and cloves to the sirup. Boil 15 mins. longer, and pour over the fruit in glass.

Pears, To Pickle.

Pare them, being careful, in cutting out the blossoms, not to bruise the pears. Stick cloves occasionally around the pear, putting one in the blossom end. Make a sirup as for cherries, adding stick cinnamon. Boil in the sirup 20 mins.

Pickled Plums.

Take plums that are firm and hard, and prick them well with a fork, being careful not to bruise them or break off the stems. Make a sirup as for cherries.

Quince, To Pickle.

Pare and cut ½ doz. quinces into small pieces, and put them with 1 gal. of water and 2 lbs. of honey into a large saucepan; mix them together well, and set them on a slow fire for ½ hr.; strain the liquor into a jar; when quite cold wipe the quinces perfectly dry, and put them into it; cover them very close.

Strawberry Pickle.

Ingredients: 7 lbs. of strawberries, 3½ lbs. of brown sugar, 1½ pts. of cider vinegar, 1 oz. of cloves, 1 oz. of stick-cinnamon. Place the strawberries and spices in alternate layers in a deep dish. Boil the sugar and vinegar 3 mins., and pour it over them, letting them remain until the next day. The second day pour the liquor off and boil it again 3 mins., returning it, as before, to the strawberries. Let them remain until the third day, when boil all together over a slow fire for ½ hr. Put it away in jars.

PRESERVES, JAMS, AND JELLIES.

Apple Butter.

Boil down a kettleful of cider to ½ the original quantity. Core, pare, and slice juicy apples, and put as many into the cider as it will cover. Boil slowly, stirring often, until the apples are tender to breaking, then skim them out and drain well. Put in a second supply of apples, as many as the cider will hold, and stew them soft. After taking from the fire, pour all together into a tub or large crock; cover and let it stand 12 hrs. Return to the kettle, and boil down until it is brown in color, and of the consistence of soft soap. Spice to taste. This will keep all winter, if put in jars in a cool, dry place.

Preserved Apples.

Pare and core the apples, which should be bell-flowers or pippins. Cut into halves or quarters, as suits the size of your jars. Let them stand over night in enough cold water to cover them. In the morning put them in the kettle with the same water, and let them cook gently till you can just stick a fork in them. Take the fruit out with a skimmer, weigh it, and to each lb. of fruit allow ¾ lb. of sugar. Put the fruit and sugar into the kettle, with enough of the water to make a good sirup, and let them boil gently until they are clear. Take out carefully with the skimmer and put in the jars; fill the jars to the top with the sirup. If there is a large quantity of fruit, and the kettle is not large, it is best to put the fruit in the sirup a little at a time. A few quinces cut up among them, or the juice of 2 lemons to every 3 lbs. of fruit improves them.

Candied Fruits.

Boil peaches, plums, pears, apricots, cherries, or almost any fruit dressed, in a thick sirup made with 1 teacupful of water to each lb. of sugar, until tender—no longer. Let them remain 2 days in the sirup; then take them out, drain them, and sprinkle sugar over each piece separately. Dry them slowly in the sun or in an oven not too warm.

Preserved Citron Melons.

Take 2 fresh lemons to 1 lb. of melon, and sugar equal in weight to the lemon and melon. Take out the pulp of the melon, cut it in thin slices, and boil it till tender. Take it out and boil the lemon in the same water about 20 mins. Take out the lemon, add the sugar and a little more water. Let it boil until clear; then add the melon and let it boil a few mins.

Grape Preserves.

Squeeze with your fingers the pulp from each grape. Put the pulps on the fire, and boil them until they are tender; then press them through a colander, so that the seeds may be taken out; now add the skins to the pulps and juice. Put a cupful of sugar to each cupful of fruit, and boil all together until of a thick consistence. Green-grape preserves are also nice. In managing the green grapes, halve them, and extract the seeds with a small knife. Put also a cupful of sugar to a cupful of fruit. Many prefer the green to the ripe grape preserves.

Greengage Marmalade.

When the plums are thoroughly ripe take off the skins; weigh and boil them quickly, without sugar, for 50 mins., keeping them well stirred; then to every 4 lbs. add 3 of good sugar reduced quite to powder; boil the preserve from 5 to 8 mins. longer, and clear off the scum perfectly before it is poured to be put into the jars. When the flesh of the fruit will not separate easily from the stones, weigh and throw the plums whole into the preserving-pan, boil them to a pulp, pass through a sieve, and deduct the weight of the stones from them when appor-

tioning the sugar to the jam. The Orleans plums may be substituted for greengages in this recipe. Greengages stoned and skinned, 6 lbs., 50 mins. Sugar, 4½ lbs., 5 to 8 mins.

Lemon Preserves.

1 lb. pounded loaf-sugar, ½ lb. butter, 6 eggs and the whites of 4 well beaten, the rind of 2 lemons grated, and the juice of 3. Mix together and let it simmer till of the consistence of honey. Be careful to stir all the time or it will burn.

Brandy Peaches.

After pricking the peaches with a needle, put them into a kettle with cold water, heat the water, scald them until sufficiently soft to penetrate with a straw. To every lb. of peaches take ½ lb. of sugar, make the sirup with the sugar, and while it is a little warm, mix ⅛ as much of white brandy with it; put the fruit into jars and pour the sirup over it. For this purpose the late white clingstones are the best.

Peach Marmalade.

Pare, stone, and weigh the fruit; heat slowly to draw out the juice, stirring up often from the bottom with a wooden spoon. After it is hot, boil quickly, still stirring, ½ hr. Add sugar, allowing ¾ lb. to each lb. of fruit. Boil up well 5 mins., taking off all the scum. For every 3 lbs. of fruit, add the juice of a lemon, and the water in which ½ of the kernels have been boiled and steeped. Stew all together 10 mins., stirring to a smooth paste. Put up hot in air-tight cans, or, when cold, in small stone or glass jars, placing brandied paper on the surface of the marmalade. The flavor is improved by stirring in with the peaches a ripe pineapple, cut up fine.

Preserved Peaches.

For preserving, the Crawfords are the best. Pare the peaches and stone a part of them. To each lb. of peaches allow ½ lb. of sugar. Boil the peaches in a thin sirup until tender, but not till they break. Put them into a bowl and pour the sirup over them. Let them stand 2 days in a dry, cool place. Then make a new, rich sirup, allowing ¾ lb. of sugar to 1 of fruit. Drain the peaches from the first sirup, and boil them, until clear, in the last. The first sirup must not be added, as it is somewhat bitter, but may be used for any other purpose.

Baked Pears.

Take ½ doz. fine pears; peel, cut them in halves, and take out the cores; put them into a pan with ½ lb. of sugar, and some water. Set them in a moderate oven till tender, then put them on a slow fire to stew gently; add grated lemon-peel, and more sugar, if necessary.

Preserved Pears.

Put them up just as you do peaches; pare them, but do not divide them, and leave the stems on.

Pineapple Marmalade.

Pare, slice, core, and weigh the pineapple; then cut into small bits. Make a sirup of 1 teacupful of water to 2 lbs. of sugar; melt and heat to a boil. Heat the fruit in a vessel placed within one of boiling water, covering it closely to keep in the flavor. When it is hot throughout and looks clear, add to the sirup, and boil together ½ hr., or until it is a clear, bright paste.

Quince Marmalade.

Pare, core, and slice the fruit; stew the skins, cores and seed in a vessel by themselves, with water enough to cover them. Strain off the water through a thick cloth, when it has simmered long enough to extract all the flavor, and the parings are broken to pieces. When this water is almost cold put the quinces into a preserve kettle, and pour it over them, stirring and mashing the fruit with a wooden spoon as it becomes soft. Add the juice of 2 oranges to every 3 lbs. of fruit. When reduced to a smooth paste, stir in ¾ lb. of sugar for every lb. of fruit; boil 10 mins. more, stirring constantly. When cool put into small jars, with brandied papers over them.

Crabapple marmalade is made in the same way.

Quince Preserves.

Use the same rule as given for preserving apples. The largest, ripest fruit is the best.

Green Tomato Preserves.

Take 6 lbs. of small, green tomatos; pierce each with a fork; add 7 lbs. of sugar, the juice of 4 lemons, and 1 oz. of ginger and mace mixed. Heat all together slowly, and boil till the fruit is clear. Skim it from the kettle, and spread upon dishes to cool. Place the fruit in jars; boil the sirup thick, and pour, while hot, over the fruit.

Preserved Watermelon Rinds.

Peel the melon, and boil it in just enough water to cover it till it is soft, testing with a fork. Allow 1 lb. of sugar to each lb. of rind. Simmer the rinds 2 hrs. in the sirup, and flavor it with lemon-peel grated and tied in a bag. Put the melon in a tureen, boil the sirup till it looks thick, and pour over it. Give the sirup another boil the next day and put the juice of 1 lemon to each qt. of sirup. Do not use too much of the peel as that will make it bitter.

Every-Day Blackberry Jam.

Dry your berries with a towel if they are not picked in dry weather; to every lb. of fruit add ¼ lb. of sugar; cook for 1 hr., stirring all the time; no water. Put in patent glass jars. Ought to keep until next blackberry season.

Currant Jam.

Boil 1 pt. of currant juice with 3 pts. of sugar; add 4 qts. of currants. Let it simmer until quite thick, then put it away in jars.

Gooseberries.

The tops and tails being removed from the gooseberries, allow an equal quantity of finely pounded loaf-sugar, and put a layer of each alternately into a large deep jar; pour into it as much dripped currant-juice, either red or white, as will dissolve the sugar, adding its weight in sugar; the following day put all into a preserving-pan and boil it.

Gooseberry Jam.

Take what quantity you please of red, rough, ripe gooseberries; take ½ their quantity of lump sugar; break them well, and boil them together for ½ hr., or more, if necessary. Put into pots and cover with paper.

Grape Jam.

Pulp the grapes, saving the skins; put the grapes and juice into a pan, and cook for a moment; strain through the colander, and add the skins. Allow 1 pt. of sugar to each qt.; cook until quite thick, and put away in jars.

Peach Jam.

Peel the peaches, and cut them up, adding ½ of their weight in sugar; the jam will not require any water if cooked slowly and with care. Cook over a slow fire for 2 or 3 hrs. Seal in cans, or put away in jars. The peaches must be riper than for canning.

Raspberry Jam.

Boil the fruit ½ hr., or till the seeds are soft. Strain ½ of the fruit, throwing away the seeds. Add 1 lb. of sugar for each lb. of fruit; and boil the whole 10 mins. To give it a pleasant flavor, you can add a little currant-juice with an equal quantity of sugar.

Clear Apple Jelly.

Pare and cut up 5 doz. large, juicy, acid apples; put them in a pan with as much water as will cover them, let them boil gently until soft, then when cold, strain them through a jelly bag; put the juice in your preserving pan, and to each pt. of juice put 1 lb. of fine sugar and the peel of 2 lemons, then boil it until it is reduced to the stiffness of calves'-foot jelly; skim it well, add the juice of a lemon; it should be made in September, as the flavor of the apple is better.

Jelly may be made from apricots, raspberries, grapes, and other fuits, using 1 lb. of sugar for each pt. of juice, and following the directions.

Calves' Foot Jelly.

To 4 feet add ½ gal. of water and let it boil till the meat falls from the bones; strain, and when cold, take off the fat; put in 1 lb. of good sugar, 1 pt. of good wine, the rind of a fresh lemon with juice, the whites and shells of 6 eggs, broken up together. Boil 10 or 15 mins., strain through a fine sieve and put into a mould.

Crab-Apple Jelly.

Cut Siberian crab-apples to pieces, but do not pare or remove the seeds, as they improve the flavor of the jelly. Put into a stone jar, set in a pot of hot water, and let it boil 8 or 9 hrs. Cover closely and leave all night in the jar. Next morning, squeeze out the juice, adding 1 lb. of sugar for every pt., and manage as you do currant jelly. A little water may be added, if the apples are very dry.

Cranberry Jelly.

Make a very strong isinglass jelly. When cold, mix it with a double quantity of cranberry juice pressed, sweeten it with loaf sugar, and boil it up; then strain it into a shape.

Currant Jelly.

Pick and wash your currants; mash them with a wooden spoon in the preserving-kettle, and let them simmer for 10 mins. after they have come to a boil; then strain through a flannel bag, and add to every pt. of juice 1 lb. of good white sugar; boil rapidly for 10 or 15 mins., skimming the sirup; put in glasses while hot, but do not close them till the jelly is perfectly cold.

French Currant Jelly.

Mash and strain currants, and for each pt. of currant-juice have ready 1 qt. of raspberries; mash the raspberries in the currant-juice, first cold; then boil slowly for 15 mins., stirring all the time; then strain; put all back into the kettle, and to each pt. of fluid add ¾ lb. of pulverized sugar; boil very gently for ½ hr. until it jellies, stirring and skimming.

Grape Jelly.

If necessary, wash the grapes and pick them from the stem; drain well and scald them in your preserve kettle; then drain through a jelly bag. Add 1 lb. of sugar to every pt. of juice. Boil 20 mins., skim, and put into bowls or jelly-tumblers. A nice jelly for game or roast meats.

Lemon Jelly.

Dissolve ½ of a box of gelatine in ½ a cupful of hot water. Take juice and rind of 1 lemon and 1 teacupful of sugar. Add the gelatine and stir well. Add nearly 1 qt. of boiling water; then strain and place on the ice.

Quince Jelly.

Wash, clean, and cut in pieces, 1 doz. quinces; cover them with water; let them boil to pieces. The fruit will be whiter if boiled in a covered can or kettle. Strain through a jelly-bag. To each pt. of juice allow ¾ lb. of white sugar. Boil from 15 to 20 mins. If not clear after it is boiled, strain and put away in cups or moulds.

Wine Jelly.

Dissolve 1 oz. of gelatine in a little over ½ pt. of cold water. Let it stand ½ hr., then put in a little over ½ pt. of boiling water, then ½ pt. of wine; sweeten to taste; let it boil up, then strain through a flannel bag.

SUPPER DISHES.

Meats — Potted Beef.

Take 3½ lbs. of lean beef and free it from the skin and gristle; put it into a covered stone jar, with 3 dessertspoonfuls of hot water, and stand it in a deep stewpan of boiling water, to boil slowly for nearly 4 hrs. When done, take it out, mince it fine, and pound it in a mortar. With a seasoning of pepper, salt and pounded mace, mix some butter and a little of the gravy from the jar; press it into pots, pour butter over the tops, and tie down for use. 5 ozs. of butter should be used.

Pressed Chicken.

Cut the chicken up and boil in as little water as possible, keeping it well covered. Season well with pepper, salt and a little mace, when sufficiently done to slip from the bones. Allow 1 teacupful of the liquor in which they are cooked to each chicken. Have ready ½ oz. of Cooper's isinglass in 1 cupful of cold water, then bring to a boil, that it may be thoroughly dissolved, add and mix well. Put away in a mould or deep dish and slice when needed. It is better not to chop the chicken, but separate it into small bits with a fork.

Head-Cheese.

Boil the head, feet, and tongue in salted water till the meat will slip from the bones, skim while boiling, and drain well. Season with salt, pepper, sage, sweet marjorum, a little powdered cloves, ½ cupful of strong vinegar. Cut the large pieces instead of chopping them. Pack hard in moulds or bowls, strewing in each layer bits of tongue, cut in oblongs, squares, and triangles. Put a plate on the top of each mould, and a weight on this. Nice sliced for tea, with a dust of cloves, vinegar, and mustard, or seasoned slightly with mustard, and warmed in a frying-pan, with enough butter to prevent burning. Some like it dipped in beaten egg, then in cracker crumbs, and fried for breakfast.

Beef or Veal Loaf.

Take 3 lbs. of beef or veal, chopped fine, 1 tablespoonful of salt, 1 teaspoonful of black pepper, 8 tablespoonfuls of rolled crackers, 3 of cream or milk, a piece of butter the size of an egg, 1 nutmeg, and 2 well beaten eggs; stir in 1 sheet of dissolved isinglass. Mould into a loaf, over which sprinkle rolled cracker, with small pieces of butter dotted over the surface. Bake 2 hrs., and slice thin, when cold.

Jellied Veal.

Wash a knuckle of veal, cut it into 3 pieces, and boil slowly until the meat will slip easily from the bones; then take out of the liquor; remove all the bones, and chop the meat fine. Season with pepper, salt, mace and thyme or sage. Put back into the liquor, and boil until it is almost dry. Turn into a mould until next day. Set on the table cold; garnish with parsley. The juice of a lemon is an improvement.

CHEESE.

Stewed Cheese.

1 teacupful of crumbled cheese, 2 teacupfuls of milk, 2 of bread crumbs, a teaspoonful of mustard, pepper and salt to the taste. Heat the milk and cheese together until the latter melts, then mix in the other ingredients and let it boil up through a moment or two, stirring constantly. Splendid relish for tea.

Cheese Fondu.

A pt. bowl full of minced cheese, which should not be of a rich kind; the same quantity of bread crumbs; 2 well beaten eggs; ½ a nutmeg; 1 teaspoonful of salt. Heat 1 pt. of milk boiling hot, and in it a large tablespoonful of butter; pour the boiling milk over the other ingredients, and mix well; cover the bowl with a plate, and set it back on the range for 3 or 4 hrs. to dissolve, stirring occasionally, and being careful it does not cook. ½ hr. before supper butter a nice pie-plate and pour into it the mixture; set it in a quick oven and brown, sending it to table very hot. This depends for its success on being quite smooth, and the cheese all dissolved.

French Rarebit.

Take 3 ozs. of cheese, cut in small square pieces, and set it to fry with a little piece of butter. When your cheese begins to melt have 3 eggs beaten up with salt and pepper; pour them upon your cheese; stir and roll it into a sort of muff, and take it off. The whole operation should not take more than 2 or 3 mins.

Pastry Remakins.

¼ lb. of puff paste, 2 ozs. of grated cheese, ¼ teaspoonful of pepper, and a little salt. Roll the paste out thin; mix the cheese, pepper, and salt, and strew it over half the paste, then turn the other half over it. Cut in strips ½ in. wide, and bake them in a quick oven from 10 to 15 mins. Sprinkle a little grated cheese over them before serving. They look better crossed at right angles upon the plate.

Cheese Souffle.

Melt ½ oz. of fresh butter in a saucepan, stir it into a tablespoonful of flour; when the 2 are well amalgamated, put in a small quantity of milk, and about 3 ozs. of grated Parmesan cheese. Stir the mixture on a slow fire until it assumes the appearance of thick cream, but be careful not to let it boil; then add some white pepper; mix thoroughly, and, if required, add a little salt; keep on stirring the mixture at a very moderate heat for about 10 mins.; take the saucepan off the fire, and stir the contents occasionally until quite cold, then stir into them the yolks of 3 eggs, beaten up with a little milk and strained, and finally the whites of 5 eggs whisked into a stiff broth. Half fill some small paper cases with the mixture, put them into the oven and bake until done—from 10 to 15 mins.

Improved Welsh Rabbit.

1 teacupful of crumbled cheese, 1 of milk, and 1 egg. Melt the cheese in the milk, then add the egg well beaten, and pepper and salt to the taste. Pour it over dry toast.

DRINKS.

Ginger Beer.

Take 1 cupful of ginger, 1 pt. of molasses, 1½ pailfuls of water, and 1 cupful of lively yeast. In warm weather it may be made cold, but in cold weather scald the ginger with 2 qts. of hot water, and the rest cold. Put in the yeast slightly warm. Put in jars or bottles and cork securely. It will keep for several weeks.

Instantaneous Ginger Beer.

Take about 1½ pts. of water, 4 teaspoonfuls of ginger, and 1 tablespoonful of lemon juice; sweeten it to the taste with sirup or white sugar. Have ready an ordinary glass bottle, a cork to fit the bottle, a string to tie it down, and a mallet to drive down the cork. Put into the bottle a heaped teaspoonful of the supercarbonate of soda, pour in the liquor, cork immediately, tie it down, then shake the whole up well, cut the string, and the cork will fly out. Turn it out and drink immediately.

Root Beer.

Take sarsaparilla root, and dry sassafras bark, of each ¼ lb., and 3 ozs. of wintergreen, stem and leaf; bruise the roots, barks, and leaves, and boil, to get the strength, in 5 gals. of water. Strain into a keg, if not to be bottled, and add ¼ gal. of molasses; when cooled to 65° or 60°, put in ½ pt. of yeast, and let stand 2 hrs., when the keg is to be filled with 11 gals. of water. If to be bottled, this can be done in a tub or jar, covering over to allow it to work for 5 or 6 hrs., then bung, or bottle as the case may be.

Spruce Beer.

Pour 8 gals. of cold water into a barrel; to this add 8 gals. of boiling water; then put in 6 tablespoonfuls of essence of spruce, and 16 lbs. of molasses. When cold, add ½ pt. of yeast, roll the cask about and shake it well. Keep it in a warm place, with the bung open for 2 days. By this time it will be ready to bottle, or put in stone jars, well corked, and it will be fit for use in a week.

Cherry Bounce.

Take 4 lbs. of sour cherries, and the same quantity of sweet cherries, and crush to pieces by pounding in a deep wooden vessel with a small billet of wood. Beat hard enough to crack all the stones. Place in a deep stone jar, mix well with 2½ lbs. of sugar, and cover with 1 gal. of best whisky. Shake well and turn into a demijohn. Cork tightly and let it stand a month, shaking it every day, and another month without touching it. Then strain off and bottle. It is better a year than 6 months old.

Grape Champagne to Equal Foreign.

Gather the grapes when they are just turning, or about half ripe. Pound them in a tub, and to every qt. of fruit put 2 qts. of water. Let it stand in a mash-tub 14 days, then draw it off, and to every gal. of liquor add 3 lbs. of lump-sugar. When the sugar is dissolved, cask it, and, after it is done working, bung it down. In about 6 months it will be fit to drink, when it should be bottled, and the corks tied down, or wired if it is to be kept more than a year.

Chocolate.

To 1 qt. of water, and 1 pt. of milk, allow 4 tablespoonfuls of Baker's chocolate; let it boil 5 mins.; sweeten to taste, when served.

Mulled Cider.

Boil 1 qt. of cider, watered, if too strong, with cloves and allspice. Beat 6 eggs, sweeten, and add them to the boiling cider, with 1 pt. or more of cream. Pour the liquor from one pitcher to another till it has a fine froth, and serve it warm.

Sherry Cobbler.

Lay in a wide-mouthed qt.-pitcher several slices of pineapple, cut in quarters, a lemon and an orange, sliced thin, and sprinkle sugar and pounded ice between the layers. Cover with sugar and ice, and let all stand together 5 mins. Add then 2 tumblerfuls of water, and more sugar, using in all ½ cupful of powdered sugar, and stir well to dissolve this. Fill the pitcher nearly full of powdered ice, pour in the wine, and stir up from the bottom, until the ingredients are thoroughly mixed. Place a slice of each kind of fruit in each goblet before pouring the liquid. It is best sucked through a straw or glass tube.

Coffee, To Roast.

Wash and drain 2 lbs. of coffee; after placing it to dry, peel an onion and slice it over the top, and brown with the coffee. Stir in a piece of butter the size of a hickory nut, when about done. The onion gives the coffee a fine flavor, and a bright yellow color.

Coffee, To Make.

1 tablespoonful of coffee for each person, and 3 gills of boiling water to each tablespoonful of coffee should be used. Wet the ground coffee with cold water, stir in a part of an egg, not more than a spoonful, as more prevents the extraction of the strength from the coffee. Pour on boiling water, and let it boil 10 or 15 mins.; pour out a cupful and pour it back to clear the spout, if you do not use an urn. Let it settle a few mins. before sending to the table.

Good coffee may be made without egg by putting the dry coffee into the vessel, pouring boiling water upon it, and letting it boil from 5 to 10 mins. without stirring.

The best way to make coffee, is to soak it over night in the egg and a little water. In the morning, add as much cold water as you want coffee, and let it come to a boil. It is then ready for use.

Some use patent coffee-pots, and this makes coffee without boiling.

Cafe au Lait.

Make your coffee as usual, except leaving out half the water; add same quantity of unskimmed milk, and let it boil. Very nice after-dinner coffee.

Blackberry Cordial.

Tie ¼ oz. grated nutmeg, ½ oz. powdered cinnamon, ¼ oz. allspice, and ¼ oz. cloves, in thin muslin bags: boil 1 qt. of blackberry juice, 1 lb of sugar, and the spices together 15 mins. and skim well; add 1 pt. best brandy, and set aside in a closely covered vessel to cool. When cold, strain out the spices and bottle, sealing the corks.

Peach Cordial.

Put as many peaches in an earthen pot as may be covered with 1½ gals. of brandy; add to them some peach kernels and fresh peach leaves.

Let them remain in the liquor 48 hrs., then strain the liquor through a sieve; then mix 5 lbs, of white sugar with 1½ gals. of water; boil and strain it through some muslin. When cold, add it to the liquor, and bottle it for use. The peach leaves are best about the time the fruit is ripe.

Ginger Cordial.

To each pt. of strained white currant juice add 1 qt. of best Scotch whisky, ½ oz. ginger bruised, 1 lb. of best loaf sugar and the rind of a lemon. Put it into a jar, tie it down very closely, and let it stand 24 hrs. Then strain it through a jelly-bag, or filter through paper; the latter is best. Bottle and cork it well. In 2 yrs. it will be in perfection.

Lemon Cream.

Squeeze a large lemon, and grate the peel; add 1½ cupfuls of water, and heat it over the fire. While it is heating, rub 2 tablespoonfuls of corn-starch smooth, and beat the yolks of 3 eggs; then stir the lemon-water gradually into the corn-starch, add the egg, and set it on the fire to thicken gradually, like boiled custard. After it is done beat the whites of the eggs stiff and stir them in; then pour into small tumblers or lemonade glasses and set them in the ice-chest to get very cold by dinner time.

Ginger Cool Drink.

To 6 gals. of water, put 8 lbs. of common loaf sugar, the whites of 8 eggs well beaten up, and 3 ozs. of the best ginger finely powdered and well mixed with a little water before it is added to the rest. Let it boil gently, and take off the scum thoroughly: it should boil 1 hr.; let it cool, and then add the juice of 3 large lemons, and also the peel, taken off as thin as possible, and without any of the white; before it is quite cold, add to it rather more than a tablespoonful of yeast, and then put the whole in a cask and bung it up very tight; let it stand for a fortnight more when it will be fit for use.

Egg Nogg.

Beat the yolks of 6 eggs with ½ cupful of sugar, and stir into 1 qt. of rich milk. Add ½ pt. of best brandy, and flavor with nutmeg. Lastly, whip in the whites of 3 eggs, beaten very stiff.

Wine Flip.

Separate the yolks from the whites of 6 new-laid eggs, and whisk the yolks until they become a thin fluid. Put 1 qt. of port wine into a saucepan over a clear fire, with a little grated nutmeg, a few cloves, 1 blade of cinnamon, and a few slices of lemon peel cut very thin; add sugar to your taste. Let it simmer for a short time, then pour it into a bowl into which you have previously put the beaten yolks of the eggs, stirring it quickly with a spoon as you pour in the wine. Beat the whites to a good froth, and place it over the ingredients in the bowl. Serve it in champagne glasses.

Gingerette.

Pour 1 qt. of good gin over 2 lbs of washed currants; add the peel of 2 lemons cut *very thin*, and let it stand 3 days. Then strain it, and add 1 oz. of the finest ginger, bruised, and 1 lb. of loaf sugar to each pt. Let it stand a few days, stirring it once a day. Then strain it again and bottle it for use.

Milk Lemonade.

To ½ pt. of sherry wine, and ½ pt. of lemon juice, add 6 ozs. of loaf sugar, and 1 pt. of water, poured in when boiling. To this add not quite 1 pt. of milk, and strain the whole.

Milk Lemonade. (2).

Loaf sugar, 1½ lbs., dissolved in 1 qt. of boiling water, with ½ pt. of lemon juice, and 1½ pts. of milk. This makes a capital summer beverage.

Lemonade or Sherbert.

Use 3 lemons to 1 qt. of water. Take the yellow peel from the lemons, and, unless you wish to use the sherbert immediately, leave it out. Slice and squeeze the lemons upon the sugar, add a very little water, and let them stand 15 mins. Then ice well, fill up with water, stir and pour.

Mead.

To a gal. of water put 4 lbs. of honey; boil it ¾ hr.; skim it. Add 1 oz. of hops; boil it ½ hr., and let it stand till next day; put the quantity made into your cask; to 13 gals. of the liquor add 1 qt. of brandy. Lightly stop it till the fermentation is over, then stop it very close. Keep it a year in cask.

Mint-Julep.

Bruise several tender sprigs of fresh mint in a teaspoonful of sugar, dissolved in a few tablespoonfuls of water. Fill the glass to ½ with brandy, claret, sherry, or any wine preferred, and the rest with finely pounded ice. Insert some sprigs of mint, with the stems downward, so that the leaves above are in the shape of a boquet. Drink through a straw.

Cream Nectar.

Put the following articles in a dish and heat it, but not to the boiling point: 1 oz. of tartaric acid, 1 oz. of cream of tartar, 1½ lbs. of white sugar, 1 pt. of water, the whites of 2 eggs, well beaten, 1 tablespoonful of flour. Then add 1 drop of good oil of lemon, or any other flavor you prefer. To use, take a glass ⅔ full of water, add 3 tablespoonfuls of the sirup, and as much soda as you can put on a dime. This makes a refreshing summer drink.

Orangeade.

Make orangeade in the same way as lemonade, substituting oranges for lemons.

Orgeat.

Blanch and pound ¼ lb. of sweet almonds, and 30 bitter, with a spoonful of water; stir in, by degrees, 2 pts. of water, and 3 of milk, and strain the whole through a cloth. Dissolve ½ lb. of fine sugar in 1 pt. of water; boil and skim it well; mix it with the other, as likewise 2 spoonfuls of orange-flower water, and 1 teacupful of the best brandy.

Ginger Pop.

Pour a few qts. of boiling water on 7 ozs. of finely bruised ginger root, steep for 1 hr., and strain into a tub, in which dissolve 15 lbs. of crushed or coffee sugar, with 2 gals. more of warm water, (not above 65°), and add ⅔ pt. of yeast, ½ oz. of essence of lemon, ½ a teaspoonful of essence of cloves; stir and let stand for 2 hrs.; then add enough water so that there shall be 15 gals. in all, and cork tightly for use or sale. Can be used in a day or so.

Claret Punch.

Slice 2 lemons, cover with ½ a cupful of powdered sugar, and let stand 10 mins. Add a little ice-water. Stir hard for 1 min., and pour in 1 bottle of claret. Put pounded ice in each glass before filling with the mixture. The quantity of ice should be about ½ that of wine.

Roman Punch.

Make or purchase lemon ice. Just before serving, put enough for one person at table into a saucer or punch-glass, and pour over 2 tablespoonfuls of the milk punch, made as in the last recipe. A course of Roman punch is often served at dinner parties just after the roast. There is no better, cheaper, or easier way of preparing it than this.

Ratafias.

Ratafias are liquors prepared by infusing the juices and kernels of fruit in strong spirit with sugar. For the ratafia of cherries take 2 qts. of rectified spirits of wine, add 2 drs. of beaten cinnamon, 1 of bruised cloves, and 1 oz. of bruised coriander seeds. Cover and let them stand a week; then from Morella and black heart cherries press 12 pts. of juice, add 3 lbs. powdered loaf sugar, and mix with the spirit and spices; add ½ the cherry stones, mashed in a mortar. Closely cover the stone jar, containing all these, and stir or shake it frequently. In 2 months pour it off; press and filter the residuum. Then put it into bottles and cork it.

Cocoa Shells.

Wet 2 ozs. of cocoa shells up with a little cold water; add to 1 qt. of boiling water and cook 1½ hrs.; strain, put in 1 qt. of fresh milk, let it heat almost to boiling, and take from the fire.

Orange Sherbet.

Squeeze the juice from oranges, pour boiling water on the peel, and cover it closely; boil water and sugar (1 pt. to 1 lb.) to a sirup, skim it

clear; when all is cold, mix the sirup and juice, with as much water as may be necessary for a rich taste; strain it, and set a vessel containing it on ice; or it may be made the same as lemonade, using 1 lemon with ½ doz. oranges.

Raspberry Sherbet.

14 ozs. of picked raspberries; 1 lemon; 3 tablespoonfuls of brandy; 1 teaspoonful of orange flower-water; 1 qt. of water ice; 18 ozs. of sugar. Crush the raspberries in a mortar, add to them 1 qt. of water, with the lemon sliced, and the orange-flower water; let it stand 2 or 3 hrs.; put 18 ozs. of sugar in another basin; cover it with a clean cloth, and pour the juice through it; when it will run no longer lift up the cloth by the corners and squeeze it with a spoon. When the sugar is all dissolved strain again, and add the brandy and a lump of ice. Set it in ice till required.

Strawberry Sherbet.

14 ozs. of picked strawberries; 1 qt. of water; 1 lemon; 1 teaspoonful of orange-flower water; 18 ozs. of sugar. Crush the strawberries in a mortar; then add to them 1 qt. of water. Pour this into a basin with a lemon sliced and a teaspoonful of orange-water; let it remain for 2 or 3 hrs. Put 18 ozs. of powdered white sugar into another basin; cover it with a cloth, through which pour the strawberry juice; after as much has run through as can, gather up the cloth and squeeze out as much more as possible. When the sugar is all dissolved, strain it again; set the bowl or jug containing it on ice, until ready to serve.

Currant Shrub.

1 pt. of red currant juice, 1 qt. of rum, and ¼ lb. loaf sugar. Add the currant juice and rum to ¼ lb. of loaf sugar pounded, and when the sugar is dissolved, and all well mixed, strain it through a flannel bag, and bottle it for use.

Blackberry Sirup.

Make a simple sirup of 1 lb. of sugar to each pt. of water, boil it until it is rich and thick, then add to it as many pts. of the expressed juice of ripe blackberries as there are lbs. of sugar; put ½ a nutmeg grated to each qt. of the sirup; let it boil 15 or 20 mins., then add to it ¼ gill of fourth-proof brandy for each qt. of sirup; set it to become cold, then bottle it for use. A tablespoonful for a child, or a wineglassful for an adult, is a dose for sore throat.

Currant Sirup.

This is a very easy method of making a pleasant sirup. Take any quantity of full ripe currants, pick from stalk, and put them in a tin-lined stewpan, whole, with about water enough to cover the bottom; 2 tablespoonfuls of water is sufficient; when the currants are all burst, after stirring them, remove from fire, and press them in a bag; take the liquor and allow it to get perfectly cold; sweeten with loaf sugar to taste; currants vary so much as to sweetness that no exact measure of sugar can be given; strain again, and, without further heating, put in well-stoppered bottles.

Syllabub.

Take the juice of a large lemon and the yellow rind pared thin, a glassful of brandy, 2 glassfuls of white wine and ½ lb. powdered sugar. Put these ingredients into a pan, and let them remain 1 night, the next day add 1 pt. of thick cream and the whites of 2 eggs beaten together, beat them altogether to a fine froth; serve in jelly-glasses.

Tea, To Make.

If green tea is good, it will look green when poured into the cups. Black tea should have a fragrant, flowery smell. Allow 1 teaspoonful to a person, and a teaspoonful additional; 3 gills of boiling water to each teaspoonful of tea. Scald the teapot, cover the tea with the boiling water, and let it draw about 5 mins.; old Hyson requires longer. Black tea should boil 10 mins. There should be a small quantity of water used to draw the tea, and it should be filled up afterwards. Black tea is healthier than green. It is a good plan to mix black tea with the other kinds, half and half.

Tom and Jerry.

Ingredients: 4 eggs, and 6 large spoonfuls of powdered sugar beaten together very light, (a perfect froth), 6 small wineglassfuls of rum, and 1 pt. of boiling water. Stir the water into the mixture, and then turn it back and forth into 2 pitchers, the pitchers being hot, and the glasses also hot. Grate nutmeg on the top of each glass, and drink immediately.

Blackberry Vinegar.

Put 1 qt. of vinegar to 3 qts. of berries. After standing a day or so, strain, and to each pt. put 1½ lbs. of white sugar. Boil for ½ hr., and skim. To each pt. of the mixture, when cool, add 1 wineglassful of French brandy. Bottle, and use when you wish, taking 2 tablepoonfuls of it to ½ of a tumblerful of water and a piece of ice.

Raspberry Vinegar.

This is made in the same manner as blackberry vinegar, using ½ lb. less sugar to the pt.

Chocolate Whip.

Take 1 oz. of cocoa paste, or the same quantity of sweet chocolate scraped fine, and add to it 1 qt. of rich cream, and ½ lb. of pulverized sugar. Place on the fire and bring to the boiling point, stirring constantly with a whisk; then remove it, and when it is thoroughly cold, add to it the whites of 4 eggs, and whisk briskly, and remove the froth, as it forms, with a perforated skimmer, and lay it on a hair sieve to drain. When you have a sufficient quantity to whip, fill your glasses or cups ¾ full of the cream, and pile the whip on top of them; sprinkle a little vanilla sugar, or powdered cinnamon on the whip, and serve.

Currant Wine.

Mash and strain currants cold; to every gal. of juice add 2 of clear spring water, and 5½ lbs of white sugar; put it in a clean keg and it will ferment of its own accord; do not stopper the keg; taste from time to time. When it is ripe, then strain again, and bottle, using the best of corks.

Elderberry Wine.

Put 5 qts. of water to 10 qts. of blackberries, and let stand 24 hrs. Skim and strain it and to every gal. of the liquor add 3 lbs. of sugar, ½ oz. of cloves, 1 oz. of cinnamon, and 2 ozs. of ginger. Boil it again, and put in a slice of toast covered with fresh yeast, to make it ferment. If the spices are left out, this resembles port.

Gooseberry Wine.

Take 4 lbs. of gooseberries at the time for bottling; pick and bruise them in a mortar; put over them 1 gal. of water, and let it stand 3 days, stirring it 3 or 4 times a day, then strain it through a hair sieve, and to every gal. of liquor put 3 lbs. of loaf sugar, or good fine moist; put it into a cask, placing the bung lightly on until the fermentation ceases, then stop it down. It will be fit to bottle in 6 months. You may, if you please, add to every 4 gals. of liquor 1 qt. of brandy.

Grape Wine.

Pick the grapes from the stems and have ready a large stone jar; put in a layer of grapes, then a layer of sugar, then a layer of grapes, and so on, until the jar is ¾ full. Place a heavy weight on the top, put it in the cellar and let it stand 6 or 8 weeks. Strain and bottle for use.

Mulled Wine.

Boil a piece of cinnamon and some grated nutmeg a few mins. in a large cupful of water; then pour to it 1 pt. of port wine, and add loaf sugar to your taste. Beat it up, and it will be ready.

Raisin Wine.

Put 1 lb. of white sugar, 2 lbs. of raisins, seeded and chopped, 1 lemon —all the juice and ¼ the grated peel—and 2 gals. of boiling water, into a stone jar, and stir every day for a week. Strain and bottle it and it will be ready for use in 10 days.

Raisin Wine. (2.)

Boil 10 gals. of spring water 1 hr.; when it is milk warm, to every gal. add 6 lbs. of Malaga raisins, clean picked and ¼ chopped. Stir it up together twice a day for 9 or 10 days; then run it through a hair sieve, and squeeze the raisins well with your hands. Put the liquor into a barrel, bung it close up, let it stand 3 months, and then bottle it.

CAKE.

In this country cake forms a most important article of diet, and every good housekeeper prides herself upon the excellence and variety that she can place upon her table. To meet with the highest success in this department of cooking, delicate as well as careful manipulation is required. Cake cannot be made haphazard, and though some one may answer your question of how some peculiarly delicious compound is prepared, "oh, I have no rule; I just stir it up, set it in the oven, and the cake comes out all right," be sure that she is telling you an unconscious falsehood. She *does* use certain measures, not exactly defined to herself perhaps, for long habit has made them so familiar that she is not aware they are employed.

The recipes given in this book have all been thoroughly tested, and we speak with authority when we say that carefully followed, they will not fail. One excellence over those contained in the majority of cook books is claimed: In all, except where it is impossible, the exact amount of flour to be used is given, and the young housekeeper is not left to guess at what may be very easy to one of long experience, but intensely bewildering otherwise.

A few general directions are all that is necessary to the intelligent and earnest, but inexperienced cook. The first requisite is to be exact in your measures, according to the rule given. Do not use one cup for one ingredient and a second of a different size for another. One of the most prolific causes of failure in cake-making lies in not being accurate—a womanly failing, say our masculine friends. In order to impress its importance upon the mind, let me repeat the caution: Be exact in your measures.

Use none but the very best material. Butter that is not sweet, eggs that are stale, flour which is poor, anything that is not as good as it can be, will prevent the cake from reaching perfection.

Have the flour thoroughly sifted, never using it without, and *always* sift the baking powder into it. If you wish to use soda and cream tartar instead of baking powder, or *vice versa*, remember to employ the same amount, consisting of 2 parts of cream tartar and 1 of soda.

Have all the materials ready upon the table before beginning to put them together.

Look out that the oven is ready for baking. Much of your success will lie in this. Keep the oven door closed as much as possible, as currents of cold air upon the cake will be sure to make it fall. If the top crust forms too quickly, place a paper over the dish. See whether it is done by passing a clean broom splint through it. If no dough sticks to it, the loaf may be taken from the oven.

One suggestion about the sugar. In some kinds of cookies it makes a difference whether granulated or coffee sugar is used. Why it is so, is one of those inexplicable problems that one often meets with in cooking. Those in this book will all be good with granulated, but in 1 or 2 recipes coffee sugar, it will be found, makes them slightly lighter. One trial will tell the story.

Angel Cake.

Beat the whites of 11 eggs to a stiff froth; sift into them a little at a time, 10 ozs. or 1½ tumblerfuls of powdered sugar, mixing carefully

and lightly; then sift 5 ozs. or 1 tumblerful of flour 4 times; add a level teaspoonful of cream of tartar to the flour, sift it again and then sift it with the eggs and sugar, a little at a time, mixing it very lightly; when all the flour is used, add a teaspoonful of vanilla essence to the cake, and put it into a new tin cake pan not buttered or lined; bake the cake in a moderate oven for about ¾ hr.; do not open the oven door for 15 mins. after putting in the cake. Test the cake with a clean broom straw; if the straw comes out of the cake clean, it may be taken from the oven. Let it cool gradually, and when it is quite cold loosen it from the side of the pan with a sharp, thin knife, and turn it out. If the pan containing it is turned upside down, with the edges resting upon 2 other pans, the cake will fall out when cold.

Beautiful Cake.

3 cupfuls of sugar, 1¼ of butter, 1 of milk, 5 of flour, 5 eggs, 2 teaspoonfuls of baking powder and 1 lb. of fruit.

Excellent Bread Cake.

1 cupful of butter, 2 cupfuls of brown sugar, ½ cupful of raisins stoned and chopped, 1½ cupfuls of dough as raised for bread; mix thoroughly and let it rise in the pans before baking. Spices of all sorts.

Chocolate Cake.

1 coffeecupful of sugar, a scant ½ cupful of butter, ½ cupful of milk, ½ cupful of corn-starch, the whites of 3 eggs, 2 teaspoonfuls of baking powder. Bake ½ of it in 2 layers. In the other half stir in ¼ cupful of grated chocolate and bake in 2 layers. Alternate with the white layers.

Filling—½ cupful of milk, ¼ cupful of grated chocolate, yolk of 1 egg. 1 teaspoonful of vanilla, sweeten to taste. Boil until thick and spread between layers. Frost.

Chocolate Cake. (2.)

1 cupful of butter, 2 of sugar, 1 scant cupful of milk, 3½ cupfuls of flour, 1½ teaspoonfuls of baking powder, 5 eggs, leaving out the whites of 2.

Filling—The whites of 2 eggs, 1½ teacupfuls of sugar, 6 tablespoonfuls of chocolate, 2 teaspoonfuls of vanilla. Spread between the layers and over the top.

Chocolate Cake. (3.)

1 cupful of butter, 2 of sugar, 3 of flour, 1 of milk, 5 eggs, 1 teaspoonful of baking powder. Bake in jelly tins.

Filling—Prepare the chocolate by stirring 4 tablespoonfuls grated fine into sufficient milk or water to dissolve it. Add a tablespoonful of sugar, 2 of cream and the yolks of 4 eggs. Boil until as thick as custard, stirring constantly. Put the mixture between the layers of cake, and mix it with the frosting for the outside.

Citron Cake.

1 cupful of butter, 2½ cupfuls of sugar, 1 of sweet milk, 4 of sifted flour and 2 heaping teaspoonfuls of baking powder, the whites of 9 eggs.

Mix the butter and sugar together thoroughly, then stir the milk in slowly. Add the eggs beaten to a froth, and then the flour and baking powder, stirring until well mixed. Flavor with vanilla. Put into the cake pan a layer of cake, then a layer of citron cut in thin strips. Alternate in this way until the cake sponge is all used.

Plain Cocoanut Cake.

2 cupfuls of grated cocoanut, 1 of sugar, ½ cupful of butter, 1 of milk, 4 of flour, 3 eggs, 3 teaspoonfuls of baking powder.

Coffee Cake.

1 cupful of sugar, 1 of molasses, 1 scant cupful of butter, 1 cupful of cold coffee, 5½ of flour, 3 teaspoonfuls of baking powder, 2 of cinnamon, 1½ of cloves, 1 of nutmeg, 1 of lb. raisins.

Coffee Cake. (2.)

1 cupful of molasses, ½ cupful of sugar, 3 of flour, 1 of cold strong coffee, ½ cupful of butter, 2 eggs, 1 cupful of chopped raisins, 1 teaspoonful of cinnamon, and 1 tablespoonful of saleratus.

Composition Cake.

3 cupfuls of sugar, 2 of butter, 1 of sour milk in which a small teaspoonful of soda is stirred, 5 cupfuls of sifted flour, 5 eggs, 1 wineglassful of brandy and wine mixed, 1 nutmeg, 3 teaspoonfuls of cinnamon, 2 of cloves and 1 lb. of raisins.

Currant Tea Cakes.

5 cupfuls of flour, 1 of butter, 2 eggs, 1 heaping teaspoonful of baking powder, ½ cupful of sweet milk, 1 cupful of dried currants. Roll thin and bake in a quick oven.

Almond Custard Cake.

Stir to a cream 3 cupfuls of sugar, 1 cupful of butter, adding gradually ½ cupful of sweet milk, 3½ cupfuls of flour with 1 teaspoonful of baking powder sifted in it. Add the whites of 10 eggs, alternating the eggs with the flour until you have put all together. Custard—Beat yolks of 2 eggs with 2 tablespoonfuls of sugar and stir into 1 cupful of boiling milk until it is smooth. Have ready 1 lb. of almonds, blanched and chopped fine. Mix in the custard and spread between the layers of cake. 1 cupful of sour cream is to be preferred to the milk and eggs. If it is used more sugar will be required.

Lemon Custard Cake.

¾ lb. of flour, ¼ lb. of butter, 2 cupfuls of sugar, 1 of milk, 4 eggs beaten separately, 2 teaspoonfuls of baking powder. Bake in jelly tins. Put together with frosting flavored with the juice and grated rind of 1 lemon.

Orange Custard Cake.

1 cupful of sugar, 1½ cupfuls of flour, ½ cupful of sweet milk, 1 tablespoonful of melted butter, 2 eggs, beaten separately, and 2 teaspoonfuls of baking powder. Bake in jelly tins. This will make 3 layers. Custard—Beat together the juice and grated rind of 1 orange, 1 cupful of sugar, 1 egg, 1 tablespoonful of corn-starch; put in a tin dish and set in a kettle of boiling water a few mins.: let it cool, and spread between the cake layers.

Cup Cake.

3 cupfuls of sugar, ½ cupful of butter, 4 cupfuls of flour, 1 of sweet milk, 5 eggs, 3 teaspoonfuls of baking powder. To be baked in layers. Frosting to be spread between, and on the top. Frosting—1 heaping cupful of pulverized sugar, whites of 2 eggs beaten to a stiff froth. Flavor with vanilla and 2 teaspoonfuls of vinegar.

Delicate Cake.

½ cupful of butter, ½ cupful of milk. 2 cupfuls of sugar, 3 of flour, whites of 8 eggs, 2 teaspoonfuls of baking powder.

Delicate Cake. (2).

1 cupful of butter, 2 of sugar, 3 of flour, ½ cupful of milk, whites of 6 eggs, 1½ teaspoonfuls of baking powder.

Delicate Cake. (3).

1 cupful of powdered sugar, ½ cupful of butter, ½ cupful of sweet milk, 2 of sifted flour, whites of 4 eggs, 2 teaspoonfuls of baking powder, and a few drops of extract of rose.

Dolly Varden Cake.

2 cupfuls of sugar, ½ cupful of butter, 1 cupful of sweet milk, 3 of flour, 3 eggs, ½ teaspoonful of soda, 1 of cream tartar. Bake ¼ of this in 2 jelly pans; to the remainder add 1 tablespoonful of molasses, 1 cupful of chopped raisins, ½ cupful of currants, a piece of citron chopped fine, 1 teaspoonful each of cinnamon, cloves, and nutmeg. Bake in 2 jelly pans, and alternate with the white layers, putting them together with a little jelly or frosting.

Elmsdale Cake.

2½ cupfuls of sugar, 1½ of butter, 5 of flour, 1 of sweet or sour milk, 1 teaspoonful of soda, 3 eggs, and ½ of a nutmeg.

Federal Cake.

2½ cupfuls of sugar, 1 of butter, 1 of sweet milk, 4 of sifted flour, 5 eggs, ½ teaspoonful of soda, 1 glassful of wine, 1 of brandy, 3 teaspoonfuls of cinnamon, 1½ of cloves, 1 nutmeg, and 1 lb. of raisins or currants, or a mixture of both.

Black Fruit Cake.

¾ of a lb. of butter, 1 lb. of brown sugar, ½ pt. of molasses, 4 lbs. of raisins, 3 lbs. of currants, 1 lb. of citron, 10 eggs, ½ pt. of brandy, 1 lb. of flour, 1 teaspoonful of soda, 1 heaping teaspoonful of each of the spices, cloves, allspice, cinnamon, and nutmeg. Use the large raisins, stone and tear them in two. Take a little of the flour and stir through the fruit to keep it from settling. When it is all mixed, try it by baking a little in a patty pan. If the fruit sinks, stir in a little more flour. Bake from 2 to 4 hrs., according to the size of the loaf, in a slow oven.

Black Fruit Cake. (2.)

1 lb. of sugar, 1 of butter, 1 of flour, 3 of raisins, 3 of currants, ½ lb. of citron, 10 eggs, 2 teaspoonfuls of cinnamon, 1 of cloves, 2 of nutmeg. Brown the flour to darken the cake.

Black Fruit Cake. (3.)

1 lb. of browned flour, 1 of brown sugar, 1 of citron, 2 of currants, 3 of stoned raisins, ¾ lb. of butter, 1 teacupful of molasses, 2 teaspoonfuls of mace, 2 of cinnamon, 1 of cloves, 1 of soda, 12 eggs.

Cheap Fruit Cake.

1 cupful of sour milk or buttermilk, 1 teaspoonful of soda, butter the size of an egg, 1 egg, 1 cupful of brown sugar, 1 cupful of chopped raisins, 3 cupfuls of flour. Flavor with cloves or cinnamon.

Cheap Fruit Cake. (2.)

1 cupful of butter, 1 cupful of molasses, 1 cupful of milk, 3 cupfuls of flour, 1 teaspoonful of soda, 1 lb. of raisins, 1 lb. of currants, ½ lb. of citron, 1 teaspoonful of cinnamon, 1 of cloves, and 1 nutmeg.

Gentleman's Favorite.

½ cupful of butter, 2 cupfuls of sugar, 2 of flour, 7 eggs beaten separately, 2 tablespoonfuls of water, 2 teaspoonfuls of baking powder. Bake in jelly tins in a quick oven. Filling—1 egg, 1 cupful of sugar, 3 grated apples, and 1 lemon. Stir until it boils and becomes thick. Let it cool before putting in the cake.

Gingerbread.

Melt ½ cupful of butter, in 1 cupful of molasses, and 1 of sugar, allowing the mixture to become hot; then add 1 tablespoonful of ginger, 1 teaspoonful of ground cinnamon, 1 cupful of sweet milk, 5 cupfuls of flour, stirred in with full ½ teaspoonful of soda.

Gingerbread. (2).

1 cupful of sugar, 1 of molasses, 1 of sour cream, 4 of flour, ½ cupful of butter, 2 teaspoonfuls of soda, beaten in the cream, 3 eggs, 1 tablespoonful of ginger, cloves, or cinnamon.

Ginger Puffs.

½ lb. of flour, 3 eggs, 1 teaspoonful of ginger, 1 tablespoonful of loaf sugar, ½ glassful of white wine. Bake in cups in a quick oven, and pour a little wine sauce over them before sent to the table.

Soft Ginger Cake.

1 cupful of molasses, 2½ of flour, ½ cupful of hot water, 3 tablespoonfuls of butter, 1 tablespoonful of soda mixed with the molasses, 1 egg, 1 tablespoonful of ginger and cinnamon.

Soft Ginger Cake. (2.)

1 cupful of sugar, 3 of molasses, 1 of butter, 1 of sweet milk, 7 of flour, 3 eggs, 1 teaspoonful of soda beaten well into the molasses. Ginger and spices to taste.

Spice Ginger Cake.

5 eggs, 2 cupfuls of butter, 4 of flour, 2 of sugar, 1 cup not quite full of molasses, 1 teaspoonful of soda, 1 wineglassful of brandy, 1 tablespoonful each of ginger, cinnamon and cloves. Stir the soda into the molasses until it foams, from the bottom. Add the beaten whites of eggs last.

Sponge Ginger Cake.

1 cupful of sugar, 1 of molasses, 3 of flour, ½ cupful of butter, ½ cupful of sour milk, 2 eggs, 1 teaspoonful of soda dissolved in molasses, a very little salt, 1 teaspoonful of cinnamon and 1 of ginger. Bake in a moderate oven.

Gold Cake.

Stir to a cream ½ cupful of butter, and 2 of sugar; add ½ cupful of sweet milk, and the yolks of 6 eggs well beaten.

Goldsmith's Cake.

Whites of 4 eggs, 1½ cupfuls of sugar, ½ cupful of butter, 1 cupful of sweet milk, 3 of flour, 1½ teaspoonfuls of baking powder.

Helen's Cake.

1 cupful of sugar, butter size of an egg, ½ cupful of sweet milk, whites of 3 eggs, 1½ cupfuls of flour, 1 teaspoonful of baking powder. Flavor

to taste, and bake in 3 layers. Filling—Boil 3 cupfuls of sugar and 1 of water to a thick sirup. Pour it, boiling hot, on the beaten whites of 3 eggs. Add a cupful of chopped raisins, and 1 cupful of nuts, cut up.

Hudson Cake.

½ cupful of butter, ½ of milk, 1 of sugar, 2 of flour, 1 egg, 1½ teaspoonfuls of baking powder, and 1 cupful of dried currants or raisins.

Ice Cream Cake.

1 cupful of butter, 2 of sugar, 1 of milk, 3 of flour, whites of 5 eggs, 3 teaspoonfuls of baking powder. Bake in jelly tins. Filling—3 small cupfuls of sugar dissolved in a little water, and boiled to a thick sirup. Cool a little and pour over the unbeaten whites of 3 eggs. Beat together ½ hour.

Imperial Cake.

¾ lb. of butter, 1 lb. each of sugar, flour, almonds, and raisins, ¼ lb. of citron, 10 eggs, 1 nutmeg and 1 wineglassful of brandy.

Jelly Cake.

½ of a cupful of butter, ½ of milk, 2½ cupfuls of flour, 4 eggs, 1 teaspoonful of baking powder. Bake in layers and spread currant jelly between.

Jelly Cake. (2.)

½ cupful of butter, 2 of sugar, 3 of flour and 4 eggs. Mix butter, sugar, and yolks. Then add the flour, first putting in 3 teaspoonfuls of baking powder. Mix very thoroughly, bake in layers, and spread jelly between.

Roll Jelly Cake.

1 cupful of sugar, 1 of flour, 3 eggs, 1 tablespoonful of milk, 1 teaspoonful of baking powder. Bake in sheets, spread with jelly, and roll.

Lemon Cake.

1 cupful of butter, 2 of sugar, 3 of flour, ½ cupful of milk, 2 teaspoonfuls of baking powder, and 6 eggs. Bake in layers. Filling—The rind and juice of 1 lemon, 1 egg, 1 tablespoonful of butter, 1 of corn-starch, ½ cupful of water. Cook until it thickens.

Lemon Cake. (2).

1 cupful of sugar, 2 of flour, ½ cupful of butter, ½ cupful of milk, 2 heaping teaspoonfuls of baking powder. Filling—The rind and juice of 1 lemon, 2 eggs, ½ cupful of sugar. Cook slow.

Loaf Cake.

2 cupfuls of sugar, 1 of yeast, 1 of butter, 4 eggs, 1 teaspoonful of soda, stirred into the yeast, 1 qt. of flour, 1 lb. of raisins. Spices. Let it rise 1 hr., and bake 1 hr.

Almond Loaf Cake.

Whites of 8 eggs, 3 cupfuls of sugar, 1 of butter, 1 of sweet milk, 4 of flour, with 2 teaspoonfuls of baking powder sifted into it, and ½ lb. of chopped almonds. Flavor with 1 teaspoonful of extract of almond.

Mary's Cake.

2 cupfuls of sugar, ½ of butter, ½ of milk, 2½ of flour, 1½ teaspoonfuls of baking powder and 4 eggs.

Soft Molasses Cake.

1 cupful of butter or lard, 2 of molasses, 4 of flour, 2 eggs, 6 tablespoonfuls of sour milk or water, 2 teaspoonfuls of soda, 1 teaspoonful each of ginger, cloves and cinnamon. Excellent.

Mountain Cake.

2 cupfuls of sugar, ½ cupful of butter, 1 cupful of sweet milk, 3 of flour, whites of 5 eggs, 2 teaspoonfuls of baking powder. Flavor with lemon and bake in layers. Put together with frosting.

Snow Mountain Cake.

Materials—Sponge cake baked in layers, 6 oranges and a grated cocoanut. 1 layer of cake, cover with frosting made of 1 lb. of sugar to the beaten whites of 4 eggs; then add a layer of cocoanut, afterward slices of orange. Add another layer of cake covering it in the same manner, until the loaf is built up, when finish off with frosting and the remainder of the cocoanut, heaping it up high on the top. Let it dry in a warm place.

White Mountain Cake.

2 cupfuls of sugar, 2 of flour, 1 of corn-starch, 1 of sweet milk, ½ cupful of butter, whites of 6 eggs, 3 teaspoonfuls of baking powder.

New Year's Cakes.

1½ lbs. of sugar, 1 lb. of butter, ½ pt. of cold water, 2 eggs, 3½ lbs. of flour, 1 teaspoonful of soda dissolved in hot water, 4 tablespoonfuls of caraway seed sprinkled through the flour. Chop the butter in the flour; dissolve the sugar in the water; mix all well with the beaten eggs, cut in square cakes and bake quickly.

Nut Cake.

1 cupful of butter, 2 of sugar, 4 of flour, 1 of sweet milk, the whites of 8 eggs; 3 teaspoonfuls of baking powder, and 2 cupfuls of hickory-nut meats chopped.

Orange Cake.

1 cupful of butter, 2 of sugar, 3½ of flour, 1 scant cupful of milk, 5 eggs, leaving out the whites of 2 for the frosting, 3 teaspoonfuls of baking powder. Bake in jelly tins. Frosting—Beat the whites of the 2 eggs, add juice and grated peel of 1 orange, and sugar enough to make it of the usual consistence of frosting. Spread between the layers and over the outside.

Pound Cake.

1 lb. of sugar, 1 of butter, 1 of flour, and 10 eggs. Beat the yolks, butter and sugar to a cream, then add the flour. Beat the whites to a stiff froth and add last. Flavor to taste.

Measured Pound Cake.

2½ coffeecupfuls of sugar, 3½ of flour, 1¼ of butter, and 10 eggs.

Small Pound Cakes.

3 eggs, 3 tablespoonfuls of butter, 3 of sugar, 6 heaping tablespoonfuls of flour, ½ cupful of sweet milk, and 1 teaspoonful of baking powder. Flavor with nutmeg, and bake in small tins.

Queen Pound Cake.

1 lb. of flour, 1 of sugar, ½ lb. of butter, 7 well beaten eggs, 1 teacupful of sour cream, 1 teaspoonful of soda, and 1 glassful of brandy. Spice and fruit.

Queen's Cake.

1 lb. of flour, 1 lb. of sugar, ½ lb. of butter, 1 lb. of raisins, 4 eggs, 1 gill of wine, 2 nutmegs.

Scotch Cake.

1 lb. of sugar, ¾ lb. of butter, stirred to a cream. Put in the juice and grated rind of a lemon, and a wineglassful of brandy. Beat the whites and yolks of 9 eggs separately. Add the yolks, and alternate the whites with a lb. of flour. At the last add a lb. of raisins.

Seed Cake.

2 cupfuls of sugar, 1 of milk, ½ cupful of butter, 3 eggs, 3 cupfuls of flour, 2 heaping teaspoonfuls of baking powder. Caraway seeds.

Silver Cake.

2 cupfuls of sugar, 2 of flour, ½ of butter, ½ of sweet milk, ½ teaspoonful of baking powder, and the whites of 8 eggs.

Snow Cake.

2 gobletfuls of sugar, 1½ of flour, whites of 10 eggs, 1 teaspoonful of baking powder, the juice and grated rind of 1 lemon. Beat the eggs to a stiff froth. Stir in the sugar, and then the flour. Beat very lightly.

Snow Cake. (2).

½ cupful of butter, 2 cupfuls of sugar, 1 of milk, 1 of corn-starch, 2 of flour, 1½ teaspoonfuls of baking powder; mix corn-starch, flour, and baking powder together; add the butter and sugar alternately with the milk; lastly add the whites of 7 eggs. Flavor to taste.

Spice Cake.

1½ cupfuls of butter, 3 cupfuls of sugar, 1 of sour milk, 5 of flour, 5 eggs, 1 teaspoonful of soda, cinnamon, cloves, nutmegs, allspice, each 1 teaspoonful; 1 lb. of raisins.

Spice Cake. (2.)

1 cupful of butter, 1 of molasses, 1 of milk, 3 of flour, 1 teaspoonful of soda, 1 teaspoonful each of cinnamon, cloves and nutmeg; 1 lb. each of raisins and currants and a small piece of citron.

Sponge Cake.

Beat together 1 cupful of sugar, the grated rind and juice of 1 lemon and the yolks of 3 eggs. Sift 1 teaspoonful of baking powder into 1 cupful of flour, add 1 teaspoonful at a time of the flour, and the whites of the eggs well beaten. Then add 3 tablespoonfuls of ice water.

Custard Sponge Cake.

2 cupfuls of sugar, 2 of flour, 2 teaspoonfuls of baking powder sifted in the flour, the grated rind and juice of 1 lemon, and 4 eggs. Beat the yolks and sugar together, whip the whites to a stiff froth, then add 1 tablespoonful at a time of the whites and the flour. Beat ½ of a cupful of boiling water into the cake. Put it into hot, well-buttered jelly pans. Bake in a quick oven. This recipe makes 4 layers of cake.

For the Custard—Beat together 1 egg. 1 tablespoonful of sugar and 1 of corn-starch. Stir this into 2 cupfuls of boiling milk, cook 1 min., stirring constantly. Flavor with vanilla. When cold, spread between the cakes. Sift a little sugar over the top.

Nine-Minute Sponge Cake.

3 eggs beaten 1 min.; 1½ cupfuls of sugar beaten with the eggs for 5 mins.; add ½ cupful of cold water, and beat 1 min.; add 1½ cupfuls of

flour and beat 1 min.: add another ½ cupful of flour in which stir 2 heaping teaspoonfuls of baking powder, and beat the whole 1 min. more.

Simple Sponge Cake.

3 eggs, 1 cupful of sugar, 1 cupful of flour, 1 teaspoonful of baking powder. Flavor.

White Sponge Cake.

Beat the whites of 10 eggs to a stiff froth, sift in a little at a time 1¼ cupfuls of pulverized sugar, and 1 cupful of flour with 1 teaspoonful of cream tartar sifted into it; stir as lightly as possible. Flavor.

Starch Cake.

2 cupfuls of white sugar, 2 of flour, 1 of sweet milk, 1 of butter, 1 of corn-starch, the whites of 7 eggs beaten to a stiff froth, 1 teaspoonful of baking powder. Beat the butter and sugar to a cream, stir in the eggs, and then the rest of the ingredients.

Corn-Starch Cake.

1 cupful of butter, 2 of sugar, 1 of sweet milk, 1 of corn-starch, 2 of flour, whites of 6 eggs, and 2 teaspoonfuls of baking powder.

Velvet Cake.

1 lb. of flour, 1 of sugar, ½ of butter, 4 eggs, 1 cupful of cold water and 1½ teaspoonfuls of baking powder. Flavor.

Washington Cake.

1 cupful of sugar, 1 of flour, 4 eggs, butter size of an egg, and 1½ teaspoonfuls of baking powder. Bake in jelly tins. Filling—Grate 1 apple and ½ the rind of 1 lemon. Take the juice of 1 lemon, 1 cupful of sugar and 1 egg. Mix and put it on the stove, letting it remain until it comes to a boil. Spread between the layers while it is warm.

Almond Icing.

Blanch 1 lb. of sweet almonds by pouring boiling water over them. When dry pound them to a paste, a few at a time in a mortar, moistening with rose-water as you go on. When fine and smooth beat gradually with icing, prepared according to the next or last recipe. Put on very thick, and when nearly dry cover with plain icing.

Boiled Icing.

1 egg to each cupful of granulated sugar, ½ cupful of water, ½ teaspoonful of cream tartar. Boil the sugar and water until you can blow it from a fork in feathers. Do not stir it while boiling. Beat the egg to a stiff froth and pour the boiling liquid over it, beating until cool.

The cake should be perfectly cold before icing. This amount will cover 1 large loaf, top and sides.

Colored Icing.

Whites of 4 eggs, 1 lb. powdered sugar, lemon, vanilla or other flavoring. Break the whites in a broad cool dish, throw a handful of sugar upon them, and begin beating with long, even strokes of the beater. Keep adding sugar at intervals until it is all used up. Continue beating until it is of a firm, smooth texture. Half an hour's beating should be sufficient, if done well. If not stiff enough put in more sugar. If you season with lemon juice allow in measuring the sugar for the additional liquid. Lemon juice, or a little tartaric acid, whitens the icing. Use at least ¼ lb. of sugar for each egg. This icing hardens much quicker than any other. 2 hrs. will sometimes be sufficient. Pour the icing on the cake and let it settle to place of itself. If you spread it, use a broad bladed knife dipped in cold water. If it is as thick with sugar as it should be one coat is enough. Strawberry juice or cranberry sirup will make the icing a pretty pink color. Color yellow by squeezing through the grated peel of an orange or lemon. Put the peel in a thin muslin bag.

Icing.

3 teaspoonfuls of powdered sugar beaten with the white of 1 egg.

COOKIES, JUMBLES AND SNAPS.

Almond Cookies.

1 lb. of sugar, 1 lb. of flour, ½ lb. of butter, ½ cup of sweet milk, 1 teaspoonful of baking powder, 2 eggs, leaving out the whites; stir the butter and sugar together, adding the flour, milk and yolks of eggs gradually; work until smooth. Roll a little of the dough at a time, quite thin; cut in squares of 2 or 3 inches; mix ½ lb. of blanched almonds, ½ cup of crushed sugar, the same quantity of stick cinnamon rolled; wash the cakes with the whites well beaten, and strew some of the mixture over each one. Bake in a quick oven. Delicious to eat with ice cream.

Cookies.

2 cupfuls of sugar, 1 cupful of butter, 1 of sweet milk, 2 teaspoonfuls of baking powder, flour enough to roll out thin, and a hot oven to bake in.

Cookies. (2).

Whites of 2 eggs, 1 large cupful of milk, 1 cupful of sugar, ½ cupful of butter, 2 teaspoonfuls of baking powder. Flavor with vanilla, rose or nutmeg; flour enough for a thick batter; beat thoroughly, and drop in buttered pans. Dust granulated sugar on the top and bake in a quick oven.

Cookies. (3).

1 cupful of sugar, ½ cupful of lard or butter, ½ cupful of sour milk, ½ teaspoonful of soda, just enough flour to roll, baking quickly. These are nice if cocoanut is added.

Cookies. (4).

1 cupful of sugar, ½ cupful of butter—stir them to a cream, then add ½ cupful of milk, 2 eggs beaten light, 1 small teaspoonful of soda mixed with flour, of which use enough to make them roll without sticking. Flavor with vanilla, nutmeg, or use caraway seeds.

Cinnamon Cookies.

1 cupful of sour cream, 1 of sugar, ½ cupful of melted butter, 1 egg, ½ teaspoonful of soda, flour enough to roll out. Sprinkle ground cinnamon over them, then roll up as a roll jelly cake, slice off and bake. Any good cookie recipe will do for these.

Cocoanut Cookies.

1 cupful of butter, 2 of sugar, 2 eggs, 1 teaspoonful of milk, 1 teaspoonful of soda, 1 grated cocoanut, flour enough to roll out.

Cocoanut Cones.

1 lb. of powdered sugar, ½ lb. of grated cocoanut, whites of 5 eggs. Beat the eggs to a froth, adding the sugar as you go on until it will stand alone, then beat in the cocoanut. Mould the mixture with your hands into small cones. Set them upon buttered paper in the baking pan, not to touch. Bake in moderate oven.

Cream Cookies.

2 cupfuls of sugar, 1 of sour cream, ½ cupful of butter, 2 eggs, 1 teaspoonful of soda, flour enough to roll out not too stiff.

English Cookies.

1 cupful of sugar, 1 of chopped raisins, ½ cupful of butter, 1 egg, 1 tablespoonful of cinnamon, 1 nutmeg, ½ teaspoonful of baking powder. Enough flour to roll out.

Ginger Cookies.

1 cupful of butter, 1 of molasses, 1 of sugar, 2 tablespoonfuls of sour milk, 1 teaspoonful each of soda, ginger, and cloves. Flour sufficient to roll.

Ginger Cookies. (2).

1 cupful of molasses, ½ cupful of brown sugar, ½ cupful of butter, 1 egg, 1 teaspoonful of soda, tablespoonful of ginger, and flour enough to roll.

Cheap Ginger Cookies.

1 cupful of molasses, 1 cupful of brown sugar, 1 of warm water, 1 of lard, 2 tablespoonfuls of ginger, 1 tablespoonful of soda. Dissolve in the water 1 teaspoonful of powdered alum, and put in last. Flour enough to mix soft. Bake in a quick oven.

Hickory Nut Cookies.

1 cupful of butter, 2 of sugar, 4 of flour, 1 of chopped nuts, ½ cupful of sour milk, 3 eggs, and 1 small teaspoonful of soda. Dip in sugar.

Lemon Cookies.

1 qt. of flour, 1 pt. of sugar, 1 cupful of butter, grated rind and juice of 1 lemon, 4 eggs, leaving out the white of one, 3 teaspoonfuls of baking powder. Enough flour to roll out. After the cookies are cut, wash the tops with the white of the egg well beaten, and sprinkle sugar over them. Bake a light brown.

Molasses Cookies.

1 pt. of molasses, 1 cupful of brown sugar, 1 of butter or lard, 1 of sour milk, a small tablespoonful of soda dissolved in the milk, flour sufficient to roll out thin, 2 large tablespoonfuls of cinnamon. Bake in a quick oven. Excellent.

Molasses Cookies. (2).

1 cupful of sugar, 1 of butter, 1½ of molasses, and 1 tablespoonful of soda in a cupful of boiling water, 1 tablespoonful of ginger, and flour enough to roll out thin.

Molasses Cookies. (Good).

1 cupful of butter, 2 of molasses, 1 teaspoonful of cloves, 1 tablespoonful of ginger, flour to make a stiff batter, not dough. Mould with the hands in small cakes, and bake in a moderate oven.

Mrs. A's Cookies.

6 eggs, whites and yolks beaten separately, 1 cupful of butter, 3 of sugar, just enough flour to be moulded with well floured hands. Flavor with lemon. Make into round cakes, and bake in a quick oven.

Jumbles.

1½ cupfuls of sugar, ½ cupful of butter, 2 eggs, ½ teaspoonful of soda, 1 of cream tartar, dissolved in a little sweet milk, and flour enough to make like pie crust. Bake in waffle irons. Fill the little holes with light and dark jelly alternately.

Jumbles. (2).

2 cupfuls of sugar, 1 of butter, 4 teaspoonfuls of sweet cream, 1½ teaspoonfuls of baking powder, 3 eggs, and just enough flour to roll. After they are cut, dip one side in fine sugar.

Almond Jumbles.

1 lb. of sugar, ½ lb of flour, ¼ lb. of butter, 1 cupful of loppered milk. 5 eggs, 2 tablespoonfuls of rose water, 3 lbs. of almonds, blanched and chopped small, 1 teaspoonful of soda, dissolved in boiling water. Cream the butter and sugar, stir in the beaten yolks, the milk, flour, rose water and almonds, lastly the beaten whites, very lightly and quickly. Drop in cakes upon buttered paper. Grated cocoanut can be substituted for the almonds.

Cocoanut Jumbles.

1 lb. of grated cocoanut, ¾ lb. of sugar, 3 eggs, and a large tablespoonful of flour. Drop on buttered pans.

Ginger Snaps.

1 coffeecupful of New Orleans molasses, 1 cupful of butter, 1 of sugar; Place them on the stove and let the mixture come to a boil; take off, add 1 teaspoonful of soda and 1 tablespoonful of ginger, with flour enough to roll thin. Bake in a quick oven.

Ginger Snaps. (2).

½ teaspoonful each of salt, soda and ginger, 8 tablespoonfuls of boiling water, 3 tablespoonfuls of melted lard; put in a teacup and fill up with New Orleans molasses. Roll as thin and soft as you can. Bake in a quick oven.

Ginger Snaps. (3.)

1 cupful of sugar, 1 of butter, 2 of molasses, 1 teaspoonful of soda dissolved in a little hot water, 1 teaspoonful each of ginger, cloves and grated orange peel, flour enough to roll out thin. Bake quickly.

Ginger Snaps. (4.)

1 pt. of molasses, 1 cupful of sugar, 1 of butter, 5 of flour, 1 tablespoonful of ginger, 1 of allspice. Roll thin and bake in a quick oven.

Ginger Snaps. (5.)

1 large cupful of butter and lard mixed, 1 coffeecupful of sugar, 1 of molasses, ½ cupful of water, 1 tablespoonful of ginger, 1 of cinnamon, 1 teaspoonful of cloves, 1 of soda dissolved in hot water, flour enough to roll out thin. Bake in a quick oven.

Cinnamon Ginger Snaps.

1 cupful of sugar, 1 of butter, 1 of molasses, 1 tablespoonful of ginger, 2 of cinnamon, 1 of soda dissolved in ½ cupful of water, flour sufficient to roll thin.

DOUGHNUTS AND CRULLERS

Annie's Doughnuts.

¼ lb. of butter, ½ lb. of sugar, 2 tumblerfuls of milk, 2 eggs, 1 cupful of yeast, spices to taste. Flour enough for a stiff dough.

Delicious Doughnuts.

3 cupfuls of sugar, 1 of butter, 1 of lard, 2 of yeast, 4 of warm milk, 1 nutmeg, 4 eggs well beaten, stir all together into a soft sponge at night. In the morning add sufficient flour to roll them lightly, let them rise again for an hr. or more, then roll out about 1 in. thick, cut out with a small biscuit cutter. (Use as little flour as possible or they will not be nice). Lay them on floured plates to rise again, until perfectly light, and slip them into the boiling lard with a knife. To prevent burning drop in occasionally a slice of raw potato. Half of this quantity will make about 50.

Good Raised Doughnuts.

1 pt. of warm milk, 3 eggs, 1 cupful of butter, 1 of yeast, 2 of sugar, flour enough to roll out.

Risen Doughnuts.

1 lb. of butter, 1½ lbs. of sugar, 1 qt. of sweet milk, 4 eggs, 1 large cupful of yeast, 1 tablespoonful of mace or nutmeg, 2 teaspoonfuls of cinnamon, 1 of salt. Flour enough to make as stiff as bread dough. Cream the butter and sugar, add the milk, yeast, and 3 pts. of flour. Set to rise over night. In the morning beat the eggs very light and stir into the batter with the spice and the rest of the flour. Set to rise 3 hrs. or until light, roll into a thick sheet, cut out and fry. Sift powdered sugar over them while hot.

E's Fried Cakes.

3 eggs, 2 cupfuls of sugar, 1 tablespoonful of butter, a large cupful of sweet or sour milk, 1 nutmeg, 1 scant teaspoonful of soda.

Good Fried Cakes.

3 cupfuls of sour milk or buttermilk, 2 of sugar, ½ cupful of melted butter, 2 eggs; stir butter, sugar and eggs until light; add ½ nutmeg and a teaspoonful of salt; dissolve 2 teaspoonfuls of soda in the milk, and stir in mixture. Use as little flour as possible, and work with hand.

Julia's Fried Cakes.

1 cupful of butter, 2 of sugar, 1 of sour milk or cream, 4 eggs, 1 teaspoonful of soda dissolved in hot water, 1 teaspoonful of nutmeg, ½ teaspoonful of cinnamon. Just enough flour to roll.

Kitty's Fried Cakes.

1½ cupfuls of sugar, 2 of milk, 2 eggs, 1 tablespoonful of butter, 4 teaspoonfuls of baking powder, just as little flour as possible to roll out.

Sarah's Fried Cakes.

2 cupfuls of sugar, 3 of water, ½ cupful of butter, 3 well-beaten eggs, 3 teaspoonfuls of baking powder, a little salt, just enough flour to roll.

Katie's Crullers.

1 lb. of sugar, ½ lb. of butter, 6 eggs, 1 tablespoonful of sweet milk, 1 small teaspoonful of soda, 1 nutmeg, flour enough to roll out easily.

"Mother's" Crullers.

1½ cupfuls of sugar, ½ cupful of sour cream or milk, ½ cupful of butter, 1 egg, 1 small teaspoonful of soda dissolved in hot water. Flour to make pretty stiff.

Mrs. W's Crullers.

4 eggs, ½ lb. of sugar, 1 gill of milk, 1 teaspoonful of cinnamon, 3 ozs. of butter, enough flour to roll.

St. Louis Crullers.

2 cupfuls of sugar, 1½ of milk, 4 eggs, butter the size of an egg, ½ teaspoonful of soda, 1 of cream tartar, flour enough to roll and cut in 4 in. squares. Twist loosely so they will fry a light brown.

TO CAN FRUITS.

Berries.

Heat slowly to boiling, in a large kettle. When they begin to boil, add sugar in the proportion of 1 tablespoonful to each qt. of fruit. If there is much juice in the kettle, dip out the surplus before adding the sugar. Leave the berries almost dry before putting in the sugar, as this will make sirup enough. Boil all together 15 mins. and can. All kinds of berries can be put up in this way, eaten as you would preserves, or made into pies, which are scarcely inferior to those made of fresh fruit.

Cherries.

Wash and pit them; take 1 pt. of sugar to 1 qt.; cook the cherries in their own juice, boiling only 1 min., or they will lose the color and shape; seal hot.

Green Gages.

Wash and prick them with a fork. Allow 1 pt. of sugar, ½ teacupful of water to 1 qt. of plums; melt the sugar gradually or they will burn; cook 5 mins. in a closely covered pan and seal hot. Dawson plums will require the same proportion; the common blue plums will require more sugar and a little more boiling.

Peaches.

For canning, the large white freestone Crawford peaches are the nicest. Take peaches that are ripe but not soft, pare them, cut in half and stone, taking care not to break the fruit; drop each piece in cold water as soon as it is pared. To each qt. of fruit allow a heaping tablespoonful of sugar, scattering it between the layers. Fill your kettle and heat slowly to a boil. Boil 3 mins., so that every piece of fruit will be heated through. Can and seal. Before packing the fruit in the kettle, put in a cupful of water, lest the lower layer should burn.

Pears.

Peel the pears as thin as possible; remove the blossom end with a sharp knife; do not break the stem if you can avoid it; lay in cold water until you are ready to cook them. Cover with cold water, when you have enough to fill a pan, and let them boil until you can put a fork through them; drain and discard the water if it is discolored by the fruit, and make a sirup of the proportion of 1 cupful of water to 1 of sugar, and pour over the pears. Seal hot. The Bartlett pears are to be preferred, as they keep their color best.

Pineapple.

Take pineapples as ripe as you can obtain them; pare and chop fine. Cover them with cold water and put in sugar in proportion of 3 lbs. to 1 doz. Let them cook until the fruit is tender. If not sweet enough add more sugar. Let it boil up and can.

Plums.

The plums must be pricked with a needle to prevent bursting; make a sirup allowing 1 gill of pure water and ¼ lb. of sugar to every 2 qts. of fruit. When the sugar is dissolved and the water blood warm, put in the plums and heat slowly to a boil. Let them boil slowly 5 mins., fill up the jars with plums, pour in the scalding sirup until it runs down the sides, and seal. If the plums boil fast they will break badly.

TO CAN SAUSAGE MEAT.

After the meat is ground fine, it is put in a graniteware kettle, some 25 lbs. at a time, seasoned to suit the taste, with pulverized sage, black pepper ground, and salt; mix thoroughly as it is heating, bring the meat to scalding heat, then fill the cans, packing the meat snugly, and when full, put a couple of spoonfuls of heated lard over the top. Seal directly and set the cans in a cool place.

TO CAN VEGETABLES.

Corn.

Cut the corn off the cob, cook in plenty of water. To every 6 qts. of corn add 1 oz. of tartaric acid dissolved in a little hot water. Put the acid in before cooking. To prepare this for table, you should pour off the sour water (save it) and put in fresh cold water. To a qt. of corn add a small teaspoonful of soda. Let it stand a few minutes before cooking. While cooking, put in a teaspoonful of sugar. There is danger of getting in too much soda; if you should, and the corn turns yellow, pour back some of the sour water, and it will turn white again. A tablespoonful will likely be sufficient.

Squash for Pies.

The Hubbards are to be preferred. Wash the outside and split them open so that you can put the pieces in the steamer with the outside down. When cooked done, scrape out the inside, heat it hot, put into cans and seal.

Tomatos.

Pour boiling water over the tomatos to loosen the skins. Drain, peel and cut in two, or, if large, in quarters; cook only a few at a time. If cooked too much they will be thin and watery. Can only the whole pieces. The broken pieces and juice may be boiled an hour or so longer and canned for tomato soup. Some prefer to remove all the hard parts before putting them on the fire, and rub the pulp soft with the hands. Boil 10 mins., dip out the surplus liquid, pour the tomatos boiling hot into cans, and seal.

HOME CANDIES AND MACAROONS.

Candies from Boiled Sugar.

Take 3½ lbs. of refined sugar, 1½ pts. of water, and 1 teaspoonful of cream of tartar. Mix in a vessel large enough to allow for the expansion of the boiling candy. Boil over a brisk fire, taking care that the sugar does not burn. After boiling about 15 mins. remove a small portion of the melted sugar with a spoon, and cool it by placing it in a saucer

surrounded by cold water, or dropping it into cold water. If it becomes at once hard and brittle, snapping apart when bent, the process is completed, and the sugar should at once be lifted from the heat. It may now be flavored, colored, and formed into sticks, bars, drops or lumps, as desired. Pour the candy into large dishes, slightly greased, and let it cool until it can be handled easily. If transparent candy is desired, the various flavoring and coloring ingredients must now be put in, with as little handling as possible, and the mass moulded into any shape desired. If a white, opaque candy is required, the mass, after being sufficiently cooled, is pulled back and forth, in the same manner that molasses candy is worked, until white enough, and then formed into sticks or drops.

Cream Bonbons.

"Creaming" the Sugar.—Take 1 lb. of best loaf or crushed sugar, 1 small teaspoonful of pure acetic acid; or, ½ teaspoonful of cream of tartar and 1½ gills of water. Boil over a brisk fire to what is termed the "thread" degree, that is about 235° by the thermometer. To ascertain this degree remove a small portion of the boiling sugar, cool it in a saucer, and test it by dipping in it the thumb and finger. If on separating them, the sirup is thick enough to be drawn out in the form of a long thread without breaking, the boiling is sufficiently advanced. Set the sirup aside, and let it cool about 15 mins. The "creaming" is then produced by rubbing the sirup against the sides of the vessel with a large wooden spoon. As fast as each portion becomes creamy it is stirred into the mass, and the process continued until the entire mass is of a beautifully white and creamy texture. If too thick a little water may be added, a few drops at a time; usually the flavoring liquids will be sufficient. When thus prepared the sugar is ready to be colored, flavored, and formed in the many varying styles that are used.

Starch Moulds.—Fill a square wooden tray, 2 or 3 ins. in depth, with finely powdered starch, the top being smoothed even with the sides of the tray. Fasten at regular distances from each other on a flat board a number of pieces of wood or plaster models of the exact size and shape of the articles to be cast. By pressing these forms firmly upon the surface of the powdered starch, moulds of corresponding shape are produced, and the starch is firm enough to retain the shape when filled with the liquid sugar. When the sugar has become firm enough to retain its form, without breaking if carefully handled, the bonbons may be lifted from the starch by running the fingers underneath, or they may be placed on a coarse sieve, which, being gently shaken, will let the starch fall through, leaving the bonbons on the sieve. Then allow them to harden slightly on the surface, by exposure to the air in a dry place, and they are ready to be covered with crystallized sugar or other material.

Crystallizing.—Boil 2 lbs. of sugar and ½ pt. of water until the sugar is entirely dissolved. Place the articles to be crystallized on wire frames in a tin box, and entirely cover with the above prepared sirup, to which, just before pouring into the box, 1 oz. of pure alcohol should be added. Keep the whole at a temperature of about 70°, and allow it to remain undisturbed for 10 or 12 hrs. At the end of this time, if the goods are sufficiently crystallized, the superfluous sirup may be drained off. The bonbons are then dried by a gentle heat, and are ready for use. If very fine crystals are desired, the use of alcohol is not recommended.

Chocolate Caramels.

Grate ¼ lb. of chocolate, take 1¼ lbs. of sugar, ¼ lb. of butter, ½ a pt. of milk. Put the ingredients together, and stir until dissolved. Then let boil 25 mins., stirring constantly. Turn on buttered dishes. Cut in squares.

Chocolate Caramels. (2).

Boil 1 qt. of New Orleans molasses until it hardens when dropped into cold water. Just before removal from the fire, add 4 ozs. of chocolate finely grated. Pour a thin layer into tin trays, slightly greased, and when the surface of the candy is hardened a little, mark with a knife into squares. Flavor with vanilla or almonds. The natural flavor of the chocolate is generally preferred.

Chocolate Cream Drops.

Preparation of the "Cream."—Take the white of 1 egg, beat it to a froth, adding an equal bulk of water at the last. Into this stir, with a stiff spoon, enough fine sugar to make a snowy mass, sufficiently firm to retain its shape when moulded with the hands. Any desired flavor may be imparted, by adding the proper extract, to suit the taste. The sugar used must be very fine.

Covering with chocolate.—After mixing the sugar as just described, it is to be formed with the hands into a uniformly tenacious mass, from which small portions may be detached with the thumb and finger and formed into little balls or conical shaped drops. These little balls of cream are placed, as fast as formed, on a plate or sheet of tin, slightly oiled, and allowed to harden slightly on the surface; ½ hr. will be sufficient time to allow for this purpose. The chocolate covering is made by placing a cake of the best plain chocolate in a tin sauce-pan, and setting the same into a kettle of boiling water. No water need be added to the chocolate, but under the influence of the heat thus applied, the latter will slowly melt and become of a thick fluid consistence. The balls of cream may now be put in, 1 or 2 at a time, and rolled in the chocolate until entirely covered. They are then to be lifted by means of a fork, held for a moment that the superfluous chocolate may drop back, and then placed on a plate or tin, slightly greased, and allowed to remain until cold. ½ lb. of chocolate will be sufficient to cover 2 lbs. of the creams. Some sweeten the chocolate and flavor it with vanilla.

Cocoanut Candy.

Remove the brown skin from the meat of 1 cocoanut, and grate the latter on a coarse grater. Take 3½ lbs. of best crushed sugar, a teaspoonful of cream of tartar, and 1½ pts. of water. Boil until the degree termed the "feather" is reached, which may be known by dipping a tin skimmer in the sugar, allowing nearly all the sirup to run through, and then blowing hard through the holes. If it has reached this degree the melted sugar will be forced out through the holes of the skimmer in feathery filaments. Remove from the fire, and when cooled a little rub the sirup with an iron spoon against the sides of the vessel. Soon it will begin to assume a pasty, opaque appearance, when the grated

cocoanut should be added, and the stirring continued for a few mins. The soft mass may now be poured into frames to set, or dropped in cakes on flat tins.

Cream Candy.

Its mode of manufacture does not differ materially from that of the kinds already described, the same material being employed, and in the same proportion. It requires much working, however, and hence should be made in a warm room, and the mass kept as soft as possible while being handled. Some add a little gum arabic, which prevents granulation, and gives smoothness to the taste of the candy. If used, ¼ oz. of pure white gum arabic may be dissolved in the water used before adding the latter to the sugar. The principal flavors are vanilla, rose and orange. For vanilla 4 or 5 teaspoonfuls of the strong extract should be used. Rose may be flavored with a few drops of pure oil. For orange the oil of neroli is used. To make chocolate cream candy of this variety, 2 ozs. of chocolate, finely grated, should be added during the process of working, with 1 or 2 teaspoonfuls of vanilla extract, and not to exceed 20 drops of extract of bitter almond.

Cream Almonds.

Prepare the cream as for chocolate drops, and form it by the hand around the meats of the almonds, covering them as thick as you please. They will present a crystallized appearance if rolled while moist in very fine granulated sugar, or you can let them harden on the outside, and then crystallize them in a solution of sugar.

Cream Walnuts.

Remove the meats of English walnuts carefully from the shells, so that the separate halves shall remain unbroken. Make a cream of a pasty consistence, not so firm as when used with chocolate or almonds. Spread a portion of this cream, with a knife, on the inner surface of a half meat, and press another half meat upon it. Enough cream should be used that the meats may be firmly imbedded therein, without being covered. Hickory nut meats may be used in the same way. The cream should be only slightly flavored, vanilla being best suited to combine with the natural flavor of the nuts.

Gum Drops.

Dissolve 1 lb. of good gum arabic in 1¼ pts. of water. Strain and add 1 lb. of refined sugar. Heat until the sugar is entirely dissolved. The mixture should be evaporated until of the consistence of very thick honey, so thick that it will flow only very slowly from the lip or spout of the vessel containing it. Fill a shallow box with fine starch, and, having smoothed the surface, proceed with a stick having a rounded end, of the size desired in the finished drops, to make indentations in the starch, as thickly together as you can. As the liquid is poured slowly out, a portion just sufficient to fill each indentation should be stroked off with a wire and allowed to drop therein. Any flavor you like may be used, and a little color may also be added. These must be

added while the mixture is warm. When the mould is filled it must be set in a warm place for several days, until the drops are hardened on the outside, so that they can be handled without breaking. Then remove them from the starch and crystallize the same as bonbons.

Lemon Candy.

Into a bright tinned kettle, put 3½ lbs. of sugar, 1½ pts. of water, and a full teaspoonful of cream of tartar. Place over a hot fire and stir until the lumps disappear. Boil briskly until the candy is hard and brittle when a little is thrown into cold water. Take the candy from the fire and pour it on a large platter, greased with a little butter. When cooled sufficiently to be handled, add a teaspoonful of finely powdered tartaric acid, and the same quantity of extract of lemon, and work them into the mass. The acid should be fine and free from lumps. The mass must be worked enough to distribute the acid and lemon extract evenly, but no more, as too much handling destroys its transparency. It may now be formed into sticks or drops, or spread out flat on tins in thin sheets.

Molasses Candy.

Dissolve 1 cupful of sugar in ½ cupful of vinegar, mix with 1 qt. of molasses, and boil, stirring often, until it hardens when dropped from a spoon into cold water; then stir in a piece of butter the size of an egg and 1 teaspoonful of saleratus, the latter dissolved in hot water. Flavor to your taste, give 1 hard final stir, and pour into buttered dishes. As it cools, cut into squares for "taffy," or, while soft enough to handle, pull white into sticks, using only the buttered tips of your fingers, for that purpose.

"Old-Fashioned" Molasses Candy.

Into a kettle holding 4 times the amount of molasses to be used, pour a convenient quantity of good Porto Rico molasses. Boil over a slow fire ½ an hr., stirring all the time, and taking off the kettle if there is any danger of the contents running over. Do not let the candy burn. When a little dropped in cold water becomes quickly hard and brittle, add a teaspoonful of carbonate of soda, free from lumps, to every 2 qts., stir quickly to mix, and pour on greased platters to cool. When sufficiently cool, pull back and forth, the hands being rubbed with butter to prevent the candy from sticking to them, until the candy is of a bright yellowish brown color. If you wish, flavor with vanilla or lemon.

Peanut Candy.

Remove the thin reddish skin from the meats, and fill a tin tray to a depth of about 1 in. Pour over them the hot candy, made as above directed, stirring the meats, that each one may be covered. A little less candy should be used than will entirely cover the mass of meats; use just enough to cause the meats to adhere firmly to each other, thus forming a large cake, which, when nearly cold, may be divided into squares with a sharp knife. Almonds, or the meats of any nuts may be used in a similar manner.

Sugar Candy.

Boil together 2 cupfuls of granulated sugar and ½ a cupful of vinegar. When thick enough, turn out to cool in buttered pans.

Sugar Candy. (2).

Boil 6 cupfuls of sugar, 1 cupful of vinegar, and 1 cupful of water, without stirring, for ½ hr., or until it crisps in cold water. When nearly done put in 1 tablespoonful of butter, and 1 teaspoonful of saleratus dissolved in hot water. Pull white with the tips of your fingers. Flavor to taste.

Butter Scotch.

Take 3 lbs. of best brown sugar, and boil with 1½ pts. of water, until the candy hardens in cold water. Then add ½ lb. of fresh butter, which will soften the candy. Boil a few mins. until it again hardens, and pour into trays. Flavor with lemon if desired. Cut in small squares. Some substitute molasses, or sirup, in place of the water.

Walnut Candy.

The meats of hickory nuts, English walnuts, or black walnuts may be used. After removal from the shells in as large pieces as practicable, place them on the bottoms of tins, previously greased, to a depth of about ½ in. Next boil 2 lbs. of brown sugar, ½ pt. of water, and ½ gill of molasses until a portion of the mass hardens when cooled. Pour the hot candy on the meats and allow it to remain until hard.

Almond Macaroons.

Blanch the almonds in boiling water the day before wanted and pound them when *perfectly* cold—a few at a time—in a mortar, adding from time to time a little rose water. When beaten to a smooth paste, stir to 1 lb. of sweet almonds a large tablespoonful of essence of bitter almonds. Cover closely and set in a cold place until wanted. Then to 1 lb. of the nut allow 1 lb. of powdered sugar, the beaten whites of 8 eggs and 1 teaspoonful of nutmeg. Stir the sugar and whites of eggs lightly together, then whip in gradually the almond paste. Drop on buttered paper in a broad baking pan far enough apart not to run together. Sift powdered sugar thickly upon each. Bake in a quick oven to a delicate brown. Try the mixture first to make sure that it is of the right consistence. If they run into irregular shapes, beat in more sugar. This will hardly happen if it is already well beaten.

Almond Macaroons. (2).

Blanch and pulverize ½ lb. of almonds, beat the whites of 3 eggs to a stiff froth, add 1 lb. of pulverized sugar; mix thoroughly. Drop on buttered paper in tins. Bake a light brown in a quick oven.

Cocoanut Macaroons.

1 lb. of sugar, ¾ lb. of flour, ½ lb. of butter, 2 grated cocoanuts, whites of 5 eggs. Drop on buttered paper in tins, and sprinkle with sugar. Bake in a quick oven.

Rose Drops.

1 lb. of flour, ¾ lb. of sugar, ½ lb. of butter, 4 eggs, 3 tablespoonfuls of rose water, a little salt. To be dropped in the pan.

FRUITS AND MELONS, TO SERVE.

Fruit.

Much depends upon the serving of fruits, whether they give all the pleasure possible or not. In choosing it care must be taken to get the fairest and ripest. It should always be placed in a raised dish upon the table. If mixed, consisting of grapes, apples, pears, etc., arrange part of the clusters of grapes to fall gracefully over the edge of the dish. Mix with it any kind of pretty green leaves or vines, which may also fall, and wind around the stem of the dish. Let the colors of the fruits blend harmoniously, but arrange them firmly, so that when the dish is moved there will be no danger of an avalanche.

The French do not hull strawberries, but dip them one by one in sugar and eat them. Those used in this country, however, need to lie in sugar some time before serving. Glass dishes are the prettiest for this fruit.

The best way to prepare peaches for table use is as follows: Choose large, fresh, ripe, and juicy peaches; pare and cut them into two or three pieces. Sprinkle granulated sugar over them, put them into the freezer, and half freeze them; this will require about 1 hr. Do not take them from the freezer until the moment of serving, when sprinkle over a little more sugar. Serve in a glass dish. Canned peaches may be treated in the same manner.

Oranges are served in various ways. Sometimes they are sliced and sugared. Usually for dessert they are eaten without this preparation. The following is the way they eat them in the home of this luscious fruit: A fork is pierced partly through the center of an orange, entering it from the stem side; the fork serves for a handle, which is held in the left hand, while with a sharp knife the peel and thin skin are cut off in strips from the top of the orange to the fork handle; now, holding it in the right hand, the orange can be eaten, leaving all the fibrous pulp on the fork.

A very pretty way to serve them is to remove all the skin except a band ½ in. wide around the center. Then opening this in one place, separate the pulp into its sections without removing them from the hand. Lay them in rows upon the dish, and they are easily taken by the guest and eaten with a great deal of convenience and comfort.

When pineapples are picked and eaten fresh in their own climate, they seem to dissolve in the mouth, and the fibrous texture is hardly perceived. Here where they are so tough as to require the knife and

fork, they are better cut into dice, saturated with sugar, and piled in the center of a glass dish, with a row *a la Charlotte* of sponge-cake slices, or of ladies'-fingers around the sides.

To ice currants or other small fruits, beat the white of an egg just enough to break it and then dip the fruit in it and roll in pulverized sugar, and afterwards place them on a sieve to dry.

Melons.

Both watermelons and cantelopes should be thoroughly chilled before serving. Watermelons may be either cut in 2 pieces and the ends sliced off so they will stand upon a platter, and then sliced, or the pulp scooped out with a large tablespoon and dished in egg-shaped pieces. Cantelopes should be cut in convex pieces, like quartering an apple, and placed upon the table in that way, the inside having been removed and the pieces held in place by the skin at the stem.

WINES.

Wine should never be allowed to remain in case, but unpacked, and laid on its side, and stored where it is least exposed to the changes of temperature. All red wines should be kept dry and warm, as they are more easily injured by cold than by heat. Consequently, in cool climates, clarets are better stored in a closet on the second floor (not too near a register) than in a cellar. Champagnes and Rhine wines stand cold better than heat, which frequently causes fermentation.

Serving of Wines.

The temperature at which wines should be served differs materially. Madeira ought to be about the same temperature as the room. So too with Claret, with which ice should never be used. It should remain 48 hrs. standing, and then decanted. No sediment must be allowed to enter the decanter. Keep Champagne on ice several hours before serving, or let it be half frozen by pounding ice quite fine, then mixing with it an equal amount of salt, and surrounding the bottles with it. It should be in a proper condition for use in 2 hrs. Many people imagine that the elegance of their dinner depends upon the variety of their wines, but 4 kinds is enough at any time, and usually a single one is sufficient. It is not at all out of the way to give a dinner without it. White wines, Sauterne, Rhine, etc., are served with raw oysters, or just before the soup; Sherry or Madeira, with the soup or fish; Champagne, with the meat; Claret, or any other of the red wines, with the game. Many prefer Claret just after the fish, as it is a light wine, and can be drunk instead of water. If still another wine is added for the dessert, it is some superior Sherry, Port, Burgundy, or any fine wine. Very small glasses of *liqueurs*, such as Maraschino and Curacoa, are sometimes served at the end of a dinner after coffee. Sometimes Claret is served during the entire meal, no matter if other wines are brought on. If only Champagne is used, it should be served immediately after the fish.

FOOD FOR THE SICK.

Ideas in regard to food for invalids have changed very much within the last few years. What is regarded as "meat" now, was once "poison." Certain things must not be used, no matter how much the patient might crave them. Now, on the contrary, the convalescent may eat about what is desired, the only care being not to overload the weak stomach.

There are cases, however, where there is little wish for food, and no thought of anything in particular, and the only object is to provide something nourishing, while being exceedingly easy to digest. For this purpose most of the following recipes are adapted:

Mutton Broth.

Cut in small pieces 1 lb. of lean mutton or lamb, and boil it, unsalted, in 1 qt. of cold water, keeping it closely covered until it falls to pieces. Strain it and add 1 tablespoonful of rice or barley, soaked in a little warm water. Simmer for ½ hr., stirring often, then add 4 tablespoonfuls of milk, salt and pepper, and a little chopped parsley if liked. Simmer again 5 mins., taking care that it does not burn. Chicken broth can be prepared in the same way. Crack the bones well before putting them into the water.

Mulled Egg.

Beat the yolk of a fresh egg in a tea or coffee cup, put in cream and sugar, then fill the cup with tea or coffee, stirring repeatedly to keep the egg from curdling. This makes a light and nourishing breakfast for an invalid.

Farina Gruel.

Into boiling water, as much as you choose, sprinkle enough farina to give it the desired consistence. Sweeten, and add a little brandy, rye, whisky, or wine, as the case may require. This makes a good light diet for the sick, especially children.

Indian Meal Gruel.

Season 1 pt. of water slightly with salt, and when boiling briskly, sprinkle in 2 tablespoonfuls of corn-meal, stirring constantly until done, usually about 5 mins. Make frequently, using when warm.

Milk and Rice Gruel.

Stir into 1 qt. of boiling milk, 2 tablespoonfuls of ground rice, wet with cold milk, and 1 saltspoonful of salt, and boil 10 mins., stirring all the while. Season with sugar and nutmeg, and eat warm with cream. You may use Indian meal instead of rice-flour, which is an astringent. In this case, boil ½ hr.

Oat Meal Gruel.

To a pt. of boiling water, add 4 tablespoonfuls of unbolted oat-meal, and a pinch of salt. Skim, sweeten, and flavor. Instead of this you

can make a thin batter of fine oat-meal, and pour into boiling water; then sweeten and flavor it.

Sago Gruel.

Put 2 tablespoonfuls of sago into 2 cupfuls of cold water, and warm by setting in a saucepan of boiling water. Stir often and let it soften and heat for 1 hour. Then boil 10 mins., stirring all the while; add 3 teaspoonfuls of white sugar, 1 glass of wine, 1 tablespoonful of lemon juice, a pinch of salt and nutmeg to taste, and pour into a bowl or mould to cool. Eat warm if preferred. If the patient is feverish, the wine and nutmeg should be omitted.

Arrowroot Jelly.

Wet 2 heaping teaspoonfuls of the best Bermuda Arrowroot in a little cold water and rub smooth. Stir this into a cup of water, boiling, into which has been melted 2 teaspoonfuls of white sugar. Boil steadily, stirring constantly until it is clear, then add the lemon. Put it into a cup and leave it to form. Eat it cold with cream and sugar, put together and flavored if desired.

Arrowroot Wine Jelly.

Make it the same as above except substituting 1 tablespoonful of brandy or 3 of wine for the lemon. This is good for weak bowels.

Chicken Jelly.

Pound half a raw chicken with a mallet, bone and meat together; put into a covered vessel, with about a quart of cold water, and heat slowly. Let it simmer until the meat is in white rags and the liquid reduced ½; then strain and press, first through a colander and then through a coarse cloth. Salt to taste, and pepper if you think best; return to the fire and simmer about 5 mins. longer. Skim when cold, and give to the patient cold—just from the ice—with unleavened wafers. Keep on the ice. If you wish to make sandwiches, put the jelly between slices of bread, spread lightly with butter.

Sago Jelly.

Boil a teacupful of sago in 4 pts. of water until quite thick; when cold add a pt. of raspberry juice pressed from fresh fruit, or half the quantity of raspberry sirup; add enough white sugar to sweeten to the taste, and boil fast for 5 mins. Pour into the mould. Use a little cream with the jelly.

Flax Seed Lemonade.

Into a covered vessel pour 1 qt. of boiling water upon 4 tablespoonfuls of flax seed. Steep it for 3 hrs., and then add the juice of 2 lemons and sweeten to the taste. If too thick add cold water. Good for colds.

Bread Panada.

Toast to a light brown several slices of stale baker's bread. Pile them in a bowl with sugar and a little salt sprinkled between them. Cover with boiling water; cover tightly and set into a pan of boiling water, letting it simmer gently until the contents of the bowl are like jelly. Eat while warm, with a little powdered sugar and nutmeg.

Chicken Panada.

Skin the breast of a chicken; boil it in 3 pts. of water until perfectly tender, then pick off the meat, pound it fine in a mortar and mix it in the liquor it was boiled in. Rub it through a sieve and season with salt. Mutton or beef panada may be made in the same way. Keep it in a cool place, and warm it up when wanted.

Nourishing Soup.

Take 2 lbs. of tender lean beef or veal and cut in small pieces. Put it with ½ lb. of pearl barley into 1 qt. of cold water. Bring it slowly to a boil, then let it simmer until about as thick as cream. Season with salt and pepper, and if the flavor of celery is liked, put in a little. Serve it warm.

Tapioca.

Wash well in cold water 3 heaping tablespoonfuls of tapioca, drain, pour on water enough to cover it, and soak for 4 hrs. Add more water, and boil until quite clear. Flavor to suit taste, having regard to the character of the disease.

Slippery-Elm Bark Tea.

Break the bark into bits, pour boiling water over it, cover it closely and let it stand until cold. Put sugar and ice in for summer diseases, or add lemon juice for colds.

Condensed Beef Tea.

When the greater amount of nourishment is wanted condense in bulk. Take 1 lb. of fresh beef, free from fat, cut it in small pieces; put it in a jar covered tightly, or a bottle, and set it into a saucepan or pot of cold water. Let the water boil steadily for 3 or 4 hrs., or until the meat is white, the juice having been all drawn out. Season with salt to the taste. When cold skim, and then serve to the patient hot or cold as is preferred. Sometimes a tea or tablespoonful of this can be taken by the patient when nothing else can. As much boiling water as is used in quantity of the extract can be added to make it more like a drink.

Beef Tea. (2).

Cut a lb. of nice tender beef up fine; put it in a saucepan, cover it with cold water, and bring it almost to a boil. Keep it at that temperature for 10 mins., then season it to the taste and serve. If wanted a

little richer, squeeze the juices of the meat through a piece of stout muslin.

Barley Water.

Boil slowly, until reduced ½, 2 ozs. of pearl barley washed clean, in 1 qt. of water. Season to suit the patient, with lemon, wine, sugar, or spices.

Jelly Water.

Stir a tablespoonful of currant or other jelly into ½ pt. of water; keep it cool and give as occasion requires. Excellent in fevers.

Toast Water.

Toast a large slice of wheat bread so that it is a deep brown all over, but not blackened or burnt. Lay it in a covered earthenware vessel, cover it with boiling water and let it steep until cold. Strain it and add a little lemon juice, unless forbidden by the physician.

Wine Whey.

Milk, ½ of a pt.; water, ½ of a pt.; wine, 1 gill; sugar, a dessertspoonful. Place milk and water in a deep pan, and when it begins to boil pour in the wine and sugar, stirring assiduously when it boils, for 12 or 15 mins. Lastly, strain through a sieve. It may be drank either hot or cold, a glassful at a time.

FOR CHILDREN.

For Diarrhœa.

If the child has symptoms of diarrhœa or summer complaint, take the caul of mutton or lamb and simmer it in a pt. of water, dusting in a little flour and a little salt. This soup is nutritious, and allays the irritation of the bowels.

Arrowroot, made quite thin, with a teaspoonful of sweet cream, is nutritious and harmless. Do not make the food for infants too rich.

Milk Porridge.

Take 1 tablespoonful of Indian meal, and 1 of white flour; wet to a paste with cold water; put the paste into 2 cups of boiling water, and boil 20 mins.; add 2 cups of milk and a pinch of salt, and cook 10 mins. more, stirring often. Eat with sugar and milk stirred in while hot.

For Teething.

Tie a teacupful of flour closely in a cloth, and boil for 1 hr. When cold, grate fine—enough to thicken a pt. of ½ milk and ½ water, the consistence of porridge. Add a little salt.

Barley Water.

Pick over and wash 3 tablespoonfuls of pearl barley; soak it ½ hr. in a very little lukewarm water, and stir, without draining, into 2 cupfuls of boiling water, salted a very little. Simmer 1 hr., stirring often. Strain and add 2 teaspoonfuls of white sugar. When milk disagrees with infants, barley water can often be used.

Gum Arabic Water.

Dissolve an ounce of gum arabic in a pt. of boiling water. If you think best to do so, add a little lemon juice, and sweeten with loaf sugar. It is excellent in acute diseases as a drink, when the soothing influence of a demulcent is desired.

PERIODS OF DIGESTION.

	H.	M.		H.	M.
Apples, sweet, mellow, raw	1	30	Milk, raw	2	15
Apples, sour, mellow, raw	2	00	Milk, boiled	2	00
Apples, sour, hard, raw	2	50	Mutton, fresh, broiled	3	00
Barley, boiled	2	00	Mutton, fresh, boiled	3	00
Beans, pod, boiled	2	30	Mutton, roasted	3	15
Beef, old, salted, boiled	4	15	Oysters, fresh, raw	2	55
Beef, fried	4	00	Oysters, fresh, roasted	3	15
Beefsteak, broiled	3	00	Oysters, fresh, stewed	3	30
Beets, boiled	3	45	Oyster soup	3	30
Bread, corn-baked	3	15	Parsnips, boiled	2	30
Bread, wheat, fresh baked	3	30	Potatos, Irish, baked	2	30
Butter, melted	3	30	Potatos, Irish, boiled	3	30
Cabbage with vinegar, raw	2	00	Pork, salted, broiled	3	15
Cabbage, seed, raw	2	30	Pork, steak, broiled	3	15
Cabbage, boiled	4	30	Pork, salted, fried	4	15
Cake, sponge, baked	2	30	Pork, salted, boiled	4	30
Carrot, boiled	3	15	Pork, roasted	5	15
Cheese, old, raw	3	30	Rice, boiled	1	00
Chicken, soup	3	00	Sago, boiled	1	45
Custard, baked	2	45	Salmon, salted, boiled	4	00
Dumpling, apple, boiled	3	00	Sausage, fresh, broiled	3	20
Eggs, whipped, raw	1	30	Suet, beef, boiled	5	30
Eggs, fresh, raw	2	00	Soup, barley, boiled	1	30
Eggs, fresh, roasted	2	15	Soup, bean, boiled	3	00
Eggs, fresh, soft-boiled	3	00	Tapioca, boiled	2	00
Eggs, fresh, hard-boiled :	3	30	Turkey, domestic, roasted	2	30
Eggs, fresh, fried	3	30	Turnips, boiled	3	30
Fowls, domestic, boiled	4	00	Trout, fresh, fried	1	30
Goose, wild, roasted	2	30	Veal, fresh, broiled	4	00
Green corn and beans, boiled	3	45	Veal, fresh, fried	4	30
Hash, warmed	2	30	Venison steak, broiled	1	45
Liver, beef, boiled	2	00			

DISINFECTANTS.

1. To absorb moisture and putrid fluids, sprinkle fresh stone lime, finely powdered, on the place to be dried; also fill a number of plates with it and place in damp rooms.

2. To absorb putrid gases, combine dry, fresh charcoal with lime.

3. Use chloride of lime to absorb putrid effluvia and stop putrifaction. If in cellars or close rooms, chlorine gas is wanted, pour vinegar or diluted sulphuric acid on the lime, and add more of the chloride.

4. In cholera seasons dissolve 8 or 10 lbs. of copperas in a pailful of water, and pour the strong solution, every hour, wherever the cholera discharges have been thrown. For ordinary use, pour 1 pt. of the solution into every water closet pan every night and morning. If cholera is in the house add ½ pt. of carbolic acid to 5 gals. of the solution.

5. Carbolic acid is one of the best disinfectants. Diluted at the rate of from 40 to 100 parts of water to 1 of fluid acid, it may be used instead of copperas. To disinfect clothing, carbolic acid should be mixed with an equal quantity of strong vinegar, and dissolved in 200 times its own quantity of water, before putting in the clothing. To destroy the clothing instantly use the acid in only 10 to 30 times its own quantity of water. For drains, sewers, stables, etc., the crude carbolic acid when freely applied, answers every purpose.

6. Coffee is a good disinfectant. Pound the well dried raw beans in a mortar, and sprinkle the powder over a heated iron plate. Carrying this through the house will clear it of offensive smell.

7. To absorb the noxious effluvia, etc., in a sick room, place 2 or 3 good sized onions, cut in halves, on a plate on the floor. Change them every 3 hrs.

8. To disinfect clothing and towels from cholera or fever patients, throw them into a tub of water, in which has been dissolved 1 oz. of permanganate of potash to every 3 gals. of water. Boil as soon as removed from this solution.

9. Carbolic acid diluted with water, 1 dr. to 1 qt., or even of a less strength, and cloths dipped in it and hung about the room, or sprinkled about, will completely disinfect, or remove all bad odors, except its own, which time and a free circulation of air will do.

10. Dry earth has recently been found out to possess extraordinary properties of absorbing bad odors; hence the patented earth closets, which have proved very satisfactory. In the Philadelphia hospitals, also, dry earth has not only been found to destroy all the bad odors in the wards or divisions of the hospital, but also to absorb the septic, or infecting matter of wounds.

11. For pest-houses, or rooms and buildings where persons with the

eruptive fevers, as small-pox, scarlet fever, or measles, have been suffering, sulphurous acid, arising from burning sulphur in the room, is considered one of the best disinfectants in use. The plan of proceeding is to close up all ventilations, as fire-places, stove-pipe holes, cracks, etc., then in a kettle, or upon the hearth, to sprinkle sufficient sulphur upon the burning coals to fill the room with the sulphurous acid, or fumes arising from it, and leave the room at once, closing the door, and throwing down an old cloth at the bottom, to prevent the escape of the gas, or the ingress of the air; then leave the room thus closed over night, or its equivalent of time.

Disinfection from Disease.

The following directions, prepared from instructions published by the Association of Medical Officers of Health in London, will be found useful to prevent the spread of infectious diseases:

"When a person is attacked, one of two things should immediately be done. The sick person should either be put into a room, apart from others, the room being stripped first of all carpets, curtains, and unnecessary furniture, or where this cannot be done, should be sent to a hospital.

"When possible, all persons who have not had the disease should be sent out of the house to lodge elsewhere.

"The infectious principle of the disease is given off by the breath, and by all the discharges of the sick person; also from the skin until long after apparent recovery, so long indeed as any roughness remains upon it.

"Persons with sore throat, when scarlet fever is about, sometimes give scarlet fever to other people.

"To prevent its coming off by the breath, the mouth, throat, and nose should be very frequently washed with a disinfecting solution, by gargling, swabbing, or syringing.

"All vessels intended to receive the discharges from the bowels, etc., should have a dessertspoonful of carbolic acid with a little water constantly kept in them.

"Rags should be used instead of handkerchiefs for removing or wiping away the discharges from the throat or nose, and they should then be burned.

"The air of the room should be kept sweet and disinfected, and prevented from mixing with the other air of the house. This may be done by constantly keeping up a small fire, or by hanging over the doorway an old sheet well sprinkled with carbolic acid, or by both these methods

"No unnecessary communication should take place between the nurse in the sick-room and the other inmates of the house. Nurses or attendants should wear glazed or smooth dresses in preference to rough and woolen ones, and should wash their hands before eating.

"All handkerchiefs, towels, sheets, articles of clothing, etc., should be steeped in boiling water containing carbolic acid or chloride of soda, (a teaspoonful to the gallon), before they are taken out of the sick-room.

"Whenever slops from the sick-room are thrown down closets, sinks, or drains, a teaspoonful of carbolic acid in a basinful of water should be thrown down after them."

"Warm baths with soap should be used repeatedly during recovery and convalescence, until all roughness of the skin has disappeared; a

little carbolic acid added renders the washing more effective for disinfection.

"Until all roughness of the skin has disappeared, the person should not be allowed to mix with the rest of the family, and then only in new clothes, or in clothes which have been thoroughly disinfected."

"In the event of a fatal termination, the body should not be removed into another room to spread infection over the house. It is still infectious.

"No articles of bedding or clothing should be removed from the room until disinfected as formerly stated.

"In washing the body, carbolic acid (a dessertspoonful to the gallon of water) should be used.

"The body should be put into the coffin as soon as possible, *with a disinfectant.* Rags soaked in strong carbolic acid may be laid beneath it and over it (beneath the clothing). The coffin should be screwed down and the body buried as soon as possible."

Subsequent Disinfection of the House.

"The infection hangs about a room or house for a very long time, and is difficult to dislodge. Fumigation by sulphur, however, may be employed by any one, the paper being previously wetted with carbolic acid, stripped off, and burned. ½ lb. of brimstone, broken into small pieces, should be put into an iron dish (or a lid of an iron saucepan turned upside down) supported by a pair of tongues over a bucket of water. The fireplace and outer openings, such as the crevices of the windows, are then to be closed by pasting paper over them, and a shovelful of live coals is to be put upon the brimstone. The door is then to be quickly shut, the crevices pasted up with paper, and the room kept closed for 5 or 6 hrs. Articles of clothing hung up loosely, or left uncovered in the room, are fumigated at the same time.

"After this, a thorough cleaning should be made; everything that can be, washed with a little carbolic acid in the water, and boiled. The room should then be lime-washed, and afterwards left unoccupied with the window open for a week or a fortnight."

TESTS FOR IMPURITIES.

For the discovery of sulphate or carbonate of lime or magnesia, add a few drops of a solution of nitrate of barytes, when the fluid will become turbid, which turbidity again will be removed by the addition of a drop or two of pure nitric acid.

For the muriates, add a solution of nitrate of silver to the previously tested solution, which gives a bluish precipitate.

The sulphates of carbonates are also indicated by the turbid appearance on the addition of a solution of acetate of lead, which has little or no effect upon the muriates of lime, etc.

Sulphate of lime is also detected by what is called the soap test, which is applied by means of a solution of soap in alcohol. When the sulphate exists in an undue degree, causing the water to be hard, it throws down a curdy precipitate, which is in proportion to the quantity of lime.

Magnesia is indicated when a milkiness is the consequence of adding

a solution of phosphate of soda to water which has previously been treated with carbonate of ammonia.

Free carbonic acid is detected by a milkiness being produced by the addition of an equal proportion of lime-water, or by adding a small quantity of the superacetate of lead.

The tests for the more rare salts, etc., are too delicate for ordinary use, and they are of little interest to the householder for domestic purposes.

FOR FARMERS.

THE DAIRY.

A dairy of cows, when well selected and managed, is no doubt a source of profitable employment, where there is plenty of provision and accommodation for such stock. Particular attention, however, to everything relating to their food, shelter, treatment, and the management of their produce in the dairy, is necessary to ensure success. The master's eye wants to be often looking on, to see that all persons employed are kindly disposed, and conduct their work in a regular, cleanly, and orderly manner. Unkind treatment, improper or irregular feeding, or unskillful milking of cows, would either of them be detrimental to the success of the undertaking.

Rooms and Utensils Necessary.

A building for a dairy should be situated in a shady place, out of the reach of impure air, and have a northern or eastern aspect. If built with bricks and covered with tiles, the walls should be not less than 9 ins. thick, but if 14 ins. it would be better. The roof should be ceiled, and the windows latticed, glazed, and provided with sliding inside shutters for keeping out excessive heat or cold, otherwise the proper temperature of the dairy cannot be regulated in summer or winter.

Supposing a dairy to be built for a dozen cows, it would be necessary to divide it into 3 rooms, 2 below and 1 above—viz.: the milk-room or dairy, the wash-house, and the cheese chamber. The dairy for milk alone; the other lower room for butter and cheesemaking, and for washing and scalding the dairy utensils; the upper chamber for cheeses.

It would be as well to have 2 or 3 air-bricks inserted in the northern wall of the milk-room some distance apart, about a foot from the ground, and the same number in the opposite side wall, about a foot from the ceiling. If the north side air-bricks were left open during the summer months, it would be found that a current of cool air would come in and lessen the temperature, as the warm air would ascend and pass through the upper air-bricks. In the winter all the air-bricks should be closed, as quite sufficient ventilation could be obtained from the windows.

The size of the milk-room should not be less than 15 ft. square, and the other room quite as large, with chimney and copper placed at a distance from the dairy or milk-room; and it would be best if entered by a passage, and if the door were placed so that it did not open into the

milk-room, as the heat and steam should be entirely excluded. The floor of both rooms should be paved with bricks or flags, with a slight incline towards the drain, which might either run down the centre, or be placed at one side. The water must either be laid on or the wash-house provided with a pump.

Wide shelves about 30 ins. from the floor would be required to hold full double the number of milk pans that there are cows, besides shelves for cream pots, pans, and other articles belonging to the dairy.

The utensils required where butter and cheese are made are a churn, a butter stand, milk pans, pails, bowls, strainers, coolers, dishes, cheese tubs, vats, girth butter-boards, markers, brushes, cloths, presses, thermometer and weighing machine, and sundry pots and pans.

The Cow-House.

The milking or cow-house should be situated within a short distance of the dairy. If it were within a few steps it would be so much the better, as the milkers could then empty their pails into the pans while the milk was warm. The cream would then rise more quickly and more abundantly than if left to cool first. Milk is usually poured through a sieve or cheese-cloth into the pans, or else strained before using for domestic purposes. Where it is not strained, the cream is always poured through a cheese-cloth into the churn.

The building should be at least 16 ft. wide inside, to allow good room for stalls and feeding troughs, and for comfortable room behind the cows. Their troughs should be placed 3 ft. from the wall, so that their food could be put in on that side of the building. It should join the root-house. The floor should be paved with bricks, pretty high where the cows would stand, and sloping down to a gutter behind them. The gutter should be made with a good fall, so that no manure could remain long in it. It would be well if a cesspool could be made at a little distance to receive the drainage, so that no effluvia from it could reach the milking house.

It would be a good plan to have the north and south walls wholly enclosed, with the exception of a door for entrance into the turnip and chaff-house, and the east and west ends fitted up with double folding-doors, in a line with that part of the floor behind the cows. By this means, if both ends were left open in the summer, a current of cool air would go through the place, and either one or the other might be closed when the cold wind came from the east or west in winter.

The calf-pens would have to be placed at each end. A few air-bricks might be put into the south wall, about 4 or 5 ft. above the cows' heads, and a boarded loft over the whole building, the length of which would depend on the number of cows kept. If numerous, a row of cow-stalls (which might be double), on either side of the building, with a path down the middle for the men, would be an advantage.

The strictest cleanliness should be practised, and clean dry beds provided for the cattle when housed, and everything done which is required to make them comfortable.

It would be advisable to have the pastures near the milking-house where it is possible, for when they are fetched from a long distance they sometimes get hurried, and their milk becomes overheated. Whoever drives them should be urged to do it gently, and taught the law of kindness. Neither whips nor sticks should be used if cows are expected to

yield their milk down freely. If treated with gentle kindness they will become attached to their keeper or herdsman, and will place themselves in a quiet position to be milked, even in the open field.

The Dairy Maid's Duties.

Punctuality, order, and cleanliness must be observed in all dairy work. Nothing will receive a taint more easily than milk or cream, and all bad odors that are absorbed by the milk are certain to be concentrated in the butter; hence the necessity of perfect cleanliness and freedom from taints and odors of every description in the dairy-room. If a cellar is used, it should be perfectly dry and clean to the remotest corners; if a room in the dwelling-house is used, or a milk-house built separately, nothing likely to impart odor to the milk, as smoked ham, codfish, potatos, onions, etc., should be allowed a place in the room. The dairy-maid must take her best scrub brush and thoroughly scour every part of the dairy utensils, with cold water, rinsing them well, and then scalding them and placing them in the rack and on shelves outside the wash-house door, for the purpose of sweetening them, as the air is a great purifier. Fuller's earth or wood ashes are sometimes used for scouring with cold water, but soap must never be used, as it would surely spoil the cream and butter. The pails used in milking should be made of tin. The cows must be milked perfectly dry, as the richest part of the milk comes last, and the milk should be emptied into the pans at once. The milk pails must immediately be rinsed and scrubbed with cold water and then scalded and wiped dry. The milk may be cooled by setting some large pails into a trough or box partly filled with very cold water, and pouring the milk into these as fast as it is drawn from the cows, allowing it to stand till of the required temperature, and, if necessary, renewing the water. Milk thus cooled will keep sweet longer and yield its cream more readily and abundantly than when cooled slowly. The milk should never be allowed to reach a temperature above 60°, though it may fall below that without detriment. After the milk has been standing 24 hrs., the dairy-maid will take the skimmer and skim off the cream, first loosening it around the edge of the pan. When the first cream is put into the cream pot, a piece of saltpetre, about the size of a nut, should be dropped in, and the cream must be stirred with a flat wooden stick every time any is added. Should the cream be more than 3 days in gathering for butter-making, it should be put into another clean pot and stirred daily as before. This process gives it ventilation and it keeps better. Care must be taken to keep the milk pans clean; they should be washed in cold water and then scalded and thoroughly dried.

To Churn Butter.

Fill your churn and butter stand with cold water over night. The cream should be churned at a temperature of 62° or 63°. If the weather is very hot, rise at 3 or 4 in the morning, then skim any pans you may have ready, empty the water out of the churn and strain the cream through a clean cheese-cloth into it until 3 parts full. Then gently turn the handle, lifting the lid of the churn occasionally, but oftener at first to let out the gas which would prevent the particles of cream from uniting into a solid mass. When you find the butter is collecting, turn the

beaters slowly up and dash them suddenly down until it is in firm lumps and ready for your butter stand. Take them out and place them in it, having first emptied out the water and rubbed the bottom with salt and rinsed it. Strain the buttermilk through a clean cheese-cloth into a pail, carefully putting the rest of the butter into the stand. Wash it with fresh cold water, then work it with your board and hands till all the milk is pressed out. Shape it into pounds or pats and mark it according to taste. Before shaping it, salt it and weigh it. Having washed your large dishes with salt and water, you carefully place each pound or pat on a dish with your boards as you finish it and put it on a shelf in the dairy. In summer it is dropped into a pail of cold water, and left till next morning before placing on a dish. Next, with cold water and a scrub brush, carefully wash off every particle of milk from your churn, stand, milk pans, cream pots and other utensils, and scald the movable ones, but those that are too large for that, pour boiling water into them, and let it stand in for a time: then take them out into the air and place them in the rack outside, and on the shelf and stool till they are perfectly sweet. Then replace them in the dairy as before. In winter the milk should be kept at a temperature of 60° if possible; if not, the milk may be scalded as soon as strained, and the cream will then have a fair start before the milk has parted with this extra heat, unless the place where it is kept is very cold. If scalding is not found sufficient, 2 or 3 spoonfuls of sour milk may be added to each pan of milk when it is set away. This will help to sour the milk and cause the cream to rise quicker, thus making it less liable to become bitter. The cream must be kept at about the same temperature (60°), and should be well stirred as often as new is added. Do not keep it too long before churning; 4 or 5 days is better than longer.

Cheese, to Make.

Strain the evening's milk through 2 thicknesses of cloth into the cheese-vat, the space between the 2 vats having been previously filled with cold water, and if extremely warm, change the water once during the night. Stir gently until reduced to 65° or 70°; then in the morning skim off the cream and mix it with warm morning's milk and stir until melted, then pass it through the strainer into the vat to be mixed with the evening's milk. Make a fire in the stove connected with the vat, so that when the milking is done the heat of the milk in the vat will be 82° to 84°—the milk having been stirred frequently since the fire was started so as to have the milk and cream thoroughly mixed. The rennet should be added at 82° in hot and 84° in cold weather, shutting the heat off at this point. Enough rennet must be used to bring the curd in from 30 to 45 mins., the quantity depending upon the strength. When the curd breaks with a good clean fracture, cut it both ways with the curd knife, which will leave it standing in ½ in columns. The heat is now applied, and when the columns of curd will break clean over the finger, leaving no soft milky curd, stir or lift it up by passing both hands under it, very gently raising it from the bottom to the top, and so break and mix it up. Let it rest a few minutes, stirring frequently with the curd board until the curd hardens a little, and the heat has risen to 90°; as the heat rises cut it until it is about as fine as wheat or barley. This process of cutting the curd will take from 2 to 3 hrs. Shut the heat off when it has

risen to 100°, stirring the curd frequently so it will not settle on the bottom of the vat.

Cook the curd until it loses its milky, glossy look, feels firm in the hand and the particles being contracted and shrunken readily drop apart when pressed in the hand, and the whey will have a green shade. Put the curd strainer in the vat and run off the whey; stir and cool the curd before you apply the salt, breaking the lumps and using 2½ lbs. of Ashton salt to 100 lbs. of curd; mix thoroughly, and when cool put in the press and let it remain from 2 to 3 hrs. Take out the cheese, turn and bandage it, return it to the press, and let it remain till the next curd needs its place, about 24 hrs. Then weigh the cheese and put it on the rack to cure; grease it next day with the oil or butter made from whey colored with annotto, and kept at about 70°; turn and oil daily for 3 months, when it will be ready for market.

Milk, to Deodorize.

Sometimes, in the spring when cows are fed upon rutabagas, the milk has such a disagreeable taste and odor as to be unfit for buttermaking. This can be obviated by putting a pinch of saltpetre finely pulverized into every gallon of cream. Butter that has become sour or rancid may be rendered sweet by working in a little saltpetre.

Rancid Butter, to Sweeten.

If butter which has become rancid be washed with new milk, and afterwards with water, it will become as good as ever. The rancid flavor of butter that has been long exposed to the air is due to what the chemists call *butyric* acid, which, being soluble in milk, accounts for that fluid removing the bad taste of rancid butter. The water with which the butter is afterwards rinsed is used to take away any of the superfluous milk which, if left on the butter, would become sour. The manner of "washing" butter or any greasy substance, is to knead it in the cold fluid after the fashion of kneading dough.

Butter (Rancid) to Restore.

Melt the butter in a water-bath with some fresh burnt and coarsely powdered animal charcoal (that has been freed from dust by sifting) and strain it through clean flannel.

DISEASES OF CALVES.

Calves are often subject to diarrhœa when sucking or weaning. The certain remedy is to lessen the usual food and give 2 or 3 glasses of port wine and a piece of opium about the size of a pea. If necessary, you may repeat the dose the next day and continue it until cured. Should the griping return, alter their food and relieve as before. Young men and lads who show that they are kindly disposed and feel an interest in stock should alone be entrusted with feeding and attending to young

animals. Food given them either too hot or too cold would prove disastrous.

A disease known as "garges" in weaned calves arises from exposure to cold or lying upon damp ground and the want of nourishing food and is fearfully infectious. The blood chills and mastification soon follows, unless in the early symptoms a seton in the dewlap and good nursing should restore the system to healthy action.

TREATMENT OF COWS.

It is indispensably necessary to have a vigilant, experienced herdsman at the time that cows are expected to calve. Many a young heifer has been spoiled for want of attention at this critical period. When their time of 40 weeks has expired they should be watched night and day, no matter whether old or young.

They ought not to have been kept in too high condition, as in such cases they would be subject to milk or puerperal fever; especially if they should calve in hot weather, or have a protracted labor.

When fever comes on they generally refuse food, and are restless, and their udders become hard and distended. To prevent this, in hot weather and when cows are in too fat a condition, it would be best to have them bled about a week or 10 days before the time they are expected to calve, and also give them a dose or two of Epsom salts. About 5 pts. of blood may be taken from a large cow, and 4 from a smaller; and the Epsom salts should be given in 1 lb. doses, and thoroughly melted, with an oz. or two of ginger. Probably it would be best to give 1 dose a few days before calving, and the other a few days after.

When this fever comes on, the udders become hard and glutted, and ¼ of the udder is generally worse than the others, and becomes inflamed with garget. This can be subdued only by an early stripping of the milk from the quarter, and by a very frequent bathing and rubbing with warm water and soft soap. Want of proper attention during this state occasions the affected quarter to become hard and useless ever after.

Cows are often injured by unskillful treatment when the period of their gestation has arrived. They should then be placed in a warm, clean, and well-ventilated cow house or shed, moderately fed, and well watched, and if all is right they should be left undisturbed; but if difficulties should arise, the veterinary surgeon should immediately be sent for, and his practical skill will usually overcome them.

Ill-fed and roughly used animals are subject to many diseases, which no doubt would be avoided if they were carefully fed and properly protected from cold and wet seasons. Wet lodging, poor food, and careless treatment are too generally found to be the precursors of weak and unhealthy constitutions.

It is common for cattle to get choked when feeding on cut turnips or other roots. This is occasioned by the lodgment of a piece in her throat or gullet which has not been properly masticated. It can sometimes be removed by pressing it forward with the fingers and thumb. The safest plan, however, would be for the herdsman to keep a proper tube by him which is made for that purpose and covered with leather. It is also used to enable cattle to expel wind from their stomachs when they are blown by an accumulation of it. This latter event is very dangerous. It

is generally brought on by feeding too greedily when first turned into new luscious food, such as coleworts, clover, tares, etc. The ruminating process being stopped (because the animal cannot expel the accumulation of half masticated food fast enough), wind increases rapidly till it becomes so distressed by the distention of its stomach that unless speedily relieved it soon dies.

Foot and Mouth Disease.

This is generally discovered by cattle foaming at the mouth and refusing to eat their food. The complaint appears to be brought on by a slow fever. When it first appears, give each animal 1 lb. of common salt with ½ lb. of Epsom salts in 1 qt. of water, well dissolved, or for a large animal ¾ lb. of the latter. The next day give to each 2 drs. of chloride of potash in their water and continue it every day until they are well. Their mouths and feet should be washed twice a day with a solution of blue vitriol, 1 oz. to 1 gal. of water.

Hove or Hoove.

This disease called hove or hoove is said to arise from forcing cattle on too fast, by giving them too rich succulent food; but as we see as many (if not more) poorlo fed animals affected by the complaint, it is generally believed to be caused by bringing them up in low, undrained meadows, where they get coarse, sedgy food without shelter, after having been half starved with cold and inferior food during the winter.

Lime water and turpentine are said to be a cure for this disease, which at first seems only to affect the windpipe, but when the insects which are the cause of it have reached the lungs, no remedy can be depended on.

Cattle are believed to be infested by these insects while in their winged, mature state, in low marshy grounds. They are first attacked in the nostril when they inhale their eggs; but however this may be, one thing is certain, namely, that animals are less likely to become diseased if kept on well-drained upland pastures and in good condition.

Pleuro-pneumonia has been a fatal disease among many herds of cattle. It is dreadfully infectious, and an immense number of valuable animals have been destroyed by its ravages. If the disease be discovered to prevail in the neighborhood of healthy cattle, they should not be removed, but kept at home; and should any of them show the least symptom of fever or disease, they should have a seton in the dewlaps of their chest. This is believed to divert the inflammation from their lungs by bringing on a copious discharge from their chests. For all lung disease it is safest to employ veterinary skill.

Remedy for Wind.

A pt. of linseed oil generally succeeds in forcing a passage into the stomach and in enabling the beast to expel the wind. In some extreme cases, where no other remedy was at hand, a penknife has been thrust between their ribs into the stomach. This puncture has had the desired effect. The wound soon healed and the poor creature's life was saved. Very few breeders or feeders of cattle use turnip-cutters now for stall

feeding. The accidents of choking and blowing seldom occur where the improved system of pulping roots is practiced.

IMPORTANT SUGGESTIONS.

As milk has become such an important article of diet, and is universally considered so healthy, everything in reference to it and the way to make it of the most value must be of interest to everybody. Whatever may cause it to produce evil effects should be carefully examined and avoided. There are some things which even the best of farmers do not understand, while others who have not made the keeping of cows a study have not the remotest idea of, and probably could not be convinced of their truth unless, following the suggestion of the idea, a careful watchfulness afforded the most incontrovertible evidence thereof. They are so important, however, as to demand a place in this work designed especially for the use of families.

In order that the milk be what it ought, it is absolutely necessary that the cows should be in good condition. By this is meant the physical state produced by the careful treatment stated in the following general way:

1. They should be kept, during the time they must be shut up, in large, well-ventilated stables.
2. They must have a sufficient amount of exercise to keep digestion and circulation good.
3. Their food must not be stinted in quantity, and the quality should be of the best.
4. Plenty of good water is an absolute necessity.
5. They should never be fed upon over-stimulating food. The milk from old, debilitated cows fed in this way is particularly unhealthy.
6. The cow must not be excited, frightened or nervous at the time of milking.

Ventilation.

Too many cows are often kept in small, illy-ventilated apartments, and the air, breathed over and over again, becomes totally unfit for respiration. To compel it to be inhaled so many times over is, when narrowed down to the real fact, about the same as it would be to take the food after it has passed through the digestive organs and oblige the creatures to eat it again. The idea is horribly repugnant, but the principle is the same. Ample openings should be made in the stables over the cows' heads. Unless there are arrangements for a current of air to pass constantly through the whole house, noxious exhalations from the floors will be driven downward and breathed by the animals. Often the floor is not tight and the drainage is not good underneath. Then the urine passes through, soaks into the earth and an odor is constantly arising which is in the greatest degree deleterious. To milk in such an atmosphere is to allow the liquid to imbibe the odors, and it becomes absolutely unfit for use, producing, in many cases, disease, the source of which is often undreamed of. This state of the stables often causes the cows themselves to become ailing and the milk from that cause is not fit for use.

Neither should the animals be packed too closely in stanchions, as they will lie against each other and become too warm, then, when turned out, the change is so great that they take cold. To sum up the matter, cows that have not plenty of room and fresh air, secrete impure and dangerous milk which may contain the germs of fever and death.

Feed and Water.

Through experiments of those interested in the matter it has been ascertained that a cow will afford healthy milk in proportion to the amount of food eaten above what was absolutely necessary to maintain her. If she gives milk on only food enough to nourish her, there must be a loss of animal tissue, and the milk itself will have less of the nutritive qualities and more albumen. The caseine, butter and sugar will be greatly diminished, and, of course, the milk is not so well adapted for the use of human beings.

There must be not only an abundance of rich and nutritious food, but it should be easily obtained, as a great deal of exertion checks the milk secretion and causes a loss of the most valuable qualities. The best food for them is a mixture of the richest grains sown together upon the proper soil, and then used either in pasturage or when gathered for hay. The proportion of different varieties to be sown and the amount to the acre is stated, by good authority, to be 5 qts. of timothy, 6 qts. of orchard grass, 3 qts. of white clover, and, if the ground is moist, 3 qts. of red-top. This, for general use, is the best mixture possible; though, of course, it might have to be varied upon different soils. Animals fed upon this and allowed sufficient good, clear water, will give an abundance of rich, nourishing milk and be kept in health themselves.

We speak of the necessity of pure water. Cases are upon record where typhoid fever has broken out in localities, and its terrible prevalence been traced directly to the using of milk given by cows which drank bad, or filthy water. Violent purging and cramping have been known to come from the animalculæ taken up in the drinking water, developed in the system and then entering into the lacteal secretion.

Nervous Condition.

Cows which are brutally treated, or milked when in a state of excitement, will give milk so changed and poisoned as to produce fearful consequences. Well authenticated instances are related where children have been broken down in health through being fed from milk taken from animals who were badly abused. One case in particular is given where a child, originally healthy, after being fed upon the milk from a certain cow, whose calf was just previously taken from her, became broken out with a rash, which was followed by a fever that seriously affected the brain and nerves. The bowels became irritated and were alternately constipated and relaxed. After using the milk for a year or two he had a broken down nervous system, but during the whole of that time he had been under the care of physicians. It was afterward discovered that for the whole of the first season the cow had to be whipped in a close stall before she would yield and allow herself to be milked. Not only did this affect the milk at the time, but the cow had become dis-

eased by such constant irritation of her nerves, so that it was more or less poisoned after she had yielded to her brutal tormentors. Gentle, kind treatment is an absolute necessity then, not only for the sake of the health of the cow, which affects the quantity and quality of the milk and butter produced, but also for the consequences upon the human beings who use them. There is no doubt but that the greatest suffering has been caused by the harsh treatment of the animal and its consequent effect upon its products.

All of these evils are not imaginary. Their existence has been proved by careful observation; their dire effects traced too exactly to admit of doubt. People who keep cows can not be too careful in the matter of their diet and treatment, and those who buy milk should make sure that they are getting what has been given by animals well cared for.

Over Stocking Pastures.

This is an evil which should be guarded against, and is one of the most prolific causes of the poor butter which comes from farms. Putting too many animals in a pasture injures the quality of the grasses by keeping them so small that the growth is feeble and not one-half as nourishing as if allowed to get their full size. Besides this, the other plants and weeds creep in and grow with great luxuriance, greatly impoverishing the soil. The great trouble upon American farms is the seeming impossibility of getting rid of weeds after they once get started. Many kinds, if eaten by the cows, in the absence of nutritious food, will give a taint to the milk and injure the butter. Additional rations should always be given when pastures are over-stocked. Corn meal mixed with about twice its bulk of bran will maintain the cows in good health and improve the quality of the milk. At all times the animals should be full-fed with nutritious food but care must be taken that they are not injured by over-feeding. This trouble, however, is not so apt to occur in the summer as in the winter, for the reason that dairymen are apt to depend upon the pastures. They are more likely to be guilty of under-feeding by over-stocking.

Milking.

The length of time a cow should be milked depends on her capabilities. Some will give milk the year round, while others will go dry three or four months in spite of everything. It is better to let them go dry for some eight weeks, to give them a chance to flesh up and become more vigorous in consequence. During the heat of summer the cow should be milked three times a day and at regular intervals, early in the morning, say five o'clock, then at one and again in the evening about nine. If the milk is allowed to remain in the udder through the day, the milk its injured and the cow is made uncomfortable. The udder grows heated and feverish and the milk is in a like condition and soon becomes sour while the cream does not rise well. The butter will be soft and oily. The practice of milking three times a day will overcome all these difficulties.

A Stubborn Ox.

Some oxen when put before the plow will lie down, and are so obstinate that they will allow themselves to be whipped terribly and even

burnt before they will get up. When this is the case, tie the ox in such a way that he cannot possibly get up, and let him remain in this position, without eating or drinking, for 10 hrs. If he is then untied he will not fail to go off. After he has gone 2 or 3 rounds, feed him well and he will not be very apt to repeat the offence; if he should, however, let him be tied 2 or 3 hrs. longer.

Young Cows, To Make Gentle.

Tie the young cows to a post, and have a servant handle them well all over, talking to them all the time. Repeat this for 2 or 3 mornings, before milking them, always finishing by giving them a little salt. In 3 or 4 days they will become gentle and can be milked without being tied. Horned cattle, especially bulls, are much less sensible to the touch than horses, which may possible be owing to the thickness of their skin.

Rules for Dairymen.

1. Be sure that your cows are treated kindly by those who have the care of them.
2. Never allow dogs or stones to be used to hurry them from the pasture at milking time, as it heats the blood and thus injures the milk.
3. Do not let them feed in swamps or low, boggy lands.
4. Have plenty of good, sweet, running water where stock can reach it conveniently, and where it will not fail in hot weather.
5. Have them pastured where there is shade, as they give better milk for not being overheated.
6. Before milking, have the udder washed off in luke-warm water.
7. See that the milkers have hands perfectly clean before milking.
8. Do not allow a cow to be kicked, pounded or sworn at because she chances to step while being milked.
9. Keep the milk barn clean and sweet, having all filth carefully removed every day.
10. Be equally careful that the milk room be kept free from odors of any kind if you desire sweet, rich cream and good butter.

Combining these general directions with a careful thoughtfulness and well-directed observation, and success in the dairy business is assured. Of one thing be certain: Too great attention cannot be paid, both to the care of the cows and the milk. Much of the loss of stock complained of is due wholly to a neglect of simple rules and precautions in regard to every day living and treatment of animals, to which we owe so many of the comforts of life.

MISCELLANEOUS FARM RECIPES.

Apple Trees, Treatment of.

Carefully and freely prune every tree as soon as the leaves have fallen in the autumn. This opens a passage for the sun and air, and will ren-

der them more vigorous. Also brush off the moss, cut off the cankered parts, and open the soil at the roots. Old trees should be dressed with a brush dipped in strong lime-water. This will destroy the insects and moss, and the outer rind will fall off, while a new, smooth, healthy one will form, and the tree will produce very fine fruit. When lice are found upon the trees, feed them liberally with manure and ashes. Ashes alone placed around the roots will help. Dig up the grass around the tree, for it is those grown in grass that are apt to be troubled. Early in the spring give the bark a good scraping with a hoe, and then wash off with strong soap-suds, repeating the washing once or twice before the tree blossoms.

Apples, To Keep in Winter.

Buckwheat chaff is first spread on the barn floor, and on this chaff the apples are placed, when they are covered with chaff and straw 2 or 3 ft. in thickness. Here they remain till spring. It is not stated that the interstices are filled with buckwheat chaff, but this care would be important. The covering and bedding in chaff has several important advantages. It excludes cold, prevents air currents, maintains a uniform temperature, absorbs the moisture of decay, and prevents the decay produced by moisture.

Coal Ashes, Uses of.

They are said to prevent the depredations of garden mice if spread over the surface of the mould. Coal ashes are said to accelerate the appearance of early sown peas. Strew the surface of the ground with coal ashes as soon as the peas are put in the ground, and they will appear 3 or 4 days earlier than when no ashes are spread.

One of the best purposes to which coal ashes can be applied in town or country is in making garden walks. If well laid down, no weeds or grass will grow, and by use they become as solid and more durable than bricks.

Wood Ashes, Saw-dust, Use of.

To spread ashes or sawdust upon grass makes it thrifty and of a richer green. Ashes which have been first used for making soap are as good for the purpose as new ashes. Let them be scattered just before a rain.

Hard wood ashes rubbed on the backs of cattle will do much toward exterminating lice.

Cider Barrels, To Clean From Mold and Mustiness.

Make sufficient lime water, say a bucketful of water, and lime the size of a man's fist, dissolved and settled; take the clear liquid, and put into the musty or moldy barrel, and also put in a common trace-chain, or 2, and shake and rinse well, so that the chain, as well as the water shall reach every part, to chafe off the mold, then pour off the water for another barrel, or 2, according to the foulness; then put in pure water and rinse well; then rinse with whisky—1 gal. will do for 4 barrels, leaving 1 qt. in each—shaking about occasionally, until the cider is put in.

Beans, To Cultivate.

A warm, rich, mellow soil is best for these. Plant the bush beans in drills about 2 ins. deep and 2 ins. apart in the row, the drills being from 1 ft. to 18 ins. apart. Draw the earth up to the stems when the plants are 3 or 4 ins. high, and just before they blossom they must be again earthed up with loose, mellow soil. Hoe them often while growing to keep the ground loose and free from weeds.

Do not plant pole or running beans until the soil has become warm. They should be planted in hills, 5 or 6 beans in a hill, covered about 2 ins. deep, the hills being 2 or 3 ft. apart. Put poles or rods deep enough into the ground to sustain the weight of the vines, about 18 ins., and let them be about 8 or 9 ft. high. In each hill there should be 3 healthy plants.

Beans, Lima.

The best way to start the seed is to plant in a hill of light earth, made by sifting the soil, if you cannot obtain it in some other way. Into each hill put a shovelful of well rotted manure. Mix muck and sand, and after placing each seed bean with the germ downward in the hill, cover by sifting the mixture through a willow sieve. The time to plant Lima beans is when you plant corn. Keep the ground loose and free from weeds. To do this you will have to hoe them frequently.

Bird Skins, To Cure.

Birds skins, such as those of the pelican, musk-duck, and especially sea birds, as they contain so much oil, can be cured to last for years by the following process: In skinning the bird cut the fat off the skin, close to the end of the quills, care being taken not to cut the root of the quills, which will appear in little ridges—that is, break through the epidermis, and leave it on the body of the bird. Take spirits of turpentine or benzine and a soft cloth, rub the skin till the fat dissolves; take brown paper and lay on the skin, and iron it with a hot iron till all the oil is extracted, which will be seen when there is no oil on the paper; then wash the skin with ½ oz. of oil of vitriol (pure), ½ pt. of salt dissolved in 2 pts. of water; apply with a soft cloth. Watch the skin till it appears like a number of matted white threads, when it will be ready to fill and sew up. It may require the solution 3 or 4 times, according to the thickness of the skin. Take starch and a little violet powder, and mix into a paste; wash the feathers that are soiled in cold spring water, and then cover the feathers with the paste. Let it dry; when dry, tap with the fingers, and shake the skin when it will all fall off, and the feathers will have a bright, healthy gloss. The above process is better than scraping and using chalk, as you do not cut the roots of the quills and destroy the life in the feathers. An amateur may not be successful at first.

Blackboard Paint.

Lamp-black, 2 drs., spirits of turpentine, 4 ozs., furniture varnish 2 ozs. Rub the lamp-black well with the turpentine, and mix in the varnish. 1 or 2 coats, according to the smoothness of the surface, may be used. Boys can get a sheet of large pasteboard, or binder's-board, and paint it with this for home use.

Blight in Fruit Trees, To Cure.

Early in October, when the weather is calm, build a smouldering straw fire under each tree, and keep it up an hr. or more. After this scrape the trunk and branches carefully, so as to remove the moss and all impurities, and take also every web or *nidus* of insects, that are upon the few leaves upon the trees. If very bad, wash the trunk and large branches with a solution of lime and manure. Destroy the insects and eggs dropped upon the ground, and loosen the soil under the tree. In the spring examine every branch carefully. Pick off all blights by hand, and wash off carefully and repeat each month.

Boiling Oil—For Carriage Painting.

Linseed-oil for painting carriages should not have as much driers in it as for ordinary painting; and it had best be boiled in an iron kettle set in an arch, so as not to allow the fumes to come in contact with the flame. Sulphate of zinc, 1 oz. only to each gal. of oil, adding in slowly, to prevent it from foaming over; stirring well all the time it is being added, and when the oil becomes "ropy," it is done. If too much of the driers is used, it dries so quickly as to be liable to crack.

Brine for Beef, Pork, and Tongues.

4 gals. of water, 1½ lbs. of sugar, 1 oz. of saltpetre, 1 oz. of saleratus. Add salt, 6 lbs., if to be used only a month or two, and 9, if to use the year around. Rub the meat with salt in hot weather before putting it into the brine, and let it lie 3 hrs., to extract the blood.

Bugs on Melons, To Destroy.

To destroy the striped bug on cucumbers and melons, try the following:

1. Sift charcoal dust over the plants; repeat the operation 3 or 4 times, and the plant will be free from the annoyance.
2. A few kernels of buckwheat planted in each hill of melons or cucumbers, will prevent the striped bugs troubling the vines.
3. Make a strong solution of hen-house manure, about 1 pk. of manure to 1½ gals. of water; after standing 24 hrs., sprinkle the plants freely with it after sunset.

Burning Out Stumps.

Bore 1 in. hole, or 1¼ in. hole, according to the size, into the middle of the stump, 18 ins. deep, and put into it from 1 oz. to 1½ ozs. of saltpetre; fill the hole with water and plug it up. In the spring take out the plug, and put into the hole from ¼ a gill to 1 gill of kerosene, and ignite it. It will go on burning without any flame, until the stump, "root and branch, are consumed.

Storing Cabbages.

The most approved way in the East is to plow a single deep furrow, set the cabbages close together in a single row, then plow another fur-

row, so as to throw the dirt against the row already set, and so on for several rows; then cover the entire lot with leaves or coarse hay, on which scantling or rails are placed to keep it in place.

Candles, Tallow. (By Dipping).

Arrange the broaches, covered with wicks in frames ready for dipping. Fill the dipping cistern with tallow of a proper temperature from the boiler, place one of the frames upon the end of the dipping beam, and press down gently into the melted fat; then remove the frame, let the bottoms of the candles just touch against a board placed on one side of the cistern for the purpose, and remove to the rack. Continue the process with each of the frames until the first are cool enough to bear a second immersion. Repeat the operation until the candles are large enough, when they can be cooled, sorted, weighed, and strung in pounds for sale. The dipping beam is a piece of wood hung from the ceiling by the middle, having weights at one end, and at the other supports to receive the frames with the wicks. The dipping room should be in the coldest part of the house, and have Venetian shutters the entire length of the walls, as in breweries, to preserve a constant current of cool air.

Candles, Tallow. (By Moulding).

Take the best kind of tallow. The most glossy and consistent candles are made of 3 parts of sheep with 1 part of ox suet, both fresh. Use pewter moulds, having the part corresponding to the bottom of the candle left open, and a small hole at the top also for the wick. Eight of these moulds are fitted into a stool, the upper surface of which forms a kind of trough, the bottom part of the mould being upwards. Run a long wire, having a hook or eye at one end, down through the mould; attach the wick to it and draw it back. When all of the moulds have received their wicks, run a wire through the loop of each and let it rest on the top of the moulds; then pull the protruding portions of the wicks tight, and arrange them properly in the centers of the moulds. Pour the melting tallow into the trough-like part of the stool, until the moulds are all full. Pull the wicks tight again and allow the whole to cool. As soon as the candles are quite cold, withdraw the wire that held the wick and pull the candles out, one by one, by inserting a bodkin into the loop of the wick. Then bleach the moulds by exposing them to the dew and air a few days, or keep them a few weeks until white enough.

Candle Wicks, Preparing.

1. Dissolve 2 ozs. of borax, 1 oz. each of chloride of calcium, chloride of ammonia and saltpetre, in 3 qts. of water, and filter. Soak the wicks in this solution and then dry them.

2. Dissolve saltpetre in a solution of lime-water, and steep the wicks in it. Add 2 ozs. of saltpetre and ½ lb. of lime to 1 gal. of water. The wicks must be well dried before using. This preparation prevents the tallow from running, and improves the light.

Cats Catching Chickens, To Cure.

Tie one of the chickens around the cat's neck and make her wear it 2 or 3 days. Fasten it firmly, for she will try hard to get rid of it. Exercise firmness with the cat for that time, and the cure will be permanent. She will have no desire ever to touch a bird again.

Celery, To Cultivate.

As the celery seed germinates slowly, and the young plants are small and tender, a carefully prepared seed-bed is necessary. If you do not have a hot bed, select a warm spot on the south side of a fence or building, and when the frost is out of the ground, dig up a bed, say 3 ft. wide and 10 ft. long, cover it with fine manure, 2 to 4 ins. deep, and dig it in and mix it with the soil. Rake the bed level and sow the seeds evenly over ½ of it. If you pat down the surface with the back of a hoe or spade, it will generally cover the seed deep enough; if not, sift a little soil on it. Do not dash on water with a pail, but give the bed a good soaking of tepid water, applied through a watering-pot with a fine nose. Water the seed-bed often until the plants appear, and afterward often enough to keep them growing. If the plants are too thick thin them out, but when large enough to handle, transplant into rows in the vacant part of the bed; placing them 4 ins. apart. A bed of the size above named will hold about 300. Let the plants remain in this position until time to plant in the garden, which is from the first to the middle of July. You can remove plants that have been transplanted in the seed-bed at almost any time, whether the weather is moist or dry. In the final planting the old practice of trench planting for ordinary garden culture should be adhered to. Dig a trench as long as you wish, or several of them, 4 ft. apart and 1 spade deep, and about 1 ft. wide. Fill this trench ½ full with fine stable manure, and mix this into the soil at the bottom of the trench. When thus prepared the trench will be about 4 ins. deep. Set the plants in the trench 6 ins. apart, and carefully water them. A shallow trench is desirable, as the water is sure to reach the roots, and not spread over the surface, as in level culture. Until the blanching is commenced all that is required is to keep the plants growing by careful culture, that is stirring the soil often, and giving the plants, plenty of water.

Cider, To Can.

Take cider when first made, bring it to boiling heat, and can it, just as fruit is canned, and it will keep from year to year without any change of taste. If this is done in the fall, it may be kept for years as good as when first made. The cider should be allowed to settle and then be poured off from the dregs, and when heated the scum that gathers on the surface should be taken off. To preserve the cider be sure to seal it up air tight while boiling hot. The juice of other fruit may be preserved in the same way. Grape juice kept in this way is better than wine a century old, and more healthy.

Cider, To Preserve and Keep Sweet.

1. Put 1 lb. of mustard seed, 2 lbs. of raisins, and ¼ lb. of stick cinnamon, into 1 bbl. of cider.

2. Draw off the liquor from 1 bbl. into another, when fermentation commences, straining it through a flannel cloth. Shake up well in a pt. of alcohol ¾ oz. of the oil of sassafras, and ¾ oz. of oil of wintergreen, and put into the cider. The only trouble with this preparation is that it is too palatable to keep long.

Cider, Sweet, How to Keep it so for Years.

The process is very simple. All the early fruit should be made into vinegar. When the weather is sufficiently cool, say by the first or middle of October, make the cider of sound but mellow apples; put the cider in sweet liquor barrels, with a ¾ in. tap-hole in the head of the barrel, about 1½ ins. from the chime, and in a straight line from the bung-hole. Then place the cider in a cool, dry cellar. After it is worked sufficiently, which will probably be in a week or less, draw it off carefully, so as to not disturb the sediment at the bottom, in perfectly clean barrels, and place back upon the skids as before. If the temperature of the cellar is sufficiently cool, it may not require drawing again in a month, or longer. Then repeat the process, and after a few days bung up the barrels. Then about the latter part of March draw again, when, if properly managed before, there will be but a very little sediment. Fill the barrels full, bung up tight, and cider can be kept sweet and good for two years if thus treated.

Cottages of Wood, Cheap Wash For.

For outside of wooden cottages, fences, etc.: Take a clean barrel, put in it ½ bu. of fresh quicklime, and slake it by pouring over it boiling water sufficient to cover it 4 or 5 ins. deep, and stirring till slaked. When quite slaked dissolve in water and add 2 lbs. of sulphate of zinc (white vitriol), which in a few weeks will cause the whitewash to harden on the wood. Add sufficient water to make a thick whitewash—*this is white.* To make a pleasing *Cream Color,* add 4 lbs. yellow ochre. For *Fawn Color:* 4 lbs. umber, 1 lb. Indian red and ½ lb. lampblack. First dissolve the lampblack in alcohol. For *Gray or Stone Color:* 1 lb. of umber and 2 lbs. of lampblack. This is very durable, as the zinc sets and hardens the wash.

Curculio, To Get Rid of.

Make a solution of gas-tar and water so strong that after standing a few days it will be dark-colored and as pungent as creosote. When the curculio first appears, drench the trees thoroughly with the solution, using a small hand forcing pump, and repeat it every 3 days for 2 weeks. Destroy all the fruit as it falls, as a preventive measure, which can be done by giving your fowls possession of the orchard.

Fence Posts, To Preserve.

Coal tar, 5 gals.; quick lime (stone lime freshly slaked), and finely pulverized charcoal, of each, 1 lb.

The charcoal and the stone lime are both to be finely pulverized, and the tar made hot, in an iron kettle, then the powders stirred in—keeping these proportions for all that may be necessary to use. Apply hot,

with a brush, or by dipping the posts into the mixture, while hot. One advantage of this is, its proof against insects.

A Good Fertilizer.

The manure produced by sawdust when used as a bedding for horses, is said to be a better fertilizer for certain garden crops than any other. When mixed with the soil in which celery is grown, it is said to greatly benefit those plants.

Setting Fruit Trees.

When setting fruit trees the simple wetting of the roots is better than to pour water about them. When the roots are moistened only the finest soil adheres to them, which is a decided advantage. By the other method if dry weather follows the planting, the clay soil seems to shrink away from the roots.

Fruit Trees, To Prevent Insects Climbing Up.

Let a piece of India rubber be burnt over a gallipot, into which it will gradually drop in the condition of a thick viscid juice, which state it will retain for any length of time. Having melted the India rubber, let a piece of cord, or worsted be smeared with it, and then tied several times round the trunk of the tree. The melted substance is so very sticky, that the insects will be prevented, and generally captured in their attempts to pass over it.

Galls, To Prevent.

An old teamster of 50 years' experience says he has never had a case of the galls upon his animals where the following preventive was adopted, namely: To rub the collars inside, every few days, with a little neat's-foot oil, and the moment any dirt is found sticking like wax to wash it off and then oil. A yoke from oxen, or collar from a horse should not be removed when brought into the stable from work until the sweat is entirely dry, and all chafed spots should be oiled.

Grapes, To Keep Until Spring.

1. Pick them when partly ripe, upon a clear day. Take off all imperfect ones, then lay them in stone jars holding about 2 gals. Dig a trench in a perfectly dry place, and place the jars in it. Have it deep enough so that the top shall be 10 or 12 ins. below the surface. Place boards over them and fill in with dirt.

2. Grapes are often kept in a dry room, not cold enough to freeze them, by laying the clean bunches upon newspapers separately, and then covering them over carefully with paper. They have been known to keep perfectly fresh until near spring, taken care of in this way.

Grass in Gravel Walks, To Destroy.

Scatter the cheapest coarse salt along the edges, and wherever the grass is springing. Even the Canada thistle can be rooted out by cut-

ting off the stalks very near, but not below the surface of the ground, and putting salt on them. Old brine, not fit for any other purpose, is good for this.

Molasses Cured Hams.

Moisten every part of the ham with molasses. Then rub it thoroughly with a mixture, in the proportion of 1 qt. of fine salt to 4 ozs. of saltpetre to every 100 lbs. of meat. Put the hams for 4 days into a tight barrel. Rub again with molasses and 1 qt. of salt, and put them into the barrel, and repeat the operation until it has been gone through with 4 times, and then smoke them.

Harness, Varnish For.

Take 98 per cent. alcohol, 1 gal.; white pine turpentine, 1½ lbs.: gum shellac, 1½ lbs.; Venice turpentine, 1 gill. Let these stand in a jug in the sun or by the stove until the gums are dissolved, then add sweet oil, 1 gill, and lampblack, 2 ozs.; rub the lampblack first with a little of the varnish.

Proportions can be reduced for a less quantity. Its polish is good, and it does not crack when the harness is twisted or knocked around.

Herbs, When to Gather.

Herbs should be gathered when just beginning to blossom; as they are then in their perfection. Medicinal herbs should be dried, put up in paper bags, and labelled. Those used in cooking should be pounded, sifted, and put into labelled boxes or bottles. Herbs retain their virtue best, to be dried by artificial heat. The warmth of an oven a few hours after the bread is drawn, is sufficient.

Hops, To Choose.

When pressed between the fingers or palms of the hand, a rich glutinous substance will be felt, with a fragrant smell, and a fine yellow dust will appear. A fine olive green is the best color, but if they are too green and the seeds are small and shriveled, they were picked too soon and will be deficient in flavor. If picked too late they will be of a dusty brown color. They lose about ¼ in strength when a year old.

ICE HOUSES, TO CONSTRUCT.

The few simple, but essential requisites for making a satisfactory ice house, are: 1st, perfect drainage, with perfect exclusion of air below; 2d, good ventilation above; 3d, ample non-conducting material around and above the ice; 4th, total exclusion of air and water from the ice, and 5th, solid packing of the ice, and the filling of the house in dry cold weather. If these rules are observed, it matters not of what the house is constructed.

Size of Blocks of Ice for Filling the Ice House.

When ice is packed solid, there is no thawing except on the outside of the mass, hence it is best to cut the blocks as uniformly as possible so that they will pack snugly and regularly. Thus, if the house is 12 ft. square, blocks 2x3 would make a layer having 6 blocks one way and 4 the other. And the next layer might be placed to break joints with the first, and so on.

Cheap Ice Chest.

Take 2 dry goods boxes, one of which is enough smaller than the other to have space of about 3 ins. all around when it is placed inside. Fill the space between the two with sawdust packed closely, and cover with a heavy lid made to fit neatly inside the larger box. Insert a small pipe in the bottom of the chest to carry off the water from the melting ice. For family use, or grocers' use, they will prove as serviceable as refrigerators that cost 20 times as much.

Strength of Ice.

Ice 2 ins. thick will bear men on foot.
Ice 4 ins. thick will bear men on horseback.
Ice 6 ins. thick will bear cattle and teams with light loads.
Ice 8 ins. thick will bear teams with heavy loads.
Ice 10 ins. thick will sustain a pressure of 1,000 lbs. per square ft.
This supposes the ice to be sound through its whole thickness, without "snow ice."

Glass Jars, To Letter.

Cut out from a paper the letters wanted, and then paste it upon the decanter or jar. Into this pour a mixture of chalk dissolved to the consistence of milk in aquafortis, and add to that a strong solution of silver. The jar must be kept closely corked and turned towards the sun in such a way that the rays will pass through the spaces of paper and fall upon the surface of the liquor. The part of the glass under the paper will remain white, while the other will turn black, thus forming the lettering. The bottle must not be shaken during the operation.

Land, To Drain.

Adjust a strong metal pipe in a slanting position over the lot to be drained. It must be 20 ft. in length and 6 ins. in diameter. Joint another pipe firmly to the opening at the bottom of this pipe, inclining it backwards at an angle sufficient to allow its end to rest upon the ground lot. With the principal pipe connect a strong canvas hose down which a current of water flows and comes out of the mouth of the pipe. A vacuum is thus formed in the second pipe which sucks up the water from the ground and discharges it with the current flowing through the principal pipe.

Lard, To Render.

Into ½ pt. of water put 1 tablespoonful of saleratus. When this is dissolved, pour it into the kettle and put in the lard that is to be ren-

dered. When it first begins to cook there may be a little disagreeable smell which will soon disappear, and the lard will come out very white. The quantity of saleratus and water will be sufficient for 2 gals. of lard.

Liming Land.

After the fall plowing is finished it is a good time to apply lime. If done then the effect will be felt on the next year's crops. Lime should never be plowed under but always applied on the surface. 40 to 50 bus. to the acre is usually enough for each application.

Lice On Plants, To Destroy.

Sprinkle some common, fine-cut smoking tobacco, strong, over the top of the earth about the plant and keep the plant well watered. The strength of the tobacco passing through the earth and about the roots will kill all creeping things and is a great benefit to the plant. If this remedy is tried the plants will soon begin to grow very fast.

Maple Trees, To Tap.

Do not open the trees until they will run equally well on all sides, and then select the thriftiest part of the tree that is farthest from an old orifice. For a tree 1 ft. in diameter put in 1 spout and no more, and never bore it but once in a season, but freshen them once or any time after a long freeze. Dry up the spouts as soon as possible after they are done running to prevent decay. An augur from $\frac{1}{2}$ in. to $\frac{5}{8}$ is the best size, but none larger than a $\frac{7}{8}$ in. should be employed. Trees in open grounds discharge sweeter water and more of it, than those in a forest.

MEASURES.

To Measure Grain in the Bin.

By the United States standard, 2,150 cubic inches make a bushel; a cubic foot contains 1,728 cubic inches. Rule—Multiply the number of feet wide of bin, by the length, the result by the depth, then divide the product by 5 and multiply the quotient by 4, which number will give the quantity in bushels.

To Measure Corn in the Crib.

This rule will apply to a crib of any size or kind. 2 cubic ft. of good, sound, dry corn in the ear, will make a bushel of shelled corn. To get, then, the quantity of shelled corn in a crib of corn in the ear, measure the length, breadth and height of the crib inside of the rail; multiply the length by the breadth, and the product by the height: then divide the product by 2, and you have the number of bushels of shelled corn in the crib.

Another way to measure corn in the crib: Multiply the length, breadth and height together in feet, to obtain the cubic feet, then mul-

tiply this product by 4, and strike off the right hand figure, and the result will be shelled bushels, nearly.

To Find the Number of Bushels of Grain in a Granary.

Rule. — Multiply the length in inches by the breadth in inches, and that again by the depth in inches, and divide the product by 2,150 (the number of cubic inches in a bushel), and for heaped bushels 2,748, and the quotient will be the answer.

Example. — In a granary 9 feet long by 4 wide and 6 deep, how many bushels will it contain?

Solution. — 108 inches length x 48 inches width x 72 inches in depth= 373248 divided by 2150=173.65 bushels. Answer.

To Find the Number of Bushels of Apples, Potatos, etc., in a Bin.

Multiply the length, breadth and thickness together, and this product by 8, and point off 1 figure in the product for decimals.

Codling Moths, How to Get Rid of.

The best remedy, and one which has given excellent satisfaction whenever applied with thoroughness, is to trap with bands. This demands the removal of all rubbish from beneath the trees, which should be done before the first worms leave the fruit. In this latitude June 20 would do. Further south, June 1 would be none too early. This work can be done at any time in April or May, when most convenient. 5 wks. from the time that the trees bloom the bands should be placed around all trees which are bearing fruit. The bands should be woolen cloth or carpet paper. They ought to be about 5 ins. wide, and long enough to reach around the tree and lap sufficiently to tack. First tack one end of the band to the tree about 4 ft. from the ground, driving the tack clear to the head. Then pass the band around the tree, bringing the untacked end over the tack first driven. Through this end a second tack should be driven, though not quite to the head, that it may be easily removed with a claw. 7 wks. after the trees bloom, the bands should be examined. It is well to first go to the trees which bear early apples. If no worms or cocoons are found, examination may be delayed for 10 days, when all the bands should be carefully unwound, and all the larvæ and pupæ killed. This is easily done by pressing them with the thumb. After all are killed retack the band. To make the tacking quick and easy, a small tack-hammer, with a good claw, may be suspended about the neck. After this the work should be repeated every tenth day, and if very warm, every eighth day, for 7 or 8 wks., and again after all the fruit is gathered, in November or December.

Common Mortar, To Make.

Sift equal parts of hydraulic lime and pounded tile together, mix with chopped tow and wet up with water after they are thoroughly mixed.

Drying Oil.

Boil together, until it will scorch a feather, 2 gals. of linseed oil, 2 ozs. of sulphate of zinc, 2 ozs. of sugar of lead, and 4 ozs. each of red lead and umber. This is as good as many of the patent driers which cost a great deal more.

Lubricating Oil.

Take olive oil and dissolve it in boiling alcohol, add it drop by drop to the hot alcohol, until it is no longer taken into solution. Upon cooling, it will let fall crystals, and leave a considerable portion still fluid; the fluid part is to be poured off, filtered through a piece of white blotting paper, and either used in this form, or the alcohol may be distilled off for fresh processes, and the pure lubricating oil, which will remain, can be obtained for oiling watches and delicate machinery. This will not oxidize or gum up, and will remain perfectly fluid, even when exposed to great cold.

Parsley—Something Worth Knowing.

If, after having bruised some sprigs of parsley in the hands, you attempt to rinse glasses, they will suddenly snap or break.

Peas (Green), To Keep.

Pick and shell the peas and lay them on dishes or tins in a cool oven or before a bright fire. Do not heap them, and stir them frequently, so as to dry gradually. When they are hard, let them cool and pack them in stone jars. Cover them up closely, but when wanted for use, take them out, soak them in cold water until plump, and then they are ready for boiling. These are excellent for soup, and are mostly used for that purpose.

Paint for Houses or Fences.

Take 8 ozs. of fresh slaked lime, 6 ozs. of linseed oil, 2 ozs. of white Burgundy pitch, 3 lbs. of Spanish white, and 2 qts. of skim milk. The lime must be slaked in water exposed to the air, then mix it with $\frac{1}{4}$ of the milk, add the oil, in which the pitch is dissolved a little at a time. Then put in the rest of the milk and the Spanish white. If cream color is desired put in ochre instead of the white. This amount will put two coats upon at least 25 yds.

Durable Paint Without Oil or Lead.

In a tub or barrel, which can be closely covered, slack stone lime in boiling water, and then pass 6 qts. of it through a fine sieve. Add to this 1 gal. of water and 1 qt. of coarse salt. Boil the mixture and skim it until it is perfectly clear. To every 5 gals. of this, add $\frac{1}{2}$ lb. of copperas and 1 lb. of alum. Then slowly and gradually put in $\frac{3}{4}$ lb. of potash and 4 qts. of sifted ashes or fine sand. Add any coloring that is desired.

Pavement, Farmyard.

Make a concrete of Portland cement and sand or gravel, or of coal ashes, coal-tar, sand and gravel. Then dig the earth away for 5 ins. and lay a bottom of pebbles as large as goose eggs, running well down. Sweep off clean and paint the surface with hot coal-tar, thinly. Then put on a coat of smaller gravel, that has been dipped in hot tar, drained and rolled in coal ashes, with an intermixture of gravel. This should be rolled down as compactly as possible. Then put on a coat of fine gravel or sand, coal-tar, and some coal ashes to finish the surface, and roll it again. This will shed water and form a very firm surface, though it will take some weeks to harden. Use only enough tar to make the ingredients cohere under pressure, care being taken not to use too much.

Fall Plowing.

This should be done as early in the fall as possible, especially if the land is in sod. The teams are in good condition for work, and by turning over the sod now, the common white grub, the cut worm, and other noxious insects will be destroyed. The surface drainage should be such that the land will not remain saturated with water during the winter.

Pork, How to Salt.

Kill and dress the hogs neatly in the morning. Let them hang all day to drain out the blood and the water used in dressing. At night remove them to a table or bench in the smoke house, in order that they may thoroughly cool, but not freeze. The next morning cut off the head, removing the cheeks for pickling, and turning the remainder of the head over to the cook to make "head cheese," or any other little delicacy. Complete the cutting of the hog in halves, lengthwise; take out the ribs and backbone, including the lean meat and the "tenderloin;" cut out the shoulders and hams, trimming them neatly, cutting the legs off just above the second joint. Then cut the fat pork in strips not more than 4 ins. wide, and as nearly of a width as possible, cutting the strips into pieces about 6 ins. long, making convenient pieces for family use, so as not to disturb any more than is necessary in the barrel.

The barrel should be a new one, if possible, to begin with, which will last several years. A tight whisky or molasses barrel will do, but in any case it should be thoroughly scalded, as good housewives will know how. Place the barrel in the cellar, on a brick or stone floor, or on a board, level; cover the bottom of the barrel evenly ¼ or ⅜ of an in. thick with common salt. Place the pieces of pork in the barrel, with the skin or rind next the barrel, continuing until the layer is solid and pressed down evenly. Cover and fill all interstices with salt. Then press in another layer in the same way and salt as before, until all the fat pork is salted. If there is room in the barrel, and you desire to do so, place the hams and shoulders in the barrel in the same way, filling in the inequalities in thickness with the cheeks and odd pieces, and salt again. Make a "follower" of pine or cottonwood boards in 2 pieces; place them on the top of the pork and weigh them down with a stone, taking care to thoroughly scald both followers and weigh; make a common-sized kettleful of brine, adding salt as long as it will dissolve, boil, and

skim. Let it get cold, and pour it over the meat until it is covered, say ½ in. deep over the follower. If the hams and shoulders are put in, let them lay 10 days. Take them out, wash thoroughly, dry, and smoke them, being careful not to disturb the pork below. If it is not desirable to smoke the shoulders, cut them up in about the same sized pieces as the fat pork, at the same time, and salt them near the top of the barrel, so that the bony and lean pieces can be used first. When warm weather comes, if it should be necessary, pour off the brine and make new, or boil and skim the old. Never allow the brine to leave the top layer of pork dry. In this way you will have good pickled pork all the year round.

Potatos, To Keep.

They should never be exposed to the sun and light any more than is absolutely necessary after digging. Dig them when dry, and put them in a dark cellar. To prevent their sprouting, pour boiling water into a tub and put in as many potatos as the water will cover. Then pour the water off, and carefully lay the potatos upon boards in a dry place, only one layer deep.

Potatos Slightly Diseased Preserved by Peat Charcoal.

When potatos are slightly diseased, sprinkling peat charcoal among them, instantly stays the rot, takes away the bad smell, and renders them sweet and wholesome food. Potatos may be kept in this way 2 yrs., and when planted the third, they will produce a good crop. The charcoal will also prevent the sound potatos from being infected by the diseased ones. The charcoal need not be lost. It may be mixed with other manures when the potatos are removed.

Frozen Potatos, Remedy for.

In the time of frosts, potatos that have been affected thereby, should be laid in a perfectly dark place for some days after the thaw has commenced. If thawed in open day, they rot; but if in darkness, they do not rot, and they lose very little of their natural properties.

Potato Bugs, To Destroy.

The only sure remedy appears to be Paris green, which should be mixed with 5 or 6 times the quantity of meal, flour, ashes, or calcined plaster and lime.

Potato Rot, To Prevent.

Soon after hoeing the second time sew unbleached ashes over the field. Do this weekly 6 or 7 times, using 2 or 3 bus. to the acre.

Pumpkins, For Stock.

A very good way of keeping them during the fall season and early winter is to build rail pens at the feed lot, first putting in a thick layer of straw and then one of pumpkins, and thus proceeding until each pen

is full. Such pens, if protected at the sides and on the tops with straw enough to shed water, answer the purpose. When feeding split the large ones, take out the seed, and chop the halves in pieces in an ordinary feed-box by using a sharp shovel.

Quinces, To Cultivate.

A stiff, moist, rich soil is needed. Then set the young trees about 8 ft. apart. Take muslin strips and wind around the stem, commencing as far in the ground as possible, and let the bandage run some 8 ins. around the outside. Do this every spring and the result will well pay for the trouble. The Orange is considered the best. Be careful that there are no borers in the young trees before setting out. They should be sheltered from the wind and extreme cold.

Radishes, To Cultivate.

Strew common wheat bran 1 in. thick on any good soil, hoe it in well, then plant the seed.

Raspberries, To Cultivate.

Cut the canes within 6 or 8 ins. of the roots, then plant them in rows 3½ ft. apart, and the individual plants 3 ft. from each other. The soil should be cool and moist, often coated with a light manure, decaying leaves, etc. Choose a place that is shaded a part of the day.

Rat-Proof Buildings.

In England they have slate floors sawed and planed to uniform size and thickness. They also cover the walls with sawed or planed slates well jointed and secured to the wall or studding with screws, which makes each room secure against rats, as much so as an iron box would be. The floor slate is from 1 to 2 ins. thick, and that for the walls ½ in. thick.

Rat-Proof Frame Buildings.

You must allow the rats no place to stand on while cutting through the floor, so you must nail strips of board to the sill between each flooring joist, on the inside, reaching to the under side of the flooring planks or boards, and thereby covering the shelf formed by the sill between the joists.

Seed, How to Test the Vitality of.

Place the seeds on a hot pan or griddle. Where the vitality is perfect they will pop or crack open, with more or less noise. Where there is no vitality they will lie unmoved in the griddle.

Smoky Chimneys, Causes of.

Gusts of wind entering the chimney and suddenly obstructing the draft. Increase of density of the air at the chimney-top, owing to the effect of wind in chimneys rising from the eaves of roofs. Drafts in the

room that throw the smoke out of the influence of the ascending chimney current. Want of sufficient height in the flue, or unusual width in the flue, by which a large volume of cold air is drawn in and allowed to lower the temperature of the ascending column. Humidity of the air, also low temperature of the interior of the flue in comparison with that of the external air. Too exact fitting of the joints in the floor, and of the windows and doors. The draft of one fire injuring others. A current produced by the heat of the fire circulating in the room. A foul flue, or one of insufficient size. Accumulation of mortar within the flue, or displacement of masonry. To prevent the effect of smoky chimneys, place a screen or blower of wire gauze, from 36 to 40 wires to the in. in front of range or stove. This, it is said, will prevent smoke coming into the room, when the chimney does not draw well.

Smoke-House, Cheap and Good.

The ground should be dug out to below the frost line, and the space filled up to the surface with small stones. Lay a brick floor on this with lime mortar. Make brick walls 8 ins. thick by 7 ft. high, with a door 2 ft. wide on one side. Line the door inside with sheet-iron. For the top put on joists, 2 by 4, set up edgewise, and 8½ ins. from center to center, covered with brick and with a heavy coat of mortar. Over the center build a small chimney, arching it over and covering it with a single roof in the usual way. An arch should be built on the outside, with a small iron door like a stove door, to shut it up. Make a hole in the arch through the wall of the house, and put an iron grate over it. It is much more convenient to put the fire in the arch than to build it in the house, and the chimney causes a good draft through the latter. Burn hickory wood or good corn cobs. For 50 hams the house should be 7 by 8 ft., and would cost about $20.

Smut in Wheat, To Prevent.

Soak the wheat seed in brine, and after taking it out, dust it with unslaked lime.

Sorrel, To Remove.

Sorrel will never grow upon lime soil, because there is no oxalic acid. If, then, lime or ashes be put upon a field troubled with the pest, the acid in the soil will unite with the lime or potash, and that will soon kill out the sorrel.

Shingles, Facts About.

Shingles are usually 16 ins. long, and a bundle of shingles is 20 ins. wide, and contains 24 courses in the thickness at each end; hence, a bundle of shingles will lay one course 80 ft. long. When shingles are exposed 4 ins. to the weather, 1,000 will cover 107 square ft.; 4½ ins., 120 square ft.; 5 ins., 132 square ft.; 6 ins., 160 square ft.

Durability of Shingles.

The following table exhibits the average durability of shingles in exposed situations:

Rifted Pine Shingles	from 20 to 35 years.
Sawed, clear from sap	" 16 " 22 "
" " with sap	" 4 " 7 "
Cedar	" 12 " 18 "
Spruce	" 7 " 11 "

NOTE.—By soaking shingles in lime water, their durability is considerably increased.

Squash, To Raise.

Hubbard squash is considered the very best for winter. Plant as early in the spring as possible after the weather becomes warm enough so that the frost will not nip the young plants. You can plant a few hills earlier, covering with hay or straw when there is danger of frost. The deeper and richer the land is, the better, especially in the hills; the best manure being composted hen-droppings. There should be enough sand in the soil to make it quick and warm, and the ground should be selected sloping well to the south, so that the rays of the spring sun can be quickly felt by the young plants. Plant in hills from 8 to 10 ft., the rows being 16 ft. apart; and put from 2 to 3 seeds in a hill, and when well started thin out to 1 plant. The ground must be cultivated between the rows and around the plants, until the vines cover the ground. This will insure a good crop.

Large Stones, How to Split.

Kindle a fire on the upper surface of the stone, which, being expanded by the heat, splits. The hardest and largest stone may be split by this method, continuing the fire and increasing the heat in proportion to the size of the stone.

Strawberries, to Cultivate.

A light, sandy soil is best for this purpose. Enrich it with ashes or horseyard manure. Set the plants 1 ft. apart, in rows 2 ft. from each other, any time between the middle of August to the middle of September. Keep the ground mellow and well weeded. In the spring manure and hoe the ground well, then keep it moist and free from weeds. Many cut off the blossoms the first spring so as to give all the strength to the growth of the plant. In latitudes where there is much variation of temperature, and snow does not lie long upon the ground, it is necessary to protect them during the winter with some slight covering of straw, leaves, or coarse barn-yard litter. The latter is also a good fertilizer, as the manure is made to pass through into the soil by the rain.

Sun-Dial, How to Make.

Upon a level, hard surface, describe with compasses, a circle 8 or 10 ins. in diameter. Drive a piece of heavy wire, 6 or 8 ins. long, perpendicularly in the centre, leaving it just high enough to allow the extreme

end of the shadow to fall upon the circle about 9½ or 10 o'clock. Mark this point and the point where the end of the shadow touches the circle in the afternoon. Draw a line from a point exactly half-way between the two to the centre of the circle. This line will be the meridian line or noon-mark. The dial should be made either April 15, June 15, September 1, or December 24, as on those four days, and no other, the noon-mark or sun-dial will coincide with 12 o'clock.

Sweet Potatos, To Raise.

In northern localities sweet potatos should be set out the first week in June. It is easier and cheaper to buy the plants than to start them, unless you want a great many. To prepare the soil, put a strip of fine manure 1 ft. wide on the level surface, and turn two furrows over it to form a ridge. The ridge should be dressed with the spade, and the plants set about 15 ins. apart. If the soil is not moist, water the holes before setting the plants, and set them well down, so that the stalk of the first leat is covered. Much of the success will depend upon pressing the soil firmly around the plants. If the plants have been set deep enough new shoots will spring up, even if the top should wilt. Keep the sides of the ridges free of weeds, by using the rake properly. The vines will soon get so large as to smother most of the weeds.

Tallow, To Clarify.

1 lb. of alum must be dissolved in 1 qt. of water and added to 100 lbs. of tallow in a jacket-kettle, that is a kettle set in a larger one, and the intervening space filled with water, to prevent the tallow from burning. After boiling ¾ of an hour, skim, and add 1 lb. of salt, dissolved in 1 qt. of water. Boil again and skim, and when well clarified the tallow will be nearly the color of water.

Tallow, To Harden.

Melt together 1 lb. of tallow and ¼ lb. of common resin, and mould candles the usual way. This candle will be of superior lighting power, and as hard as a wax candle, in fact better than a tallow candle in all respects, except color.

Canada Thistles, To Destroy.

For a small quantity, put a tablespoonful of salt on each stalk or stub and the plant will wilt and disappear. Or cut the plant off just below the surface of the ground. Upon large farms, however, either of these methods would involve too much labor, and the best way is to turn the plants under with a plow. A strong pair of horses will turn over a sod 8 ins. deep, and much lower than the knife in the hand will go; and if the work is thoroughly done, and no balks left, the plants will stay under the inverted soil for three or four weeks, unless in very porous or light soil, which must be plowed oftener. If this is thoroughly done it is effective.

Timber, To Test Soundness of.

Let some person strike one end of the wood while you apply your ear to the middle of the other extremity. If it is sound and of good quality the blow will be heard very distinctly, however long the beam may be. The sound will be for the most part destroyed if the wood is disaggregated by decay or otherwise.

Tomatos, Cultivatien of.

Plant the tomatos 3½ ft. apart in rows that are the same distance apart. The rows should run north and south for the better advantage of the sunshine, and should be of an even number. At one end of the first couple of rows set a pair of stakes, so that they will enter the ground just outside the line of the rows and cross each other about 4 ft. over the middle space. Put corresponding stakes at the opposite end of the rows, and one pair between if necessary. Fasten horizontal strips of edging along these sloping stakes, placing the first about 8 ins. from the ground, and finishing with one that will run in the crossing of the stakes. Train the plants over this framework, tying with strings when necessary, and trimming when needed. In the fall, after the crop is removed, take the frame apart, and lay it away for use the coming season.

Vegetables, Keeping.

Celery, cabbage, and other vegetables can be kept as fresh as when taken from the ground, in the following way: Sink a barrel, box, or cask ⅓ of its depth into the ground; heap the earth around the part projecting out of the ground, with a slope on all sides. In this place put the vegetables, cover the top with a water-tight cover, and when winter sets in, throw an armful of straw or hay on the barrel. If the bottom is out of the barrel or cask so much the better. If celery is packed in this way, it should stand nearly perpendicular, celery and earth alternating. This method insures freedom from frost, and rot, and it is easy of access.

Cider Vinegar, To Make.

After cider has become too sour for use, set it in a warm place; put to it occasionally the rinsings of the sugar-basin or some molasses or any remains of ale or cold tea; let it remain with the bung open, and you will soon have the best of vinegar.

Vinegar Plant to Make Grow, and Vinegar From it.

Get ½ lb. of sugar, and the same of treacle; add to them 3 pts. of water; boil all together and put in a pan; cover it over with net, and set in a warm place for 6 wks., in which time the plant will be formed from the sugar and treacle. You may then remove the plant and boil the vinegar; get a fresh supply of sugar, water, and treacle, put your plant on it, and proceed as before with a plant. The vinegar will be made in a month.

Adulteration of Vinegar by Minerals.

Copper.—If you suspect copper, dip a clean piece of iron into the vinegar; if copper be in it a rose-color coating of copper will remain on the iron. If you suspect lead, use bisulphuret of soda. If put in vinegar which contains lead, a white precipitate will remain—sulphuret of lead. If iron, prussiate of potash produces a blue precipitate.

Weeds in Walks, To Destroy.

Boil 4 lbs. of arsenic and 8 lbs. of soda in 12 gals. of water. Add to every gal. of this 3 gals. of cold water, and while the liquid is yet warm, carefully sprinkle it over the walks. Do this in fine weather when the walks are dry, so that the weeds and seeds may have the full benefit of the application. Do not let any of the liquid fall on the leaves or roots of any plants you do not want to kill. Every weed will be killed within 24 hrs. from the time the poison is put on the walks, and one thorough application will keep the walks clean all summer.

Wall of Brick, To Preserve.

The following will exclude dampness: Dissolve ¼ lb. of mottled soap in 1 gal. of boiling water and spread the hot solution steadily with a flat brush over the outer surface of the brick wall, pains being taken that it does not lather. After it has dried 24 hours, apply in the same manner over the coating of soap a solution made of ¼ lb. of alum dissolved in 2 gals. of water. An insoluble varnish is formed of the soap and alum, which the rain is unable to penetrate, and this cause of dampness is thus removed. This must be done in dry, settled weather.

Bean Weevil, To Get Rid of.

As soon as the beans are gathered throw them into boiling water and let them remain 1 min. only, which will kill the young larvæ or destroy the vitality of the eggs of the insect. Experiments will be necessary in order to determine how much heat the bean can endure without injury to the seed germ. Try 180° Fahr.—which is somewhat less than boiling, but will still kill the larvæ—for a period of 10 hours and then keep some of the seeds where it is moist and warm, and see if they will germinate. A fruit-drying apparatus will enable you to test the matter.

Wind, To Shield From.

On farms much exposed to the west winds a shield is quite necessary, and a row of evergreens is excellent. These can be planted as late as the middle of May. Set them a little earlier in the south and even later in the extreme north. As soon as the terminal buds begin to push commence to plant. Better set the outer row with the Norway spruce 20 ft. apart, then break joints with the Scotch pine in a row 1 rod inside of the first one and then have a third row of the common red cedar. The arbor vitæ (white cedar) is even better than the red, but will only do in sections of country far enough north to be in the region where sleighs are much used. The hemlock would be excellent in the same localities, but

would not do well too far south to grow spring wheat. South and west this beautiful tree should be planted north of buildings, or on northern slopes where the light snow fall remains longest on the ground. It needs moisture and partial shade.

Wood, To Make Fire Proof.

The wood must be painted twice over with a hot saturated solution of 1 part green vitriol and 3 parts alum. After drying, paint again with a weak solution of green vitriol mixed with pipe-clay to the consistence of paint.

Wood, To Render Incombustible.

Pour glue water or size over a mixture made of 1 part ashes, 1 of brick dust, and 1 of finely pulverized iron filings. Set the whole near the fire and stir them well together. Paint the wood work which is in danger. Let it dry and then put on a second coat.

Wooden Labels, Preservation of.

At first soak the pieces of wood in a strong solution of sulphate of iron; when dry, lay them in lime-water. By this means is caused the formation of sulphate of lime, a very insoluble salt, in the wood. Thus the rapid destruction of the labels by the weather is prevented. Mats, twine, bast, and all substances used in tying or covering up trees and plants may also be preserved in this way. Wooden labels thus treated have been constantly exposed to the weather during 2 yrs. without being much injured.

Wood, To Make Liquid.

To convert sawdust into a liquid wood, and then into a solid, flexible, and almost indestructible mass which, when combined with animal matter, rolled and dried, can be used for the most delicate impressions and also to form solid and durable articles, use the following process: The sawdust of any kind of wood should be immersed in diluted sulphuric acid, strong enough to affect the fibres, for some days; then pass the finer parts through a sieve, stir well and allow to settle. The liquid should then be drained from the sediment and the latter mixed with a proportionate quantity of animal offal, similar to that used for glue. Then roll the mass, pack it in moulds and let it dry.

Wood, Preservative Preparation For.

Melt together in an iron pot 40 parts of chalk, 50 parts of resin, 4 parts of linseed oil. To this add 1 part of native oxide of copper, and afterward 1 part of sulphuric acid. Apply with a brush, and when dry, this varnish will be as hard as stone.

Wooden Taps for Casks, To Preserve.

Plunge the articles in paraffine, heated to about 248° Fahr. or until no air-bubbles rise to the surface of the melted material. Then allow them

to cool, and remove the paraffine from the surface when nearly congealed by thorough rubbing. If treated in this way taps will never split or become impregnated with the liquid, and may be used in casks containing alcoholic liquors.

Wood, To Season and Prevent Warping.

Strip off the bark and bury the wood 1 ft. deep in the spring, leaving in the ground for 6 months, and it will be thoroughly seasoned. The sapadillo or mountain mahogany in the Sierra Nevada could be seasoned in no other way, it being one of the hardest and most brittle kinds of wood known.

Walls, Kalsomining For.

Take 10 lbs. of whitening for 2 large, square rooms; mix up in water the night before, stirring until all is dissolved, and let it stand over night; add 1 lb. of white glue thoroughly dissolved. If to be colored blue, put in a little ultramarine blue; vermilion red, pounded fine on a glass, if gray; also any other tint preferred can be given.

Wash for Trees.

1 oz. of copperas to 8 gals. of water. This is an effectual preventive against blight.

Wart Liniment, For Horses.

Apply spirits of turpentine and sweet oil, equal parts of each, daily, until cured.

Wax for Grafting.

For cool weather, take resin, 4 lbs.; bees-wax, 1 lb.; and linseed oil, 1 pt. Melt all together and pour into cold water; and as soon as it is sufficiently cool to be handled, grease the hands a little and begin to work it, by pulling out, doubling over, and pulling out again, etc. The more it is worked, the easier it will spread, and the nicer it will be. For warm weather, add 1 lb. more of resin to the wax mixture above, and work otherwise the same.

Wheat, To Prevent Rust In.

Several hours before sowing prepare a steep of 3 measures of powdered quick lime and 10 measures of cattle urine. Pour 2 qts. of this upon a peck of wheat, stirring until every kernel is white with it. By using this all kinds of rust will be avoided.

Whitewash Said not to Rub or Wear Off.

Make the whitewash in the ordinary manner, then place it over a fire and bring it to a boil; then stir into each gallon a tablespoonful of powdered alum, ½ pt. of good flour paste, and ½ lb. of glue dissolved in water, while it is boiling.

Wounds in Trees, To Heal.

Make a varnish of 1 oz. of litharge, 1 lb. of common linseed oil, some calcined bones pulverized and sifted, the whole to be boiled for 1 hr., when it should be about as thick as liquid paste. Pare the bark so as to make the place as smooth as possible, and then apply the varnish with a brush, being careful always to do it in dry weather.

FLOWER AND GEM ALPHABET.

Acacia ..... Friendship
Acacia, Rose or White ..... Elegance
Acacia, Yellow ..... Secret Love
Acanthus ..... Artifice
Aconite (Wolfsbane) ..... Misanthropy
Aconite (Crowfoot) ..... Lustre
African Marigold ..... Vulgar Mind
Almond (Common) ..... Stupidity or Indiscretion
Almond (Flowering) ..... Hope
Almond Laurel ..... Perfidy
Aloe ..... Grief
Althæsa Frutex or Syrian Mallow ..... Persuasion
Alyssium (sweet) ..... Worth beyond beauty
Amaranth (Globe) ..... Unfading Love
Amaranth (Cockscomb) ..... Foppery, Affectation
Amaryllis ..... Pride
American Cowslip ..... Divine Beauty
American Elm ..... Patriotism
American Linden ..... Matrimony
Anemone (Zephyr Flower) ..... Expectation
Anemone (Garden) ..... Forsaken
Apricot (Blossom) ..... Doubt
Apple ..... Temptation
Apple (Blossom) ..... Preference
Apple (Thorn) ..... Deceitful Charms
Arbor Vitæ ..... Unchanging Friendship
Arum (Wake Robin) ..... Ardor, Zeal
Ash Leaved Trumpet Flowers ..... Separation
Aspen Tree ..... Lamentation or Fear
Aster (China) ..... Variety
Asphodel ..... Regret
Auricula, Scarlet ..... Avarice
Azalea ..... Temperance
Bachelor's Buttons ..... Celibacy
Balm ..... Sympathy
Balm of Gilead ..... Cure, Relief
Balsam, Red ..... Touch Me Not
Balsam, Yellow ..... Impatience
Barberry ..... Sharp Temper
Basil ..... Hatred
Bay (Rose) Rhododendron ..... Danger

Bee Orchis.....Industry
Begonia.....Deformity
Belladonna.....Silence
Bell Flower, Pyramidal.....Constancy
Bell Flower (small white).....Gratitude
Billberry.....Treachery
Bindweed, Great.....Importunity
Bindweed, Small.....Humility
Birch.....Meekness
Bittersweet, Nightshade.....Truth
Black Poplar.....Courage
Black Thorn.....Difficulty
Bluebells.....Constancy
Blue-flowered Greek Valerian.....Rupture
Borage.....Bluntness
Box Tree.....Stoicism
Bramble.....Envy, Remorse
Branch of Currants.....You Please All
Branch of Thorns.....Severity
Broom.....Humility
Buckbean.....Calm Repose
Bulrush.....Indiscretion, Docility
Burdock.....Touch Me Not
Burr.....Rudeness, or You Worry Me
Buttercup.....Ingratitude
Butterfly, Orchis.....Gaiety
Cabbage.....Profit
Cactus.....Warmth
Calla.....Magnificent Beauty
Calceolaria.....I Offer You My Fortune
Calcycanthus.....Benevolence
Camelia Japonica, Red.....Unpretending Loveliness
Camelia Japonica, White.....Perfected Loveliness
Camomile.....Energy in Adversity
Canary Grass.....Perseverance
Candytuft.....Indifference
Canterbury Bell.....Acknowledgment
Cape Jasmine.....I Am Too Happy
Carnation, Deep Red.....Wounded Heart
Carnation, Striped.....Refusal
Carnation, Yellow.....Disdain
Cardinal Flower.....Distinction
Cedar.....Strength
Cedar of Lebanon.....Incorruptible
Celandine (Lesser).....Joys to Come
Cereus (Creeping).....Modest Genius
Cherry Tree, White.....Good Education and Deception
Chestnut Tree.....Do Me Justice
Chinese Primrose.....Lasting Love
Chickweed.....Rendezvous
Chicory.....Frugality
China Aster.....Variety
China Aster, Double.....Reciprocated
China Aster, Single.....Perhaps

China or India Pink	Aversion
China Rose	Beauty Always New
Chinese Chrysanthemum	Cheerfulness in Adversity
Chrysanthemum, Red	I Love
Chrysanthemum, White	Truth
Chrysanthemum, Yellow	Slighted Love
Clematis	Mental Beauty
Clematis Evergreen	Poverty
Clover, Four-leaved	Be Mine
Clover, Red	Industry
Clover, White	Think of Me
Clover, Purple	Provident
Colchicum, or Meadow Saffron	Youth is Gone
Columbine	Folly
Columbine, Purple	Resolved to Win
Columbine, Red	Anxious and Trembling
Convolvulus, Blue	Repose
Convolvulus, Major	Extinguished Hopes
Convolvulus, Pink	Respectful Affection
Coreopsis	Always Cheerful
Coreopsis, Arkansa	Love at First Sight
Cowslip	Pensiveness, Winning Grace
Cowslip, American	Divine Beauty
Crab (Blossom)	Ill-Nature
Cranberry	Cure for Headache
Creeping Cereus	Horror
Cress	Stability
Crocus, Spring	Youthful Gladness
Crocus, Saffron	Mirth
Crowsbill	Envy
Crowfoot	Ingratitude
Crowfoot, Aconite leaved	Lustre
Currant	Thy Frown Will Kill Me
Cyclamen	Diffidence
Cypress	Death, Mourning
Daffodil	Regard
Dahlia	Instability
Daisy	Innocence
Daisy, Garden	I Share Your Sentiments
Daisy, Michaelmas	Farewell
Daisy, Wild	I Will Think of It
Dandelion	Rustic Oracle
Daphne	Glory
Dew Plant	A Serenade
Dianthus	Make Haste
Dock	Patience
Dogsbane	Deceit, Falsehood
Dogwood	Durability
Dragon Plant	Snare
Dried Flax	Utility
Eglantine (Sweetbriar)	Poetry: I Wound to Heal
Elder	Zeal
Elm	Dignity
Everflowing Candytuft	Indifference

Everlasting	Remembrance
Everlasting Pea	Lasting Pleasure
Fennel	Strength
Fern	Fascination, Sincerity
Ficoides, Ice Plant	Your Looks Freeze Me
Fig Tree	Prolific
Filbert	Reconciliation
Fir	Time
Fleur-de-lis	Flame, I Burn
Flowering Fern	Reverie
Flower-of-an-hour	Delicate Beauty
Fly Orchis	Error
Forget-Me-Not	True Love
Foxglove	Insincerity
French Honeysuckle	Rustic Beauty
French Marigold	Jealousy
Fuchsia, Scarlet	Taste
Furze or Gorse	Love for All Seasons
Garden Marigold	Uneasiness
Garden Sage	Esteem
Geranium, Dark	Melancholy
Geranium, Horse-shoe	Stupidity
Geranium, Ivy	Bridal Favor
Geranium, Lemon	Unexpected Meeting
Geranium, Nutmeg	Expected Meeting
Geranium, Oak-leaved	True Friendship
Geranium, Rose	Preference
Geranium, Scarlet	Comforting
Geranium, Silver-leaved	Recall
Geranium, Wild	Steadfast Piety
Gladiolus	Ready Armed
Golden Rod	Precaution
Gooseberry	Anticipation
Grape, Wild	Charity
Grass	Submission, Utility
Harebell	Warning
Hawthorn	Hope
Heartsease or Pansy	Thoughts
Heliotrope	Devotion
Hellebore	Scandal
Hemlock	You will be my Death
Hemp	Fate
Hollyhock	Ambition
Honeysuckle	Devoted Affection
Honeysuckle, Coral	My Fate
Honeysuckle, French	Rustic Beauty
Hop	Injustice
Horse Chesnut	Luxury
Hyacinth	Sport
Hyacinth, Purple	Sorrowful
Hyacinth, White	Unobtrusive Loveliness
Hydrangea	A Boaster
Hyssop	Cleanliness
Iceland Moss	Health

Iris	Message
Ivy	Fidelity
Ivy, Sprig of	Assiduous to Please
Jasmine	Amiability
Jasmine, Cape	Transport of Joy
Jasmine, Carolina	Separation
Jasmine, Indian	Attachment
Jasmine, Spanish	Sensuality
Jasmine, Yellow	Grace and Elegance
Jonquil	Love Me
Juniper	Succor
Laburnum	Forsaken
Lady's Slipper	Capricious Beauty
Larch	Boldness
Larkspur	Levity
Larkspur, Pink	Fickleness
Larkspur, Purple	Haughtiness
Laurel, Common	Perfidy
Laurel, Ground	Perseverance
Laurel, Mountain	Ambition
Lavender	Distrust
Leaves (dead)	Melancholy
Lemon Blossoms	Fidelity in Love
Lichen	Dejection
Lilac, Field	Humility
Lilac, Purple	Preference
Lilac, White	Youthful Innocence
Lily, Day	Coquetry
Lily, Imperial	Majesty
Lily, White	Purity
Lily, Yellow	Gaiety
Lily of the Valley	Unconscious Sweetness
Locust Tree	Eternal Affection
Lotus Flower	Estranged Love
Lotus Leaf	Recantation
Love Lies Bleeding	Hopeless
Magnolia	Love of Nature
Mallow	Mildness
Mandrake	Horror
Maple	Reserve
Marigold	Grief
Marjoram	Blushes
Mignonette	Beautiful in Character
Mimosa (Sensitive Plant)	Sensitiveness
Mistletoe	Difficulties Surmounted
Mock Orange	Counterfeit
Monkshood (Helmet Flower)	Chivalry
Morning Glory	Affectation
Mosses	Ennui
Mountain Ash	Prudence
Mourning Bride	Unfortunate Attachment
Mulberry, White	Wisdom
Myrtle	Love
Nasturtion	Patriotism

Night Blooming Cereus ..... Transient Beauty
Night Convolvulus ..... Night
Nightshade ..... Falsehood
Oak Leaves ..... Bravery
Oleander ..... Beware
Orange Blossoms ..... Purity and Beauty
Orchis ..... A Belle
Palm ..... Victory
Pansy ..... Thoughts
Parsley ..... Festivity
Pea, Everlasting ..... Lasting Pleasure
Pea, Sweet ..... Departure
Peach Blossom ..... I Am Your Captive
Pear ..... Affection
Peony ..... Shame
Peppermint ..... Warmth of Feeling
Petunia ..... Your Presence Soothes Me
Phlox ..... Unanimity
Pink ..... Boldness
Pink, Carnation ..... Woman's Love
Pink, Indian, Double ..... Always Lovely
Pink, Indian, Single ..... Aversion
Pink, Mountain ..... Aspiring
Pink, Red, Double ..... Ardent Love
Pink, Single ..... Pure Love
Pink, Variegated ..... Refusal
Pink, White ..... Ingeniousness, Talent
Polyanthus ..... Pride of Riches
Polyanthus, Lilac ..... Confidence
Pomegranate Flower ..... Mature Elegance
Poppy, Red ..... Consolation
Poppy, Scarlet ..... Extravagance
Poppy, White ..... My Bane
Primrose ..... Youth and Sadness
Primrose, Evening ..... Inconstancy
Primrose, Red ..... Unpatronized Merit
Quince ..... Temptation
Ranunculus, Wild ..... Ingratitude
Rose ..... Love
Rose, Bridal ..... Happy Love
Rose, Burgundy ..... Unconscious Beauty
Rose, Cabbage ..... Love's Message
Rose, China ..... Beauty Always New
Rose, Damask ..... Brilliant Complexion
Rose, Deep Red ..... Bashful Shame
Rose, Japan ..... Beauty Without Sense
Rose, Maiden Blush ..... Unconfessed Love
Rose, Musk ..... Capricious Beauty
Rose, Single ..... Simplicity
Rose, Thornless ..... Early Attachment
Rose, White ..... I am Worthy of You
Rose, Yellow ..... Jealousy
Rose, Full blown placed over two buds ..... Secrecy
Rosebud, Moss ..... Confession of Love

Rue	Disdain
Salvia Blue	Wisdom
Salvia Red	Energy
Snapdragon	No!
Snapdragon	Presumption
Snowball	Bound
Snowdrop	Hope
Sorrel	Affection
Star of Bethlehem	Purity
Starwart	Afterthought
Strawberry Blossoms	Foresight
Sultan, Lilac	I Forgive You
Sultan, White	Sweetness
Sunflower, Dwarf	Adoration
Sweet Basil	Good Wishes
Sweetbriar, American	Simplicity
Sweetbriar, Yellow	Waning Love
Sweet William	Gallantry
Syringa	Memory
Tamarisk	Crime
Thistle, Common	Austerity
Thorn, Apple	Deceitful Charms
Thyme	Courage
Tiger Flower	Pride a Friend
Trumpet Flower	Fame
Tuberose	Dangerous Pleasures
Tulip, Red	I Love You
Tulip, Variegated	Beautiful Eyes
Tulip, Yellow	Hopeless Love
Verbena, Pink	Family Union
Verbena, Scarlet	Unity
Verbena, White	Pray for Me
Violet, Blue	Faithfulness
Violet, Dame	Watchfulness
Violet, Sweet	Modesty
Violet, Yellow	Rural Happiness
Virginia Creeper	Fidelity
Water Lily	Purity of Heart
Wax Plant	Susceptibility
Willow, Weeping	Mourning
Witch Hazel	A Spell
Woodbine	Fraternal Love
Zephyr Flower	Expectation

Gem Alphabet.

Agate	Health and Long Life
Amathyst	Sincerity
Bloodstone	Courage
Cameo	Firmness
Cornelian	Contented Mind
Diamond	Innocence
Emerald	Suspicion
Garnet	Constancy and Fidelity

Opal	Hope
Ruby	Success in Love
Sardonyx	Conjugal Felicity
Topaz	Fidelity
Turquoise	Prosperity

GENERAL HOUSEHOLD.

CLEANING.

Brushes, To Wash.

Dissolve some salt of tartar in very hot water as soon as purchased, and thoroughly soak the brushes in it, allowing them to remain for about ½ hr., then drain them from the water and put them to dry.

Broadcloth, To Remove Stains from.

Mix with 12 drops each of alcohol and spirits of turpentine, 1 oz. of pipe clay, ground fine. Rub the spots with a little of this mixture moistened with alcohol, and let remain until dry, then rub with a woolen cloth.

Carpets and Floors, To Dust.

Sprinkle tea leaves on them, then sweep them carefully. The carpets should not be swept frequently with a whisk brush, as it wears them fast; only once a week, and the other times with leaves and a hair-brush. Fine carpets should be gently done with a hand-brush (such as is used for cloths), on the knees. Those parts of the carpets that are most soiled may be at any time scrubbed with a small hand-brush, when it is not considered necessary to undertake a general washing of the whole; always adding a little gall to the water to preserve the colors. A little ammonia in the water is also a good thing.

Carpets or Woolen Cloth, How to Extract Grease Spots from.

Dissolve a piece of pearl-ash, of the size of a pea, in ¼ a teacupful of warm water. Pour some of the solution on a grease spot, and continue to rub it hard with a clean brush, or woolen cloth, until it is nearly dry, and your carpet or garment will be as clean as ever. It has been frequently tried, and proved to be effectual.

Carpets, To Remove Fresh Ink from.

As soon as the ink has been spilled, take up as much as you can with a sponge, and then pour on cold water repeatedly, still taking up the

liquid. Next rub the place with a little wet oxalic acid or salt of sorrel, and wash it off immediately with cold water, then rub on some ammonia.

Carpets, To Renovate.

They must be washed,—stretched on the floor,—with boiling water, in which common yellow soap and soda have been dissolved, in the proportion of 1 oz. of soap and 1 dr. of soda to every 2 gals. of water. The method of washing is to dip a clean flannel into the cleansing liquid, and quickly wash over a certain portion of the carpet. Then, before it can dry, dip another flannel into a pail of perfectly clean hot water, and wash the same part over again. Then proceed to wash another portion, first with the cleansing and then with the pure water, and go on thus till the whole surface has been cleansed and rinsed in the clean water. Not more than a yard square should be washed at once. Then set the windows of the room open, lock the doors, and allow the carpet to be perfectly dried. It should afterwards be again rubbed over with a clean flannel dipped in a strong solution of ox-gall and water. This process, though certainly tedious, greatly renovates faded and soiled carpets.

Carpets, Scouring-Balls to take Fruit Stains from.

Take fuller's earth, dried and finely powdered; moisten it with lemon juice; knead it up with a little pure pearl-ash, and make it into balls for use. The carpets, where stained, must first be well brushed and rubbed clean, then moistened with water; after which, rub with the ball, dry in the sun, and wash with clean water, using a sponge or cloth.

Casks, To Clean.

To purify rancid butter, pork, and lard casks, burn straw or shavings in them.

Cloth, To Clean.

Rub the cloth with a piece of flannel dipped into a solution made by dissolving 1 oz. of bicarbonate of ammonia in 1 qt. of warm water. Then clean it well with clear water, dry and iron it, being careful to move the iron in the direction of the fiber.

Lamp Chimneys, To Wash.

Lamp chimneys can be washed easily by holding them over the nose of the tea kettle when the kettle is boiling furiously. This will make them beautifully clear. Of course they must be wiped with a clean cloth.

New Feathers, To Remove the Bad Odor from.

Make a cover for the bed of some coarse material, or a couple of old sheets; get a baker to put it into his oven 1 or 2 nights. A better way, when it can be done, is to send the feathers in bags to the baker's oven, before they are put into the tick.

White Feathers, To Clean.

Draw the feathers gently through a warm soap lather several times, then pass them through tepid, and finally through cold water, to rinse them. Then hold them a short distance from the fire, and curl the separate parts of the feather as it dries by holding a steel knitting pin in the hand, and drawing each portion of the feather briskly between the pin and the thumb.

Feathers (Ostrich), To Clean.

Pour boiling water on some white card soap, cut in small pieces; to this add a little pearl-ash. As soon as the soap is dissolved, and the mixture cool enough for the hand to bear, put the feathers into it and draw them through the hand till the dirt is squeezed out of them. Next pass them through a clean lather with some blue in it, and afterward rinse in cold water with blue, to give them a good color. Shake off the water, and dry them by shaking near the fire. Curl each feather separately, when perfectly dry, with a blunt knife or ivory paper-folder, or hold the feather for an instant over glowing coals.

Furniture, To Brighten and Remove Spots.

2 tablespoonfuls of sweet oil, 1 tablespoonful of vinegar, ½ tablespoonful of turpentine. Use with a bit of flannel.

Mahogany Furniture, To Polish Unvarnished.

First take out ink stains, if there are any, by touching them with spirits of salt. Do it with a sponge tied upon the end of a stick. Then wash the spots instantly with vinegar, and make the whole surface to be polished, clean with it. Then rub on the following preparation with a woolen cloth: Melt together in an earthen pot 2 ozs. of beeswax and ¼ oz. of alconet root. Then take it from the fire and add 2 ozs. of spirits of wine and ½ pt. of spirits of turpentine. Polish with a soft silk cloth.

Furniture, To Remove Spots from.

Paint, or white spots occasioned by spilling medicine, or setting something hot upon furniture, can be removed by rubbing them with camphene.

Kid Gloves, To Clean.

Draw them upon the hands and wash thoroughly in rose oil, then take a clean cloth and rub them dry. Take them off and suspend them in the air, to let the odor escape, or, what is better, lay them upon a plate and set them in a slightly warm oven. Care must be taken not to bring either the oil, or the gloves after they have been cleansed, near the fire, as the oil is highly inflammable.

The following is also given: Place the glove upon a clean piece of paper, or a hand of wood, and rub it with some cotton saturated with benzine. The application of benzine in the cleaning of gloves is one of the most curious and most economical of arrangements, as

it can be applied until the glove is entirely worn out, and on gloves of all colors; some gloves retain the odor of benzine longer than others, but exposure to the air will soon carry it off.

Black Kid Gloves, To Clean.

A good way to clean black kid gloves, is to take a teaspoonful of salad oil, drop a few drops of ink in it, and rub it over the gloves with the tip of a feather, then let them dry.

Grease or Fresh Paint, To Take out.

Rub grease spots with chloric ether. To remove paint, the ether should be applied on the other side. Good benzine, as prepared for such use by apothecaries, is the best article for removing grease or spermaceti.

Hair Brushes, To Clean.

Put a few drops of ammonia in a qt. of water. Shake the brushes in it, rinse them in some clean water, and stand them on their ends to dry. A little borax in water will clean them very nicely.

Paper Hangings, To Clean.

Put a clean soft bag, or an old pillow-case over a new broom, and gently brush the dust from the paper; then take crusts of stale bakers' bread, and wipe it down lightly, beginning at the top. If you rub it, the dirt will adhere to the paper. After thus brushing all around the upper part of the walls with the bread, begin just above where you left off, and go round again. Do thus until you have finished the paper. The dust and crumbs will fall together. Whenever a room is cleaned it is a good way, before the paint and windows are washed, to wipe the paper with a covered broom as above directed.

Mahogany, How to Take Stains Out of.

Mix 6 ozs. of spirits of salt, and ½ oz. of rock salt of lemons, (pulverized) together. Place a few drops on the spot, and rub it briskly till it is removed. Wash off with cold water.

Matting, To Clean.

Straw matting should be washed but seldom, as much dampness is injurious to it. When it is necessary to clean a floor mat, do it by washing with a large coarse cloth dipped in salt water; and, as you proceed, wiping it dry with another coarse cloth. The salt will prevent the matting from turning yellow.

Mattresses, To Cleanse.

Hair mattresses that have become hard and dirty, can be made nearly as good as new, by ripping them, washing the ticking, and picking the hair free from bunches, and keeping it in a dry, airy place, several days; dry the ticking well, fill it lightly with the hair and tack it together.

Mats.

Worsted mats can be washed without fading by using salt in the water.

Oilcloths, To Clean.

Wash always with warm milk. Once in 6 months scrub with hot soapsuds, dry thoroughly and apply a coat of varnish. They will last as long again.

Ribbons, To Clean.

Take a clean cloth, moistened in benzine, and rub them off carefully. If not too dirty this will clean them off nicely. Expose them to the air afterward to get rid of the odor.

Silk Hats, To Renovate.

Take some soap and boiling water. Rub the brush lightly with the soap, dip it into the water and brush the hat around with the nap. If the latter is clotted, brush it until it is smooth and the soap all out; then take the back of a knife and scrape it around. This will clean it nicely. Then beat it gently with a cane, and let it dry. Never scrape spots with your fingers, as that tears the nap off.

Silks, To Keep.

Silks should not be folded in white paper, as the chloride of lime used in bleaching paper is apt to spoil the color of the silk. White silk should always be kept in blue paper. Yellowish India paper is good for keeping silks in. Paint can be removed from silk by rubbing it with spirits of turpentine, and then with spirits of wine.

Silk, To Take Stains Out of.

Mix together in a vial 2 ozs. of essence of lemon and 1 oz. of oil of turpentine. Grease, and other spots in silk, must be rubbed gently with a linen rag dipped in the above composition.

Silk, Wrinkled.

Silk that has been wrinkled and tumbled will look like new if you sponge it on the surface with a weak solution of white glue or gum arabic, and iron it on the wrong side.

Sponges, To Clean.

After prolonged use in water, a gelatinous substance frequently forms in sponges. This can be removed by using a solution of permanganate of potassa. To get rid of the brown stain caused by chemicals, soak the sponge in very dilute muriatic acid. To clean an old and dirty sponge, first soak it for several hrs. in a solution of permanganate of potassa, then squeeze it, and put it into a weak solution of hydrochloric acid, about 1 part acid to 10 parts water.

Wall Paper, To Remove Grease from.

To remove grease from wall paper, lay several folds of blotting paper on the spot and hold a hot iron near it until the grease is absorbed.

Another way is to dip a piece of flannel in spirits of wine, rub the grease spots gently once or twice, and the grease will disappear.

Walls, To Whiten.

To whiten walls, scrape off all old whitewash and wash the walls with a solution of 2 ozs. of white vitriol to 4 gals. of water. Soak ½ of a lb. of white glue in water for 12 hrs.; drain and place in a tin pail, cover with fresh water, and set the pail in a kettle of boiling water. When melted, stir into the glue 8 lbs. of whiting and water enough to make the mixture as thick as common whitewash. Apply evenly with a good brush; if the walls are very yellow, blue the water slightly by squeezing in it a flannel bag containing some powdered blue.

Furniture Wax.

Take 1 qt. of turpentine, and 12 ozs. of yellow wax. Melt the wax, and then add the turpentine.

Yellow Wash—For the Kitchen.

To ¼ lb. of chrome yellow, add the same quantity of whiting, and 1½ of yellow ochre. Dissolve the above ingredients in sweet milk, adding some glue water, to make it adhere. The quantity mentioned is sufficient for 1 kitchen and a back staircase. It is a beautiful color.

Window Washing.

It is said that windows can be cleaned better upon a cloudy day than a clear one.

Whitewash That Will Not Rub off.

Slake the lime in the usual way. Mix 1 gill of flour with a little cold water, taking care to beat out all the lumps; then pour on it boiling water enough to thicken it to the consistence of common starch when boiled for use. Pour it while hot into a bucket of the slaked lime, and add 1 lb. of whiting. Stir all well together. A little "blue water," made by squeezing the indigo bag, or a little pulverized indigo mixed with water, improves it.

Windows, To Remove Mortar or Paint from.

Rub the spots of mortar with a stiff brush dipped in sharp, hot vinegar, and paint spots with burning fluid or camphene and sand, or rub the spot with a copper cent.

Woolen Cover, To Take Grease Spots from.

Make into a paste 3 ozs. of powdered French chalk, 5 ozs. of pipe clay, and 3 ozs. of spirits of wine. Mould the paste into rolls, and keep them

for use. To remove the spot, dampen it, and rub on the end of the roll till you cover the grease. Let it remain a short time to absorb the grease, then brush it off. If not sufficient, repeat the application. To remove the stains, use hartshorn diluted with water.

Cleaning Vessels.

All sorts of vessels and utensils may be purified from long retained smells of every kind, in the easiest and most perfect manner, by rinsing them out well with charcoal powder after the grosser impurities have been scoured off with sand and water.

DYES.

Black Dye, For Cotton.

Take 3 lbs. of sumac, wood and bark together, for 5 lbs. of goods. Boil ½ hr., and let the goods steep 12 hrs.; then dip in lime-water ½ hr.; take out the goods and let them drip 1 hr.; then add to the sumac liquor, 8 ozs. of copperas, and dip another hr.; run them through the tub of lime-water again for 15 mins.; now make a new dye with logwood, 2½ lbs., by boiling 1 hr., and dip again 3 hrs.; now add bichromate of potash, 2 ozs., to the logwood dye, and dip 1 hr. Wash in clear, cold water, and dry in the shade. This will give a permanent black color.

Black Dye, For Wool.

Boil together 4 ozs. of bichromate of potash, 3 ozs. of ground argal, and put in the wool. Stir well, and let it remain in the dye 4 hrs. Take out the wool, rinse it slightly in clear water. Then make a new dye, into which put 3½ lbs. of logwood. Boil 1 hr. and add 1 pt. of chamber lye, and let the wool lie in all night. Wash in clear water. This will do for 10 lbs. of wool.

Blue Dye, Aniline.

Dissolve 1¼ lbs. of aniline, blue, in 3 qts. of hot alcohol. After straining through a filter, add it to a bath of 130° Fah., also 10 lbs. of Glauber's salts and 5 lbs. of acetic acid. This will do for 100 lbs. of goods, which should be dipped in it, and handled well for 20 mins.; then heat it slowly to 200° Fah.; then add 5 lbs. of sulphuric acid diluted with water. Boil 20 mins. longer, then rinse and dry. The evenness of the color may be facilitated if the aniline be added in 2 or 3 proportions during the process of coloring. The shade of blue depends upon the kind of aniline used, as there are a number of varieties. Blues that can be dissolved in water, color more easily than those that have to be dissolved in alcohol. Hard and close woven fabrics, as braid, must be boiled in a solution of 10 lbs. of sulphuric acid and 2 lbs. of tartaric acid before coloring with the aniline, as this makes the fabric more susceptible to the color.

Blue Dye.

The goods should be dipped in a strong solution of sulphate of indigo, or chemical blue, and set the color with alum. It is a good plan to boil the articles in strong alum water before dipping them. Wool can be colored blue by boiling it in a decoction of logwood, and sulphate or acetate of copper.

Blue Dye, For Wool, (Quick Process).

Take 5 ozs. of alum and 3 ozs. of cream of tartar, and boil the goods in this for 1 hr. Next throw the goods into warm water, which has more or less of the extract of indigo in it, according to the shade of color desired, and boil again, adding more blue if needed. This will color 2 lbs. of goods. It is a quick and permanent process.

Brown Dye, Cheap.

Boil the bark of the common alder 1 hr., using sufficient water to cover the goods; add a very little copperas, and put in the goods to be colored. After remaining about 10 mins. bring them out, and dip them into very weak lye, prepared beforehand. Wring them out immediately and wash them in soap and soft water.

Green Dye, For All-Wool Goods.

Steep the goods in soap suds until clean, then rinse in several different messes of clean water and lay aside moist. Dissolve the alum in the package marked, "Alum, To Mordant Green on Woolen," in a clean brass or copper kettle with as much clean water as is necessary to work the goods in easily, and steep the goods in this bath 1 hr. or longer, then lift the goods from the bath, drain or wring well and lay aside moist in a clean place. Steep the fustic chips, enclosed in a bag of tow-cloth from 1 to 2 hrs. in a brass or copper kettle, with enough clean water to work the goods in easily; take out the bag of fustic and let the bath cool to a blood heat. Add sulphate of indigo paste in small portions at a time, stirring constantly till the required shade of green is obtained (this can be told by testing with a piece of unsized paper); put in the moist goods and work them 30 mins. at a little more than blood heat; then lift them from the bath, and add the alum in the package marked, "Alum, To Raise Color in Green on Woolen," and stir till dissolved; put in the goods and work 20 mins. at the same degree of heat; lift out, cool, and rinse in several different messes of clean water and dry in the shade. About 4 gals. of water will be required to work 1 lb. of goods easily, either when mordanting or when dyeing. Larger quantities of goods need less water in proportion. Stir this dye with a clean wooden rod.

Green Dye, For Cotton.

Dip the cotton in the home-made blue dye-tub until blue enough to make the green as dark as you wish; take out, dry and rinse a little; make a dye of ¾ lb. of fustic and 3 ozs. logwood to each lb. of goods, and boil it 1 hr.; when cool enough to bear the hand, put in the goods, move

briskly a few minutes, and let it lie in 1 hr.; then take out and drain well; for each lb. of cotton, dissolve and add to the dye ½ oz. of blue vitriol, and dip another hour; wring out and let dry in the shade. By increasing or diminishing the dye any shade of green may be obtained.

Green Dye, For Silk.

Boil green ebony in water and let it settle; handle your goods in the clean liquor as hot as you can bear your hands in it, until of a bright yellow; put a little sulphate of indigo in water and handle your goods in it until of the shade required. To prevent the ebony from sticking to the silk it may be previously boiled in a bag.

Orange Dye, For Cotton.

Boil 4 ozs. of sugar of lead a few minutes, and when a little cool put in the goods, dip 2 hrs. and wring out. A new dye must then be made with bichromate of potash 8 ozs.: madder 2 ozs. Dip until the color suits; if it is too red, take off a small sample and dip it into lime water, when you can choose between the sample dipped in the lime or the original color. This will color 5 lbs. of goods.

Orange Dye, For Wool.

The following will do for 5 lbs. of goods: Muriate of tin, 6 tablespoonfuls and 4 ozs. of argal; boil and dip 1 hr. To this dye add 2½ lbs. of fustic; boil 10 mins. and dip ½ hr.; then add to the dye 1 teacupful of madder, and dip again ½ hr. A much brighter color is made by cochineal in place of madder, which should be added in small quantities until it is of the right shade; about 2 ozs. should be used.

Orange Dye, For Silk.

An orange color that does not easily fade, is made of bloodroot, boiled in a brass vessel, and set with alum. Old silk that is not very fair will do very well for this kind of color.

Pink Dye, For Cotton.

A quite fast color for about 4 lbs. of goods is made of 2 lbs. of redwood, 4 ozs. of solution of tin; boil the wood 1 hr., turn off into a tub, then add the tin, and put in the cloth; after standing about 5 or 10 mins., a nice pink will be produced.

Pink Dye, For Wool.

Boil 3 ozs. of alum and dip the goods 1 hr. To this add 4 ozs. of cream of tartar, 1 oz. of well pulverized cochineal; boil well, and dip the goods while boiling, until the color suits. This will do for about 3 lbs. of goods.

Pink Dye, For Silk.

After aluming, handle the goods to be dyed, in peach-wood liquor till the color is dark enough; then put in a little alum liquor, handle a while

longer; then rinse in water and finish. If the color is not dark enough, the process must be repeated.

Purple Dye, For Wool.

Take 4 ozs. of cream of tartar, 6 ozs. of alum, 2 ozs. of well pulverized cochineal, ½ teacupful of muriate of tin, for 5 lbs. of goods. Boil the alum, tin, and cream of tartar 15 mins.; then put in the cochineal and boil 5 mins.; dip the goods 2 hrs. Make a new dye with alum, 4 ozs., 6 ozs. of Brazil wood, 14 ozs. of logwood, muriate of tin, 1 teacupful, with a little chemic; repeat the process until satisfied.

Purple Dye, For Silk.

Dip 1 lb. of silk in the home-made blue dye-tub, dry and dip in 4 ozs. of alum to sufficient water to cover when little warm; add a little chemic if the color is not full enough.

Red Dye, For Cotton.

To ½ of a teacupful of muriate of tin, add sufficient water to cover the goods well; bring to a boiling heat and dip the goods 1 hr., stirring often. After taking out the goods, empty the kettle, and put in clean water, with 1 lb. of nic-wood, steeping it for ½ hr. at hand heat; put in the goods and increase the heat for 1 hr.; air the goods and dip 1 hr. as before; wash without soap.

Red Madder.

Use 20 lbs. of alum, 5 lbs. of tartar and 5 lbs. of scarlet spirit, to 100 lbs. of goods. Dissolve these, dip the goods and let them boil for 2 hrs.; then take them out, let them cool and lay over night. Stir 75 lbs. of good Holland matter into fresh water. Enter the goods at 120° Fah., and bring it up to 200° in about 1 hr., all the time handling well to secure evenness; then rinse and dry. This color is used extensively for army uniforms.

Red Dye, For Wool.

Make a stiff paste of lac-dye and sulphuric acid and allow it to stand for a day. For 10 lbs. of wool, use 1 lb. of tartar, ½ lb. of salts of tin, and ¼ lb. of the above paste. Boil the wool in the bath for ½ hr., after which it must be carefully rinsed and dried. This will give a good and bright red color.

Slate Dye, For Cotton or Woolen.

Boil some logwood bark in an iron kettle, skim out the chips, and add copperas to set the dye. If not dark enough add more copperas. This makes a good dye for stockings.

Steel Dye (Dark).

10 lbs. of black wool—it may be natural or colored—white wool 1½ lbs. Mix evenly together before it is spun and it will be a beautiful steel color.

Straw Color, For Silk.

A fine straw color may be obtained from smart-weed boiled in brass and set with alum.

Wine Color Dye, For Wool.

To color 5 lbs. of goods, boil 2 lbs. of camwood 15 mins. and dip the goods ½ hr.; boil again and dip ½ hr.; darken with 1½ ozs. of blue vitriol; if not dark enough add ¼ oz. of copperas.

Yellow Dye, For Silk.

Take 3 ozs. of alum; ¾ oz. of sugar of lead; immerse the goods in the solution over night. In the morning, take out, drain, and make a new dye with 1 lb. of fustic; dip until the desired color is obtained. The above dye is sufficient for 1 lb. of silk.

Yellow Dyes, For Cotton.

1. Dissolve in 6 qts. of soft water, 6 ozs. of sugar of lead; in another vessel dissolve 3 ozs. of bichromate of potash and dip the goods, 1 piece at a time, into the sugar of lead and then into the bichromate; dry and rinse, and the process is completed. This will be sufficient for 3 lbs. of goods.

2. To color 5 lbs. of goods, take 7 ozs. of sugar of lead; dip the goods 2 hrs., then make a new dye of 4 ozs. of bichromate of potash; dip until the color suits, wring out and dry. Repeat the operation if the color is not deep enough.

Dyes, Testing for Adulteration.

Red dyes should not become yellow or brown after boiling, and they must neither color soap-and-water nor lime-water. This test shows the presence or absence of sandalwood, safflower, archil, Brazil-wood, and the aniline colors. Madder-yellow is the most stable yellow; the least stable are anetto and turmuric; fustic is some better. Yellow dyes must stand being boiled with alcohol, water, and lime-water. Blue dyes should not decompose on boiling with hydrochloric acid, nor should they color alcohol reddish. This test applies also to purple colors, the best of which are composed of indigo and cochineal or purpurine. Orange dyes should not color either water or alcohol on boiling. Neither should green color alcohol or hydrochloric acid. Brown dyes must keep their color on standing with alcohol, or boiling with water. Black colors turn greenish or blue on boiling with sodium carbonate, if they have a basis of indigo; but the dye turns brown if it be pure gall-nuts. The coloring matter is logwood without a basis of indigo, and is not durable, if on boiling with hydrochloric acid the material changes to red; if it changes to blue, indigo is present.

INKS.

Bag-Marking Ink.

Boil 1 lb. of logwood chips in 1 gal. of water, at boiling point, 10 mins.; then stir in ½ oz. of bichromate of potash, and boil this 10 mins.

longer; then add, when cold, ½ lb. of common gum, dissolved, and stir well in. This will flow well from the pen, and will mark bags with either the stencil plate or block. The cost of the above ink is about 12 cts. per gal.

Black Ink.

Take 1 gal. of rain or soft water and ¼ of a lb. of blue galls, bruised; infuse them 3 weeks, stirring daily. Then add green copperas and logwood chips, of each 4 ozs., 6 ozs. of gum arabic, and a wineglassful of brandy.

Ink, Copying, Used Without a Press.

Heat 1 oz. of coarsely-broken extract of logwood, and 1 dr. of crystallized carbonate of soda in a porcelain capsule with 8 ozs. of distilled water, until the solution is of a deep red color. After taking it from the fire, stir in 1 oz. of glycerine, a solution of 2 drs. of finely pulverized gum-arabic and 15 grs. of neutral chromate of potash dissolved in a little water. To take the impression use thin moistened copying paper, at the back of which is placed a sheet of writing paper. This ink never requires a press for copying, does not attack steel pens, and keeps well.

Durable Ink.

The Ink.—Put into a clean bottle a piece of lunar caustic ½ in. long; fill it with good vinegar, and cork it tightly.

The Sizing.—Into another bottle, with a wide mouth, put a lump of pearl-ash the size of a pea, a rather larger piece of gum arabic. Pound them a little before putting them in the bottle, and fill it up with water. Cork both bottles tightly, and put them in the sun. They will be fit for use in 2 days.

Indelible Ink.

An indelible ink without silver salt is made by rubbing together 15 grs. of an aline black with 60 drops of muriatic acid, and adding 1½ ozs. of strong alcohol. The mixture is diluted with a hot solution of 38 grs. of gum arabic in ½ of a pt. of water. This ink is asserted to have no corroding effects on steel pens.

Marking Ink.

Make a solution of nitrate of silver, in the proportion of 1 dr. of the nitrate to 3 of solution of ammonia and 10 grs. of gum arabic. In order to render this indelible, the spot which is to be marked ought to be wetted with a little of the following: Gum arabic, 1 dr.; bicarbonate of soda, 2 drs.; water, 2 ozs. Mix. When this is dry, use the ink with a quill pen, expose it to the air and sun, and iron it before washing,

Ink for Marking Linen.

1 dr. of sulphate of manganese, 1 dr. of distilled water, 2 drs. of powdered sugar, 2 drs. of lampblack. Make into a semi-liquid paste, and use with a stamp. Dry the mark, then wash it in a solution of caustic

potash, and dry it anew. Then wash it again in water, and the name will stand out boldly.

Indelible Ink Spots, To Remove.

Cyanide of potassium will remove indelible ink marks. It is a deadly poison. Apply to a druggist as to the method of using it.

Ink, To Restore Dim.

Make a solution of ferrocyanide of potassium, with the addition of diluted mineral acid (muriatic). When this is applied to the letters they will change to a deep blue color. The ferrocyanide should be put on first, and the dilute acid added upon it to prevent the color from spreading.

LAUNDRY.

Book-Muslin Dress, To Wash.

Put the dress in a strong suds made of white soap and warm water, and wash it well; squeezing and pressing instead of rubbing it, as it tears easily. Wash in a second suds, and then pass it through 2 rinsing waters; add a very little blue to the last. Open the dress, and, while wet, run it through a thin starch diluted with water; stretch it, and hang it in the sun to dry. Then sprinkle it and roll it in a towel, letting it lie ½ hr. Open it, stretch it even, and clap it in your hands till clear all over. Iron it, before it is too dry, on the wrong side. Be careful not to scorch it. When done, do not fold the dress, but hang in a press or wardrobe. Be sure to get the hem even in ironing; some rip out the hems of muslin dresses before washing.

Black Cloth, To Clean.

Black cloth may be cleaned so as to look almost as good as new. With a pt. of water mix ½ teaspoonful of spirits of ammonia, and a tablespoonful of alcohol. Apply with a sponge, and, when necessary, use a nail-brush to cleanse thoroughly the soiled places. Sponge off with clear water, and hang to dry. This is good to restore shiny and rusty goods, and bring back their newness.

Calicos or Lawns, To Wash, Colored.

Pour boiling water upon black calicos when dry, then wash them out of different waters until the dye stops coming out. Put a little salt in the remaining water and dry them quickly.

2. Pour boiling water on wheat bran, strain it, and when lukewarm wash them in it, using no soap. To set green, put alum in the water and dip the calico, letting it get thoroughly wet before taking it out, and rinse it in salt water the same as black. A little sugar of lead in the water will set most blues. No calicos should be allowed to remain wet one moment longer than necessary.

Calicos, To Prevent from Fading.

Dissolve ½ pt. of salt in 1 qt. of boiling water, and while hot put the dress in it, let it lie several hrs., then wring it dry and wash as usual.

Clothes, To Whiten.

Put a teaspoonful of turpentine into the boiler of hot water before the clothes are immersed.

Coat Collars, To Clean.

The best material for cleaning coat collars and grease spots of all kinds, is pure benzine. That used by painters is not pure enough, and has a very unpleasant odor, which the pure article has not, and the little which it has soon disappears. If this can not be obtained, strong alcohol (95 per cent), will clean collars very well. A mixture of equal parts of strong alcohol and water of ammonia is also used. The trouble with all these liquids is, that not enough is used; a small quantity only softens and spreads the grease spot; they should be applied in sufficient quantity and repeated, to not only dissolve the foreign matter, but to wash it out.

Color, To Restore.

Ammonia will restore color taken out by acid.

Corsets, To Wash.

Take out the steels; use hot water; one teaspoonful of borax to every pailful of water; place the corsets on the washboard, and scrub well with a clean brush, using very little soap; do not boil the corsets, but if yellow, bleach in the sun; rinse well; rub in a little starch; iron when quite damp.

Crape, To Renovate.

Thoroughly brush all dust from the material; sprinkle with alcohol, and roll in newspapers, commencing with the paper and crape together, that the paper may be between every portion of the material; allow it to remain in the roll until perfectly dry.

Crape, To Clean and Wash.

Skimmed milk and water, with a bit of glue in it, made scalding hot, is excellent to restore old rusty black Italian crape; if clapped and pulled dry, like muslin, it will look as well as new. China crape scarfs, if the fabric be good, can be washed as frequently as may be required, and no diminution of their beauty will occur. Make a strong lather of boiling water, suffer it to cool; when cold, or nearly so, wash the scarf quickly and thoroughly; dip it immediately in cold, hard water in which a little salt has been thrown, (to preserve the colors); rinse, squeeze, and hang it out to dry in the open air, when the more rapidly it dries, the clearer it will be.

Flannel, To Wash.

Flannel should always be washed with white soap; otherwise, it will neither look well nor feel soft. The water must be warm, but not boiling, as it shrinks flannel to scald it. Wash it in clean water, and entirely by itself. Rub the soap to a strong lather in the water, before the flannel is put in; for if the soap is rubbed on the flannel itself, it will become hard and stiff. Wash it in this manner through 2 warm waters, with a strong lather in each. Rinse it in another warm water, with just sufficient soap in it to give the water a slight whitish appearance. To this rinsing water it is better to add a little blue from the indigo bag. Cold rinsing water is found to harden the flannel. When it has been rinsed thoroughly, wring it hard, shake it well, and spread it out on the clothes-line. While drying, shake, stretch, and turn it several times. It should dry slowly. Flannel always washed precisely in this manner will look white, and feel soft as long as it lasts, retaining a new appearance, and scarcely shrinking at all. But if once badly washed with scalding water, rubbed with brown soap, and rinsed in cold water, it will never again look well.

Flannel That Has Become Yellow, To Wash.

Boil 4 tablespoonfuls of flour in 4 qts. of water, stirring it well. Then pour ½ of the boiling liquid over the flannel, let it remain till the water cools, rub the flannel, but use no soap. Rinse it through several waters, then repeat the process with the remainder of the flour and water in a boiling state; again rinse it through several waters and hang it up to drain and dry. Do not wring it.

New Flannel, To Shrink.

Lay the flannel all night in a tub of cold soft water. In the morning pour off the whole of the water, and drain, but do not wring the flannel. Make a slight suds of water quite warm (but not hot), and of white soap or whitish Castile. Wash the flannel thoroughly through the suds, and wring it out as dry as possible. Then having shaken it, stretched it, and folded it smoothly down on a clean table to make it straight and even, hang it out immediately. When about half dry, go to it, stretch, shake, and turn it. Take it in while it is still damp, fold it smooth, cover it with a clean towel, and after it has lain about ½ hr., iron it with a rather cool iron.

Flannel, To Whiten when Yellow.

This may be done by putting the flannel into a solution of hard soap, to which strong ammonia has been added. Take 1½ lbs. of hard curd soap, 50 lbs. of soft water and ¾ lb. of strong ammonia. A shorter process is to place the garments for ½ hr. in a weak solution of bisulphate of soda, to which a little hydrochloric acid has been added.

Cotton Goods, To Clean.

Add to hot rain water an amount of wheat bran equal to ⅛ of the fabric to be cleansed, and after stirring well for 5 mins., add the goods.

Stir them about with a clean stick, and bring the articles to a boil. Allow the mixture to cool until the goods can be washed out, after which rinse them well.

Hard Water, To Make Soft.

For every 100 gals. take ½ a lb. of the best quick-lime; make it into a cream by the addition of water; then diffuse it through the water in the tank or reservoir, and allow it to stand. It will quickly become bright. The lime having united with the carbonate of lime, which makes the hard water, will be all deposited. This is a most beautiful application of the science of chemistry.

Woolen Hose, To Wash.

Woolen hose should be soaked all night, and washed in hot suds with beef's gall. 1 tablespoonful to ½ a pail of water. Iron on the wrong side.

Ink or Fruit Stains, To Take Out.

Turn boiling water upon it immediately, in this way: Spread the cloth over a pitcher or basin, with the ink-spots in the centre, and while you hold it in its place, let another person turn the boiling water on the spots. This is better than to put the article into boiling water, as the whole will then be tinged with the ink. If the spots are still visible, tie up a teaspoonful of cream of tartar in the places where they are—more for a large stain, less for a very small one—then put the cloth into cold water, without soap, and boil it ½ hr. If it is not convenient to put boiling water at once on the stains, put them in cold water. Do not let them become dry. Articles that have been stained with ink or fruit, should not be put into soap-suds until the stains are removed. Soap will tend to make them permanent.

Another method of removing ink spots is to dissolve some oxalic acid in water, wet the spot with the liquid, and the stain will almost instantly disappear. Wash the spot immediately in clean water, or the acid will injure the fabric.

Ink Spots from White Clothes, To Remove.

This must be done before the clothes are washed. Pick some tallow from the bottom of a clean mould candle, rub it hard on the ink spots, and leave it sticking there in bits, till next day or longer. Then let the article be washed and boiled, and if it is merely common ink, the stain will entirely disappear. Of course, this remedy can only be used for white things, as colored clothes cannot be boiled without entirely fading them. We know it to be efficacious. The tallow must be rubbed on cold.

Ironing, Rules in Regard to.

Be careful in ironing lace, ribbons, or any long, narrow strips, not to stretch them crooked, but iron them slowly, straight, and evenly; and with the point of the iron press out every scallop separately. Needlework should always be ironed on the wrong side. In ironing collars,

care should be taken not to stretch one-half the collar more than the other. They should be ironed first lengthways, then crossways. Sheets and table-cloths should be ironed with a large iron pressed on them heavily.

All colored clothes require a cooler iron than white clothes, as too great heat is liable to injure the colors. Chintz should be ironed on the wrong side, as the starch is apt to show on colored clothing when ironed on the right side.

Lace, To Wash.

Tack it on a bottle with the finest cotton (if the lace is dirty, soap a little on the bottle), cover it over with linen, put it in a bell-metal kettle with cold soft water and sliced soap, stew it 2 or 3 hrs., drain the bottle, and hang it up to dry. If it is wished at all stiff, pin it out on a bed-cover or a cloth, and take a clean, fresh-rinsed sponge, dip it in thin gum-water, and sponge the lace with it.

Lace, To Wash. (2.)

Make a strong soap suds, to which add a few drops of ammonia; put the lace in this in a shallow earthen dish and set it in the sun for a few hours. Rinse in starch water and iron between two thin cloths.

Lace, To Renovate.

To restore lace to its original whiteness iron it slightly, then fold it up neatly and sew it into a clean linen bag. Place the bag in pure olive oil for 24 hrs. and make a strong solution of soap in boiling water. Take the bag out of the oil, put it in the boiling solution and keep it there ½ hr.; then rinse in lukewarm water, and dip it into water containing a little starch. Take the lace out of the bag, iron it and stretch it with pins till perfectly dry.

Lace, Black, To Restore.

Mix bullock's gall perfumed with musk in hot water; squeeze, but do not rub the lace in it; take it out, rinse through one pure cold water and a blued (with a blue-bag) water; squeeze it dry; pin it out very carefully to dry on a linen cloth; when nearly dry, lay a cloth over the ironing blanket, stretch the lace on it, and iron it on the right side; or dry without ironing.

Some people recommend pursuing the same plan with strong green tea instead of ox-gall. Sal volatile and water also answers very well; then the lace must be dipped in thin starch and ironed between muslin.

Leach, To Set.

Bore several auger-holes in the bottom of a barrel; prepare a square board a little larger than the barrel with grooves running into one in the centre of one side; pile up sticks of wood, or turn a strong box upside down on which to raise the barrel; it should be 18 ins. from the ground and so tipped that the lye may run easily from the board into the pail or tub prepared for it. Put straw in the barrel to the depth of 2 ins.,

and scatter over it 2 lbs. of slaked lime; then pack tight with ashes, moistening occasionally, to make it more compact. Leave a funnel-shaped hollow in the centre large enough for several quarts of water. Let it stand 2 days before pouring in water, and when the first water is poured in let it disappear before adding more. It may stand in a cellar or under a shed.

Linen, To Bleach.

Pour over ¼ lb. of chloride of lime 1 gal. of boiling water. Let it stand 2 days, stirring it occasionally; then pour it off clear, and bottle it for use. When required, add ½ pt. to 1 qt. or 3 pts. of cold spring water. Wash your clothes well, and rinse it from the soap; then put it into the above, and let it steep for a few hrs.; pass it through clean water, and you will find the color much improved.

Linen, Table To Wash.

Boiling or freezing brown table cloths gives them an old yellow look. To keep white ones clear, spread them in the hot sun for a few hrs., or on the snow when the sun shines. To take out fruit stains, pour boiling water over them before washing. Freezing and boiling makes them soft, but freezing once wears linen more than 2 weeks' constant use. Add a little starch to the last water and hang the tablecloths up straight on frames to dry, for if they twist or wrinkle, it is difficult to iron them smooth.

Lye, To Make.

Bore a hole near the bottom of a large tub or cask for a tap; near the hole place several bricks and cover them with straw. Ashes of apple-tree wood make the whitest soap, but oak ashes are strongest. Fill the barrel with strong ashes and pour on boiling water until it begins to run, then put in the tap and let it soak. When the ashes settle down, fill in until full.

Lye, White.

Pour a pailful of boiling water over 4 or 5 qts. of ashes. After standing a while to infuse, pour in cold water to settle it, when you can pour it off clear. When well made this is equal to soda, and does not injure the clothes unless extremely strong.

Iron Mould, To Take Out.

Dissolve 1 teaspoonful of salt of tin in 2 tablespoonfuls of water. Dip the iron mould into the solution and let it remain 5 mins. Then dip it into a mixture of equal parts of muriatic acid and water. Dip the mould spots alternately into these mixtures, or make the first one stronger with the salts of tin, and apply it with a soft rag on the end of a stick. Last of all, rinse the article very thoroughly in cold water. A simple method of removing iron mould succeeds well, providing it is recent, and not very dark: Tie up a teaspoonful of cream of tartar in the moulded place, put it into cold water without soap, and boil it ½ an hour. These processes may be tried for fruit or wine stains with success.

Mildew, To Take Out.

Obtain the dryest of chloride of lime that can be bought, and for strong fabrics dissolve 4 tablespoonfuls in ½ pt. of water. Let the mildewed article lie 15 mins. in this solution. Then take it out, wring it gently, and put it immediately into weak muriatic acid—1 part of the acid and 4 parts soft water. For delicate fabrics, laces, muslins, etc., the solution of lime should be diluted by the addition of 3 or 4 times the measure of water. Let the article lie in it 5 mins., then put into the muriatic acid.

Mildew from Linen, To Take Out.

A good way is to take 2 tablespoonfuls of soft soap and the juice of a lemon. Lay it on the spots with a brush, on both sides of the linen. Let it lie a day or two till the stains disappear.

Ribbons, To Wash.

Make a clear lather of clean white soap in hot water; rub the ribbons through this, applying soap on the wrong side if there are spots difficult to remove. Then rinse carefully. When nearly dry lay them upon the ironing board, with a clean white cloth over them and press carefully with a hot iron. If a little stiffnss is desired, dip them before ironing in a weak solution of gum arabic.

Scorch Marks, To Remove.

If linen has been scorched and the mark has not penetrated entirely through so as to damage the texture, it may be removed by the following process: Peel and slice 2 onions, and extract the juice by squeezing or pounding. Then cut up ¼ oz. of white soap, add 2 ozs. of fuller's earth, and mix them with the onion juice and ½ pt. of vinegar. Boil this composition well, then spread it, when cool, over the scorched part of the linen, and let it dry on. Afterward, wash out the linen, and the mark will be found to have been removed.

Shirt Bosoms, To Gloss.

Take 2 ozs. of powdered gum arabic, pour in a pt. or more of water, and then having covered it, let it stand all night. In the morning pour it carefully from the dregs into a clean bottle, cork, and keep it for use; add a teaspoonful of this gum water to a pt. of starch made in the usual way.

Silk Handkerchiefs, To Wash.

Silk handkerchiefs should be washed with borax, in tepid water, with little or no soap. Iron them before dry.

Soap.

Take 1 oz. of borax, 8 qts. of water, and 2 lbs. of common brown soap. Put the borax into the 8 qts. of water, and let it come to a boil; then cut

the common brown soap into thin slices, throw it into the mixture, and when all is dissolved, pour it into vessels, and allow it to become cool. After the soap is added, it will require about 20 mins. to boil. The evening previous to washing your clothes, put 1 pt. of the soap into 5 gals. of water; let your clothes soak in this preparation until the next morning, then simply wash them out, and hang them up to dry. By using this soap, paint may be cleaned with little labor, and without the use of a brush. It is a valuable winter soap, because it heals, instead of producing chapped hands.

Cheap Soap.

Cut 2 lbs. of common brown soap into thin slices, to which add 1 oz. of borax and 10 qts. of water. Put the whole over the fire, and when the soap and borax are dissolved the soap is done. It requires but little time and trouble to make this soap, which is very valuable for washing dishes, cleaning paint, scrubbing floors, etc. It is, moreover, very healing to the hands. If less water is used, the soap will be harder.

Hard Soap (1).

5 lbs. of grease, 12 qts. of soft water, 1 box of saponifier. Put the grease and water in a kettle, and when melted knock off the top of the box of saponifier, and throw in box and all; boil over a slow fire for 3 or 4 hours until it becomes ropy, then throw in 10 cents worth of borax; let it boil ½ an hour, then throw in a handful of salt, stir well, and put it into a tub to harden; cut in pieces, lay them separately to dry. If any of the soap sticks to the side of the pot pour in a little water, stir well, and let it boil, and it will be nice soft soap.

Hard Soap (2).

1 lb. of concentrated lye dissolved in 2 qts. of soft water; pour into a large pitcher to cool. Melt 5 lbs. of grease of any kind, have it milk-warm and pour in the lye slowly, then stirring rapidly until it begins to thicken. Add 1 or ½ oz. oil of sassafrass. Pour into a box 1 ft. square and cover it, leaving it in a warm place for 3 or 4 days. Cut into squares and it is ready for use.

Soft Soap.

12 lbs. of stone potash, 12 lbs. of clean grease; put the potash in a piece of old carpet, and crack it with the back of an axe into pieces the size of an egg; put it in a large iron kettle with 1 gal. or more of water; when dissolved add the grease, and when thoroughly melted, pour it in the soap-barrel, fill it with hot water, and stir well, and for a day or two stir occasionally.

Soap, Substitute for.

The sawdust of pine and fir trees will do quite as well as soap for washing coarse linen.

Fruit Stains, To Take Out.

Tie up cream of tartar in the spots, and put the cloth in cold water, to boil; or if the stains are much spread, stir the cream of tartar into the water. If they are still visible, boil the cloth in a mixture of subcarbonate of soda, a small tablespoonful to a pail of water.

Ink and Fruit Stains.

10 grains oxalic acid in ½ pt. of water; wet the article stained in hot water; apply to the top of the bottle so that the liquid will reach it, then rinse well.

Ink Stains, To Remove.

Ripe tomatos will remove ink and other stains from white cloth, also from the hands.

Grass Stains, To Remove.

Rub the spot with pure lard before washing.

Stains from Linen, To Remove.

Dip the spot stained in boiling milk before washing.

Tea Stains, To Remove.

Boiling water will remove tea stains and many fruit stains. Pour the water through the stain, and thus prevent it from spreading over the fabric.

Common Starch, To Prepare.

Put a sufficient quantity of white starch, (for instance, from 2 to 3 tablespoonfuls), into a bowl, and mix it gradually with just enough of clear cold water to make it a thin paste, pressing out all the lumps with the back of the spoon till you get it perfectly smooth. Then pour it into a clean pipkin or skillet. Have ready a kettle of boiling water, and by degrees add some of it to the starch, stirring it well. You may allow from a pt. to a qt. of the hot water, according as you wish to have the starch thick, thin, or moderate. Set it on the fire, and boil it well for ¼ hr. If not well boiled, it will not be glutinous. When it has boiled 15 mins., stir it a few times, (merely for a moment each time), with the end of a spermaceti candle. This will prevent its being sticky; but take care not to stir in too much. If you have no spermaceti, sprinkle in a little salt, (about a teaspoonful to a pt. of starch), which will answer a similar purpose, or throw in a lump of loaf sugar. Finish by stirring it hard with a spoon. Strain the starch through a white cloth, and put into it a little indigo water. A little gum arabic added to the starch gives an extreme stiffness.

Silk Stockings, To Wash.

Make a strong lather with boiling water and curd soap. Leave it to get almost cold, then divide it into 2 parts. Wash the stockings well in

1 of the lathers, pressing them up and down, but avoid rubbing as much as possible. Squeeze out the wet and then wash them in the second lather, in which a few drops of gin may be poured. Do not rinse in fresh water, but squeeze out the wet very carefully without wringing. Lay them out flat on a piece of fine linen, and roll them up tightly till almost dry, then rub with a roll of flannel.

Black Stockings—Wash in a cool lather of plain white soap and rain-water, with a little ammonia mixed in it. Keep from the air while drying, by rolling in a cloth. Do not wring, but press the moisture well out. Epsom salts and water form a good rinse.

Another good way to wash black silk stockings is to cut some white soap into thin bits, and boil it in soft water till thoroughly dissolved. Then mix a little of it in cold water, adding a teaspoonful of gall. Having turned the stockings on the wrong side, and rubbed a little of the boiled soap on the dirtiest places, wash them well through the luke-warm suds. Repeat the washing in fresh suds and water, till they are quite clean. Then rinse them through 2 cold waters, adding to the last a little blue from the blue-bag. Then squeeze them well, stretch them even, and hang them out immediately. While still damp, turn them right side out, stretch and pin them on an ironing blanket, and with the end of a bit of rolled up flannel, or a smooth stone, rub them hard and quick one way, till they are quite dry, and look smooth and glossy. This is better than to iron them, which always gives silk stockings an old appearance.

To wash white silk stockings, make a lather of white soap and warm soft water; stretch the stockings on a table, and with a roll of rough, coarse cloth, dipped in the lather, rub them hard, first on one side, then on the other. Repeat the process with 3 lathers. Then dip them in 3 waters to rinse them, and when quite clean hang them up, without rinsing, the wrong side outward. When half dry take them down, stretch and pin them, the right side out, on a cloth. Do not iron them; but rub them till smooth with a small roll of clean flannel. Another method is to wash them in cold soap and water. In the last rinsing it is better to put in a little archil. Shake them well; roll them in a cloth, and pull them out several times.

Water, To Preserve Fresh.

Put into the barrel or cistern 3 lbs. of black oxide of maganese, powdered; stir it well, and the water will keep good an indefinite time.

White Shawls, Shetland To Clean.

Put the soiled article into a large bowl; throw over it ½ teacupful of flour, "dry" rub thoroughly, as if washing them, then thoroughly shake out the flour. If the article is not clean, repeat the process in clean flour. Articles cleaned by this process will retain a new look as long as there is one thread left.

White Shawls, Cashmere To Clean the Middle of.

Mix equal parts of clean soft soap, camphor, and W. I. molasses. Lay a folded sheet upon a bench or table. Lay the white part of the shawl single upon the sheet, and with a clean white cloth rub the mixture into

all of the white, first rubbing the right side and then the other. Rinse in lukewarm water, not wetting the colors unnecessarily. Press the water out, and wring in a dry cloth; iron while damp; crease through the middle, and your old shawl will look like new.

Washing Fluid, To Make.

Add 1 lb. of unslaked lime to 3 gals. of soft boiling water. Let it settle and pour off. Then add 3 lbs. of washing soda, and mix with the lime water. When dissolved, use a large wineglassful to each pailful of water. Add 1 gill of soft soap to a pailful of water.

Wax, To Take Out.

Hold a very hot iron near, but not on, the spot, till the wax melts. Then scrape it off. Lay a clean blotting paper over the place, and press it with a cooler iron till the wax has disappeared.

Woolen Table-Cover, To Wash.

A bright windy day is best for this purpose. Having first taken out all the grease-spots and stains, put the table-cover into a tub with clean suds of white soap and clear water, warm, but not hot (in which have been mixed about 2 tablespoonfuls of ox-gall), and wash and squeeze it well. Then wash it through a second lather, somewhat weaker, of soap, but without any gall in it. Afterwards rinse it through light lukewarm suds, just tinged with soap. Instead of wringing (which will shrivel it), press out as much of the water as you can with your hands; then fold it up in a tight long fold, and roll and press it hard with both hands on a clean ironing table, having set a tub to catch the water that drips from it during the process. Roll it always from you, towards the end of the table. When the water ceases to come from it, shake and stretch it well, and dry it as soon as possible, but not by the fire. Go to it frequently while drying and stretch and shake it. While it is yet damp, take it in, spread it on an ironing-sheet, and iron it on the wrong side, pressing it hard.

Veils and Laces (Black) To Renovate.

Make a very weak solution of gum arabic, so that it will barely be distinguishable from pure water; lay the veil or lace upon an ironing, or other smooth board, and apply the gum-water with a sponge. See that the article to be sponged lies stright and even; and when you have wet it perfectly smooth, let it remain untouched till the next day. This is the way that ladies who embroider their own veils give them their finish. If the gum-water is too thick, there will be danger of tearing the lace in taking it off.

Veils, Black Lace To Clean.

Dissolve ox-gall in warm water, 1 tablespoonful to a qt.; pass the veils through this and rinse in cold water. Dip in gum arabic or glue water to stiffen them; clap between the hands till almost dry, then pin on a frame or bed till quite dry and press between two thicknesses of cotton cloth.

ORNAMENTAL.

Aquarium, To Mend Broken Glass In.

Cover the crack, inside the aquarium with a strip of glass, fastening it with a cement made by dissolving white shellac in ⅛ its weight of Venice turpentine.

Autumn Leaves, To Preserve.

Press them carefully in a cool place between the leaves of books and newspapers with a heavy weight laid upon them. Change them into new books every day, if possible, during the first week, in order that the dampness absorbed by the paper may not discolor the leaves. When perfectly dry, lay them upon a smooth board, and with a soft cloth apply a varnish made by mixing 3 ozs. of spirits of turpentine, 2 of boiled linseed oil and ½ oz. of white varnish. Let them lie until dry and then arrange them according to taste.

Autumn Leaves, To Preserve. (2.)

Have a board about 18 ins. square; lay it over 2 or 3 thicknesses of yellow paper. Have a warm flat-iron and a cake of yellow wax. Place a leaf on the paper, pass the iron over the wax and iron the leaf on both sides until dry; the iron must not be so hot as to make a hissing sound on the leaf. After ironing several leaves, there will be so much wax on the paper that to iron the leaf on one side will be sufficient.

Baskets, To Crystallize.

Take a small basket of iron wire, or split willow, wind it all round with untwisted lamp cotton, then suspend it in a solution made in the proportion of 1 lb. of alum boiled until dissolved in 1 qt. of water. The dish must be deep so the basket will not touch anywhere. It must not be disturbed for 24 hrs., and then, when taken out, the alum will be crystallized all over the basket. Flowers may be ornamented with crystals of alum also.

Mock Coral Baskets, To Make.

Make a basket out of pasteboard, any fancy shape you may choose. Then dip it in a solution made by dissolving 3 sticks of sealing wax in 1 pt. of alcohol. Sprinkle on rice half ground, and do this until the basket is covered. Then paint it the proper color.

Botanical Specimens, To Preserve.

Gather the plants in dry weather; place the ends in water and let them remain in a cool place till next day. Place each plant between several sheets of blotting paper, and iron it till perfectly dry. In this way colors may be fixed. In compound flowers, and those of solid form, care must be taken in cutting away the under part, so that the profile and forms of the flowers will be distinctly shown. This is espec-

ially necessary when the flowers and fruit are fastened with gum to the paper before ironing, as by this means they become almost incorporated with the surface.

Butterflies, To Prepare for Collections.

The first requisite is a net, which is a bag made out of 2 pieces of blue mosquito netting. It should be 2 ft. deep, tapering towards the bottom, and fastened at the top to a circular piece of wire about a foot in diameter. To this should be fastened a light but strong handle 3 or 4 ft. long. To kill them chloroform or ether should be applied to their heads with a small camel's hair brush. Their death will then be quick and painless. Put in a pasteboard box and carry them home. Have cases made with a frame square, and deep enough for the pins to go in. The back must be held in place by little cleats so it can be taken out, and there should be a plate glass fixed over the front. The butterflies are to be fastened to the back by long, slender pins, which will readily enter the soft wood of which that should be made.

Chalk Drawings, To Set.

Take 8 ozs. of highly rectified spirits of wine, 1 dr. of camphorated spirits of wine, 2 drs. of volatile spirits of rosemary, and 2 drs. of the whitest resin, powdered. The back of the drawing to be moistened with this throughout, as it somewhat changes the color of the paper. The brush had better be well washed afterwards.

Chromos, To Clean

Wipe them with a soft feather brush or chamois skin upon which a drop of fine oil has been put. They should never be exposed to the direct rays of the sun. If the coating becomes dulled or bruised, revarnish with mastic varnish.

Ebony, Artificial.

Dry and grind charcoal obtained by treating sea-weed for 2 hrs. in dilute sulphuric acid. Take 16 parts of this and add to it 10 parts of glue, 5 of gutta-percha, 2½ of India-rubber, the last 2 dissolved in naptha. Add 10 parts of coal tar, 5 parts of pulverized sulphur, 2 parts of pulverized alum, 5 parts of powdered resin, and heat the mixture to 300° Fahr. This is the same color and hardness as ebony, and when hard will take a polish equal to it.

Engravings, To Clean.

Suspend the paper, moistened carefully, in a large vessel partially filled with ozone. The simplest way to solve ozone is to clean pieces of phosphorus and place them, half covered with water, in the bottom of the jar in which the pictures are to be hung. To evolve it on a large scale a Ruhmkorff coil giving a constant discharge of electricity, should be used.

Entomological Specimens, To Preserve from Insects.

If crystals of carbolic acid be placed throughout the cabinets, the evaporation of the crystals will thorougly saturate them with carbolic acid vapors, and kill all living insects that are in them.

Evergreens, To Ice.

Dissolve alum by boiling in hard water, in proportion of a pound to a quart. Pour it into a deep vessel, and as it cools the alum will be precipitated. Choose light sprays, and hang them with the stems upwards on cords stretched across the top of the vessel so that they do not touch the bottom; they will attract the alum in the process of crystallization like the threads in sugar candy. The warmer the solution when they are put in, the smaller will be the crystals attached to them, but care must be taken that it be not hot enough to destroy the leaves or fronds; and, if there be berries, like holly, it must be hardly lukewarm. The same solution warmed again will do 2 or 3 bouquets.

Featherwork.

Save the feathers of hens, roosters, pea fowls, etc., to form them into feather dusters or flowers for winter bouquets. For the latter, begin by making a card-box with many divisions for your feathers; then with a sharp scissors trim away all the superfluous parts of each feather, and shape it into an oval leaf, leaving only a short stem. Prepare a good many in this way, carefully cutting away a part of the midrib to render it flexible. Have some wire, cut into short pieces, and some strands of floss silk, and, taking a piece of wire, attach firmly to one end several stiff fibres or a few bits of down; next, take one of the leaves and, bending it gently outward, fix it close to the tuft by winding the silk tightly round the wire. Repeat until you have 6 or 8 leaves around the stamens, and finish your flower by winding the whole stem with green or brown floss. Short goose feathers form lovely white roses by arranging several rows of petals and using yellow centres, while rich green leaves are made from the beautiful tail feathers of the rooster and the wing of the common duck. The breasts of pea fowls give exquisite blue flowers, and the different shades of gray and wood color, found in the plumage of the common hen, will surprise those who have not made a study of the art of feather flower-making. The "family dyes" will color feathers prettily, first by wetting well in hot water, then dipping in a solution of red and blue, with the addition of a small bit of alum to set the color. The plumage of birds of all kinds, and of the wild duck in particular, will vary the collection.

Fern Pictures.

Take a sheet of strong white paper, and with an atomizer pass over it a spray of diluted mucilage, so as to obtain a very thin and slightly sticking film, that will make the ferns adhere of which it is desired to make the picture. The ferns and leaves must have been first pressed in a book, and after arranging them to suit your taste, cause them to lie as closely to the paper as possible; fill an atomizer with very dilute India ink, and blow a spray over the ferns, more or less in proportion as you

want a darker or lighter shade. It is well to do this with intermissions, letting it dry a little, so as to avoid excess of moisture and possibility of running the liquid into drops. When nearly dry, but still a little moist, remove the ferns, which may be used over again several times.

Fern Pictures. (2).

Cover a sheet of paper with a weak solution of salt in water and some white of an egg, well beaten; after it is dry, take it into a dark room, and with a tuft of cotton pass over it a solution of nitrate of silver (50 grs. to 1 oz. of water); dry it in the dark, and the coat of chloride of silver formed on its surface will receive the impression. Then arrange your ferns between two plates of glass, and cut the paper to the same size as the glass plates; place it under them and expose to the sun in the same way as a photographer prints a portrait. Watch it until dark enough, and before removing the paper from the glass take it into a dark room. Here place the picture in a solution of hyposulphite of soda, which will dissolve the chloride of silver, but leave the decomposed material (finely divided black silver) which forms the black background, while the shadows of the leaves will be white.

Fern, Ornaments Made of.

After coloring the ferns, arrange them on a mirror according to fancy, adding, if you wish, a butterfly or two. Place a sheet of clear glass of the same size on the top and secure the two sheets together at the edges and place in a frame. Beautiful ornaments can thus be made.

Fish Scale Embroidery.

This is a very simple process and the effect is beautiful. The first thing to do is to prepare the scales. Take them from some fish—the larger they are the better—and put them into salt water. Let them lie over night, then take them out upon a linen cloth or smooth board, wipe them carefully and lay them between clean papers upon a board and set a weight upon them. Leave them until they are pressed dry and hard, then draw the form of the leaf you wish to represent upon each one and cut it out with a fine sharp scissors. Take a fine steel needle and trace the veins, bearing on hard to make them distinct.

The next thing is to stretch a piece of nice silk velvet of the color you desire upon an embroidery frame. Have your copy before you and sew on the scales one by one with fine gold thread which has been drawn through water to make it flexible. Make the tendrils and leaf stalks with the same thread.

Fish, To Mount and Preserve.

The iridescent tints of the living specimens connot be preserved, but the scales and their color may be preserved to a certain degree by applying tissue paper to them which will adhere firmly, on account of the natural glutinous matter which covers the scales. When the skin has dried the paper may be easily removed by moistening with a damp cloth. Large fish may be preserved entire, but small varieties should be mounted

in sections. If the fish is to be mounted in sections it should be fresh as possible, for the scales will become detached if decay sets in. The fish is first placed on one side, and the uppermost side covered with tissue paper; then extend the fins by means of the same and let them remain a few moments until fixed and dry. Spread a damp cloth smoothly upon the table, and place the fish upon it, papered side down. Cut the skin, with the dissecting scissors, along an oval line, following the contour of the body, a little below the extreme dorsal edge and a little above the ventral one, and remove the skin included within this line. Separate the remaining skin from the flesh, beginning at the head and detaching it downward toward the tail. Sever the spine close to the head and also at the tail and remove the entire body. When this has been done and the eyes removed, wipe out the inside and apply arsenical soap as a preservative. Fill the skin with tow, very evenly placed, and lay it with the open side down, upon a board of proper size, to which it can be fastened by small tacks, beginning at the head and fastening the edges downward towards the tail. Then set it aside to dry, and after it is thoroughly dried remove the paper and insert eyes of wood (painted the proper colors, but not varnished), which can be held in place by means of a little putty. Cover the skin with a coat of colorless varnish and the specimen will be ready for the cabinet.

Cut Flowers, To Keep Fresh.

A good way to keep cut flowers fresh is to lay them in wet cloths. Take them out of the vases at night, sprinkle with cold water, and wrap them with cloth made very wet. The weight of the cloth will not crush the most delicate flowers, while it keeps out of the air and prevents their falling to pieces or opening further.

Flowers, To Have Fresh in Winter.

It is said that perfect buds cut off with stems 3 ins. long just as they are ready to open, the ends covered with sealing wax, and then when the buds are a little shrunk and wrinkled, lay them away wrapped carefully in separate pieces of paper, can be preserved a long time. When you want them to blow, take the buds at night, cut off the ends of the stems and put them in water where a little nitre or salt has been dissolved, and they will open and be beautiful and fragrant.

Flowers, To Preserve in Sand.

Take the finest river or lake sand, and washed perfectly clean, heat it, and when very hot, mix it thoroughly with stearic acid, to 50 lbs. of sand, ½ lb. of the acid. Let it cool, take a small sieve and place it in a pan. Pour in enough sand to hold the flowers in position in the sieve, not covering them; then with a sheet of paper in the form of a funnel, carefully let the sand pass between, around, and over the flowers, covering them about ½ in. deep. Place them where there will be an even temperature of about 70°. The length of time which they must remain in the sand depends on the thickness of the leaves and petals, varying from 7 to 12 or more hrs., as may be found best. When they have remained long enough raise the sieve carefully and let the sand run out,

leaving the flowers perfectly dried. By this process the color and shape of the flowers are preserved and they will remain beautiful for many months.

Glass, To Frost.

A strong solution of sulphate of zinc in water, is used upon the inside of glass, which, after it becomes dry, is covered with a coat of varnish. It prevents people from looking in, and yet does not materially obstruct the light.

Glass, To Transfer Pictures to.

Make a varnish of alcohol, 15 ozs., Venice turpentine 1 oz., gum sandarach 4 ozs., and mastic 1 oz. Let them dissolve together in a bottle, shaking them frequently. Take good plate glass of the size of the picture to be transferred, and go over it with the above varnish. Press the picture down firmly and evenly upon it, so that no air can lodge between. Lay it aside until it is perfectly dry. Moisten it cautiously with water, and then remove it piece by piece with the fingers. Carefully done, a complete transfer of the picture will be made to the glass.

Glycerine, Testing.

Glycerine, if rubbed between the fingers, should not emit a fatty odor; it should not turn brown, when treated slowly with sulphuric acid, nor become cloudy if treated with nitric acid and nitrate of silver.

Gold Fish, Care of.

Allow 1 qt. of water for every fish and change it daily in summer, and every other day in winter, always using the same kind. Put the water in deep vessels with small pebbles in the bottom. Keep them in a cool, shady part of the room. Never handle the fishes, but use a net when changing the water. They need very little food, not oftener than every third or fourth day, and then in the smallest quantities. From November to the end of February they need nothing, and but little in March, April and May. Feed them crumbs of crackers, flies, bits of lettuce and the yolks of eggs, but not bread. In this way they will live 10 or 12 years.

Grasses, To Crystallize.

Dissolve 1 lb. of best, white pulverized alum, over a slow fire, in a qt. of pure, soft water. The beauty of the grasses depends on the pure whiteness of the crystals; hence the mixture must not be allowed to boil, and care must be taken that nothing gets in that can possibly stain it. After the alum is dissolved, let the solution cool down to blood heat. Arrange the grasses in a new earthen bowl, pour the solution over them and cover up and set away for 24 hrs. Take the grasses out carefully, dry them in the sun 4 or 5 hrs. and arrange in vases prepared for them. When the grasses are formed into a bouquet before crystallizing, take a glazed earthen jar, and suspend the bouquet from a stick laid across the mouth of the jar, and pour on the solution. The alum water that remains may be reheated, tinged blue, purple, or scarlet, by

a few drops of dye and used again. All kinds of plants may be treated in the same way.

Ivory, Imitation.

Add 3 per cent. of sal-ammoniac to liquid chloride of zinc of 50° to 60° Baume; make it of proper consistence by adding as much zinc-white as is necessary. Run this cement into moulds, and it will be as hard as marble when hard.

Ivory and Bones, Bleaching.

Place the articles to be bleached upon strips of zinc in a glass vessel containing spirits of turpentine, and let them remain in the fluid 3 or 4 days if in the sun, and a little longer if in the shade. They should be a fraction of an in. above the bottom of the glass vessel, as the turpentine acts as an oxidizing agent, and the acid liquor produced by the combustion sinks to the bottom, and strongly attacks the bones if they touch it. This process removes the disagreeable odor and fatty emanations of bones or ivory, leaving them beautifully bleached. Turpentine is also used to bleach woods of various kinds, especially maple, elm, cork and beech.

Leaves and Sprays, To Frost.

Purchase, at any glass manufactory, a few pennyworths of powdered glass, or powder some pieces of broken glass, by breaking or rolling them yourself, but beware lest any chips of the glass get into your eyes (which should be covered with a gauze veil to protect them while you roll and pound the glass); dip the leaves and sprays in a thin gum water; then shake the powdered glass over them and let them dry. The effect is wonderful.

Leaves, To Skeletonize.

The best leaves for this purpose are those of exogenous plants. These may be known, by those not familiar with botanical descriptions, by a vein running through the center from the base to the point, and smaller veins branching off from it, while the other class, or endogenous plants, have several veins of equal size, which rise from the base and curve towards the apex of the leaf. To get rid of the fleshy part of the leaves, put them in an earthenware pan or tub of rain water, so that they shall be entirely covered, and let them stand in the sun. They will probably need to stand at least a fortnight, but examination will show when they are pulpy and decaying. Then procure some cards, a camel's hair brush, and another that is rather stiff. Float a leaf on the card, and with the camel's hair brush remove the skin. Have ready a basin of clear water, and when the skin of one side is removed reverse the card quickly, and slip it under the leaf again. This will bring the other side uppermost, and the skin may then be removed from that, and with it most likely will come the fleshy part. If any remains it can very easily be washed off, or removed with the soft brush. If it continues obstinate, use the hard one, taking great care not to break the ribs. It is impossible to use the hard brush with any horizontal motion without breaking the skeleton. The next thing is the bleaching process. Prepare a solution of

chloride of lime. Let it settle and pour off the clear liquid. Then float the skeletons off of the cards, ½ doz. at a time, and in from 2 to 4 hrs. they will be ready to be taken out and washed in several waters. Let them lie, at the last, in clear water for ½ hr. Then float each one on a card again, arranging them flat and in the natural shape. Use the camel's hair brush to assist in this operation. Choose well grown leaves, without flaws. When they are thoroughly skeletonized they should be pure white, with every rib perfect. Then placed upon a back ground of black velvet, they are very beautiful.

Leaves, Plants, Etc., To Take Impression of.

Oil ½ a sheet of fine wove paper with sweet oil; after standing a few minutes, to soak through, rub the superfluous oil off with a piece of paper, and hang the oiled paper in the air to dry. When well dried, move the paper over a lighted lamp in a horizontal position, so as to touch the flame, till it is perfectly black. Lay the plant carefully on the oiled paper, place a clean paper over it, and rub it with your fingers equally in all parts for ½ a min. Take up the plant, being careful not to disturb the leaves, and place it on the paper on which the impression is to be made. Cover it with some blotting paper, rub it with your finger a short time, and an impression will be made superior to the finest engraving. A great number of impressions may be taken off with the same piece of paper. The impression of the most minute views, and hairs of the most delicate flowers, can thus be made, and afterward colored, if you wish to do so.

Moss Ornaments.

Cover a common glass tumbler with moss, which can be kept in place by winding thread around the tumbler. Set this into a saucer, upon which you have glued dry moss, and fill the tumbler and the remaining space in the saucer with loose earth from the woods. Plant a variety of ferns in the tumbler, and wood violets in the saucer. Plant on the edge of the grass some of the little evergreen vine which has scarlet berries, and whose glossy, dark ivy-like leaves will combine beautifully with the blue and white violets. Instead of this you can fill a deep plate with some of the silvery, light green, and delicate pink mosses, that are found in swamps and marshes. If watered once a day, and kept in the shade, it will be beautiful for a long time. Place in the centre of this some large azure violets, and add curious lichens, fungous growth from the barks of old trees, a few pebbles, shells, and cones.

Moss Work.

Having collected different varieties of wood moss, beautiful bits of bark and dried leaves, make a design, a landscape if you choose. Paint a sky; glue thin bits of bark and moss on to form ruins; use moss for the rocks; dried forest leaves will represent distant mountains, and bright colored and green mosses of various tints will form the foreground. A very pleasing effect can be produced in this way. Much, however, depends on the ingenuity of the artist. A deep frame will make the picture appear to better advantage.

Some prefer to paint mountains, using moss and leaves only in the foreground.

Paper, To Make Transparent.

Dampen any white paper with pure and fresh distilled benzine and it will become transparent, and tracing can be made upon it. As the benzine evaporates, the paper will become opake again, but if the drawing is not complete dampen the part again until it is finished.

Pencil Drawings.

Dissolve isinglass in spirits of wine, and a small portion of it put into water forms a good fixing for pencil drawings. Also, a weak solution of gum arabic in water, as strong as it can be without in the least glazing the paper. Or use skim milk.

Pencils, Copying, To Make.

There are pencils sold by stationers, the marks of which may be copied in the same way as writing made by the pen with ordinary copying ink. To prepare the leads: Make a thick paste of graphite, finely pulverized kaslin, and a very concentrated solution of analine blue, soluble in water. Press this mixture into cylinders of proper size, and let them dry, when they will be ready for use. You can substitute gum arabic for the kaslin.

Pencil Writing, To Fix.

It can be rendered nearly as indelible as ink by passing the moistened tongue over it. Breathing upon it will make it much more difficult to erase. But a more certain way is to lay it in a shallow dish and pour skimmed milk upon it. When the paper is wet over, take it up and let the milk drain off, and then take a feather and whip off the drops at the lower edge. Dry it carefully, and the writing cannot be removed, even with India-rubber.

Plant Specimens, To Preserve.

Have ready a few quires or reams of unsized paper of folio size. Place 40 or 50 sheets in the portfolio on starting out on an excursion. Put the specimens of each species of plant in a separate sheet as fast as gathered. On returning to the place of starting, lay these, without disturbing the plants, between the drying papers of the press, and draw the straps tightly. If you have no press, use newspapers, and put them between two boards, with weights flat upon them. Change the drying papers every day until the specimens are perfectly dry.

It is well to keep the name of the locality where each plant is found, also the month and day when it was gathered. A description of its general appearance, and the color of the flower, etc., should also be written out and appended to the sheet. Whenever it is possible, collect the root also.

People in traveling often have an opportunity to collect specimens if they know how to manage the matter. Take with you some thick,

strong paper folded in quarto form, and bound tightly together with cords. This can be rolled up in a shawl or blanket and easily carried. The plants can be collected and kept in the shade—in the crown of the hat if there is no other place—and arranged at noon or night. Great care must be taken to keep the papers free from mould or dampness.

Plaster Casts, To Bronze.

Varnish them over or put on a coat of oil, and when this is almost dry apply with a camel's hair pencil any of the metallic bronze powders. Sometimes the powder is put into a little bag of muslin and dusted over the surface, which must be afterwards varnished.

Rosebuds, To Preserve.

Cover the end of the newly cut stem with wax, then place each one in a closed paper cap or cone, so that the leaves do not touch the paper. Then coat the cap with glue, to keep out moisture, air, and dust, and when dry stand it up in a cool place. When you wish to use the buds take them out of the cap and place them in water, after cutting off the end, and the roses will bloom in a few hours.

Sea-Weed, To Preserve Specimens of.

Collect the specimens when the tide has just begun to flow after the lowest ebb, as they are then floated in, in good condition. The only specimens worth preserving are either red, green, purple, black, or olive. To mount them, immerse a piece of paper just below the surface of the water, supporting it with the left hand; place the weed on the paper, and keep it in its place with the left thumb, while with the right hand you spread out the branches, using, if necessary, a bone knitting needle or a camel's-hair pencil. If there are too many branches, cut off the erect and alternate ones, by means of a pair of sharp-pointed scissors, close to their junction with the main stem. Gradually raise the paper in a slightly sloping direction, when the specimen is laid out, being careful to prevent the branches from running together. If you immerse the extremities of the delicate species a second time before taking them entirely from the water they will be greatly improved. Then lay the papers flat upon coarse bibulous paper, long enough to absorb the superfluous moisture. Next place each specimen upon a sheet of thick white blotting paper, and put a piece of washed and pressed calico over it, and above the calico another layer of blotting paper. Press several of these layers in the ordinary way, using only slight pressure at first. Remove the papers, but not the calico, in 6 hrs., and then change them every 24 hrs. until dry. The calico, if not previously washed, is apt to adhere to the algæ, and if wrinkled it produces corresponding marks on the paper. For the herbarium mount each species on a separate sheet of demy or cartridge size. You can use ordinary drawing paper, but toned paper shows off the specimens better, a neutral tint being used for the olive, pink for the red, and green for the green series.

Snow-flakes, To Make.

Dip pieces of cotton wool, the size of snow-flakes, into weak gum-water. Dust them over with glass powder. These flakes are pretty for Christmas ornamentation of all kinds.

Spatter-Work Pictures.

Arrange on a sheet of fine uncalendered drawing paper a bouquet of pressed leaves, trailing vines, letters, or whatever you wish to have appear white. Wet a tooth-brush in India ink, and draw it across a stick in such a manner that the bristles will be bent, and then quickly released. Spatter the leaves and paper over and over again, putting the most ink on the centre of the pattern, and shading carefully toward the edges. When sufficiently spattered remove the design, and the forms will be found accurately reproduced on the tinted background. Some draw the brush over a small piece of wire gauze, and think the work is superior to that produced in the other way. These delicate designs in white on a softly-shaded ground are very beautiful.

Sun Drawing.

Draw a design on a piece of tracing paper with a pencil; trace the lines with very black ink; turn the paper over and trace again on the reverse side; fasten the paper by the corners to a pane of clear glass. Dissolve ½ oz. bichromate of potash in 2 ozs. of hot water; strain when cold, and with this, brush over the paper or silk which is to receive the design. The material thus prepared should then be placed between the paper and the glass and all fastened together and exposed to bright sunlight, glass on top, then the design, then the bichromate paper. The design will be printed deeply in a few minutes. The fabric must then be washed and soaked for a short time in clean water, then dried, and pressed with a warm flat-iron.

Transferring, To Glass.

Perfectly clear glass must be used. After cleaning thoroughly, varnish the glass perfectly smooth, place it where it will be perfectly free from dust, and let it stand over night. Lay the engraving in water until it is thoroughly saturated; then place it upon a newspaper, to dry the moisture from the surface, and keep the other side damp. Varnish the glass a second time, place the engraving on it, pressing it down firmly, to exclude every bit of air. Rub the paper from the back until it is of uniform thickness, thin enough that you can see through it, varnish for the last time, and let it dry. For the varnish take 1 oz. of spirits of turpentine and 2 ozs. of balsam of fir. Apply with a camel's hair brush.

Tracing on Paper That Can be Washed.

Saturate writing paper with benzine, and immediately coat it lightly with a varnish made of lead shavings, 1 part, oxide of zinc, 5 parts, Venice turpentine, ¼ part, and boiled bleached linseed oil, 20 parts. After mixing, boil for 8 hrs., and when cool, add 5 parts of white gum-copal and ½ part of gum-sandarac.

Transfer Paper.

Rub a mixture of black lead and soap over the surface of common silver paper. This will make a good transfer paper for copying monumental inscriptions and metalic patterns.

Tracing Paper, Temporarily Transparent.

Dissolve castor oil in absolute alcohol, and apply the solution to the paper with a sponge. As the alcohol evaporates the paper becomes dry. After the tracing is made, immerse the paper in absolute alcohol to remove the oil, and restore the sheet to its original opacity.

Transparencies, To Make.

Cut slits into the broad lights of a prettily colored landscape with a penknife; place a white paper of medium thickness behind it, and interline with orange or rose colored paper. Bind the picture, the colored paper, and the paper that forms the back together, with any color that you like for a frame. Separate the cut edges of your landscape by pressing them apart. When hung in the window, the sun shining through makes the effect beautiful.

Engravings prepared as for Grecian painting, are pretty for screen or to hang in the window. In the same way lamp shades may be made.

Turkish Mats from Brussels Carpet, To Make.

The materials necessary are tapestry Brussels and coarse wrapping twine. Cut the carpet crosswise in strips of 2 and 2½ ins. wide, and ravel out the wool threads. Be careful not to separate the cluster. Set up knitting on large steel needles; take up one stitch of knitting; put one of the carpet threads on the needle, too; then put thread around needle and knit both through the one stitch; repeat this to end of row, then knit back plain; third row same as first. Knit as many and as long strips, which, sewed together, will make a mat of size required; then line and finish with fringe.

Varnish, Cheap Gold.

A cheap substitute for the expensive gold varnish used on ornamental tinware, is made of ½ gal. of turpentine, ¼ gill of asphaltum, 2 ozs. of yellow aniline, 4 ozs. of umber, 1 gal. of turpentine varnish, and ½ lb. of gamboge, mixed thoroughly, and boiled for 10 hrs.

Varnish, For Maps.

Mix equal parts of oil of turpentine and genuine Canada balsam. The bottle should be set in a warm place, and agitated until the solution is perfect. After remaining a week in a warm place, to settle, the clear varnish may be poured off for use. Cover the map with a thin solution of glue before using the varnish.

Whitewash.

The addition of a strong solution of sulphate of magnesia will greatly improve whitewash.

Withering Flowers, To Revive.

Take them from the vase, throw out the cold water, and replace it with hot water, in which you can barely hold your finger; put in the flowers immediately. The effect is wonderful.

Wood, Red Stain For.

Cherry or pear tree wood may be colored a handsome red, by a coat of a strong solution of permanganate of potash. The color will be permanent, and will vary in shade according to the time the solution is left on.

Woods, Dyeing.

Light woods may be dyed by immersion. To make a crimson dye, boil 1 lb. of ground Brazil wood in 3 qts. of water, to this add ¼ oz. of cochineal, and boil ½ hr.; the wood should be previously washed with ¼ oz. of saffron to 1 qt. of water. This dye is used for pear wood or sycamore. For purple satin finish, soak 1 lb. of logwood chips in 3 qts. of water, and boil well 1 hr.; add pearl-ash, 4 ozs., powdered indigo, 2 ozs. To produce black, use copperas and nut galls, or 2 coats of black japan, afterwards varnish or polish, or use lampblack before laying on the japan. To produce a blue stain, put 1 lb. of oil of vitriol in a glass bottle, with 4 ozs. of indigo; lay on the same as black. A fine green is produced by using 3 pts. of the strongest vinegar, 4 ozs. of best powdered verdigris, (poison), ½ oz. of sap-green, and ½ oz. of indigo. To stain wood a bright yellow, use aloe; varnish or polish the whole.

Wood, To Ebonize.

Collect on a piece of slate the lampblack from a lamp or candle. Scrape off the deposit, mix with French polish, and apply to the object in the ordinary way.

Wood, Brown Stain For.

Make a solution by boiling 1 pt. of catechu, (cutch or gambier) with 30 pts. of water, and a little soda, and paint the wood with it; when dry, paint it over with a solution of bichromate of potash, 1 pt.; water, 30 pts. The colors will be permanent, and will preserve. Different shades may be obtained by difference in the mode of treatment, and varying the strength of the solutions.

Writing, To Take Out.

Take camel's hair pencils, dipped alternately in solutions of cyanite of potassium and oxalic acid, and pass over the writing.

Wood, To Transfer Pictures to.

A light colored, hard wood should be chosen for this purpose. First varnish it over, where the picture is going, with fine copal varnish. Then take the engraving, which has been floating for an hr., picture side up, upon some water, into which salt has been dissolved, and, after drying it a little between linen cloths, lay it, face downward, upon the varnished wood, and smooth it nicely. If the picture covers the whole of the wood, then place a board upon it and weights, letting it remain thus over night. In the morning dip the finger into salt and water and commence rubbing off the paper slowly, carefully and evenly. Continue this until it is all off and only the black lines and the shading of the picture remain, which must then be varnished over 2 or 3 times with copal varnish. Of course the right side of the engraving will now be the left side of the picture.

PESTS OF THE HOUSE.

It is not necessary to tell the careful housekeeper that perfect cleanliness is the only sure guard against the annoying pests of the household. Every nook and corner must be cleaned often, and no decaying matter allowed to remain for one moment.

Even with the greatest watchfulness, however, they will sometimes find their way in to perplex and annoy. When they do so, the following recipes will be found most useful in getting rid of them:

Ants, To Destroy.

A dry sponge sprinkled with sugar and laid where the ants are in the habit of coming; the next morning plunge quickly into boiling water, and most of the intruders will be destroyed. Carbolic acid, wiped around the edges of the shelves and wherever they seem to come from, is a good thing.

Ants, To Drive Away. (2.)

The little red ants will leave closets where sea-sand is sprinkled, or where oyster-shells or sprigs of arbor vitæ are laid. Scatter sprigs of wormwood in places infested with black ants.

Ants, To Banish. (3.)

1. Red ants may be banished from a pantry or store-room by strewing the shelves with a small quantity of cloves, either whole or ground. The former is not so likely to get into the food placed upon the shelves. The cloves should be renewed occasionally, as after a time they lose their strength and efficacy.
2. Sprigs of wintergreen or ground ivy will drive away red ants.
3. For black ants, use branches of wormwood.
4. To keep insects out of sugar barrels, draw a wide chalk-mark around the top near the edge.

Bed Bugs, To Exterminate.

The quickest and handiest exterminator is kerosene, or crude petroleum oil, drenching all parts of the article of furniture thoroughly and effectively.

Bed Bugs, To Remove.

1. Blue ointment and kerosene mixed in equal proportions and applied to bedsteads, is an unfailing bed-bug remedy, and a coat of whitewash is ditto for the walls of a log house.
2. Another mode of destroying the vermin is, a saturated solution of alum applied hot, with a brush, to every joint and crevice that can possibly harbor them. Spirits of naptha, also, applied in the same way, but cold, has been found effectual.

Bugs, To Destroy.

As an insect destroyer, the juice of the tomato plant is said to be of great value; the leaves and stems are well boiled in water, and when the liquid is cold, it is sprinkled over plants attacked with insects, when it at once destroys caterpillars, black and green flies, gnats, and other enemies to vegetables, and in no way impairs the growth of the plants. A peculiar odor remains and prevents insects from coming again for a long time.

Bugs, Fleas, etc., To Destroy.

Make a mixture of 20 parts of essence of petroleum, and 80 parts of bisulphide of carbon, and wash or sprinkle the places troubled.

Caterpillars, To Destroy.

Boil together equal parts of rue, wormwood, and tobacco, in common water. Make the liquid very strong. Sprinkle it on the leaves and young branches every morning and evening during the time the fruit is ripening.

Chinch-Bugs, To Destroy.

In the crotches of the trees attacked, put old pieces of rag or carpet. When the worms spin in the rags, throw the latter into scalding water and the bugs will thus be killed in great numbers.

Cockroaches, To Drive Away.

No other poison will destroy cockroaches as soon as poke-root sliced thin and laid about a house. Instead of using it this way, the root may be boiled until the strength is extracted, 1 oz. should be used to 1 pt. of water. If mixed with molasses and spread on plates in places infested by insects, it will destroy them without fail.

Cockroaches and Beetles, To Destroy.

Strew the roots of black hellebore at night in the places infested by these vermin, and they will be found in the morning dead or dying.

Another way is to put about 1 qt. of water, sweetened with molasses, in a wash basin or smooth glazed china bowls. Set it at evening in a place frequented by the bugs. Around the bowl put an old piece of carpet so that the bugs can have easy access to the top. They will go down in the water, and can be destroyed.

Crickets, To Destroy.

A little ginger cordial being placed in a dish before the fire will attract it, and on partaking of the liquor it will die. The best mode of destroying the insect in its nest is to put snuff into the chinks of the grate.

Fleas, To Get Rid of.

Fleas are often brought into the family circle by pet dogs and cats. The oil of pennyroyal will drive these insects off; but a cheaper method, where the herb flourishes, is to bathe your cats and dogs in a decoction of it once a week. When the herb cannot be procured, saturate strings in the oil and tie them around the necks of cats and dogs. These applications should be repeated every 12 or 15 days.

Flies, To Destroy.

House flies may be effectually destroyed by putting ½ spoonful of ground black pepper on 1 teaspoonful of brown sugar and 1 teaspoonful of cream; mix them well together and place them in a room where the flies are troublesome, and they will soon disappear.

Flies from Injuring Picture Frames, etc., To Prevent.

Boil 3 or 4 onions in 1 pt. of water; then with a gilding brush do over your glasses and frames, and the flies will not alight on the article so washed. This may be used without apprehension, as it will not do the least injury to the frames.

Flies, To Keep from Meat.

It has been found that flies can be prevented from approaching meat exposed for sale by the use of laurel oil. The smell of this oil is not offensive, although a little strong, and it will prevent flies from coming near anything upon which it is rubbed.

Flies, To Keep from Stables.

Saturate sawdust with diluted carbolic acid—1 part of acid to 100 parts of water. This sawdust, scattered about in stables, keeps all flies away. A similar application of the acid ought to keep them from kitchens.

Adhesive Fly Paper.

Melt some resin, and while soft add to it enough sweet oil, lard or lamp oil, to make it, when cold, of the consistence of molasses. This

spread upon stiff paper will not dry in a long while, and is so sticky that insects coming in contact with it will be held fast. Strips of this paper fastened closely about the trunks of trees, plants, etc., the varnish side out, prevents the ascent of insects. It possesses a great advantage over ordinary fly paper by not being poisonous.

Insect-Catching Device.

Having covered the inside of an old tub with liquid tar, put a lighted lantern in it at twilight, and leave it there over night. The bugs in trying to reach the lantern are caught and held by the tar.

Mice, To Drive Away.

Gather any kind of mint and scatter it about your shelves, and they will not trouble you.

Mosquitos, To Keep Out of a Room.

Take of gum camphor a piece about ½ the size of an egg, and evaporate it by placing it in a tin vessel, and holding it over a lamp or candle, taking care that it does not ignite. The smoke will soon fill the room and expel the mosquitos. The burning of a little olibanum or myrrh in a room is good.

Mosquitos, To Prevent Biting.

Dilute a little of the oil of tansy, or of thyme, with sweet oil, and dip pieces of paper in it and hang in your room, or rub a little on the hands and face when going to bed. It is also said that a little coal oil dropped on some raw cotton, and rubbed over the hands and face, will prevent their coming near.

Mosquito Bites, To Cure.

Apply at once a few drops of aqua-ammonia, or an infusion of tobacco, either of which will allay the itching. Extract of witchhazel is also good.

Moths, To Keep From Clothing and Furs.

Brush them thoroughly, so as to be sure there are no eggs secreted in them; then wrap them carefully in linen cloths, or newspapers, putting a piece of gum camphor, tied up in a bit of muslin, into each bundle, or into the chests or closets where the articles are to be.

Moths in Carpets, To Kill.

Wring a coarse, crash towel out of clear water, spread it smoothly on the carpet, iron it dry with a good hot iron, repeating the operation on all parts of the carpet where the moths are likely to be, and the heat and steam will destroy them.

Moth, To Prevent.

The cuttings of Russia leather placed with furs, blankets, cloth, etc., will effectually prevent moth. Camphor is also a good thing. The article must be kept in a dry place, and free from dust.

Moths, To Kill.

Take furs or pillows infested with moths, and put them into a brick oven, which has just been used for baking. Let them remain over night, and the next day beat them well in the open air.

Bee Moths, To Kill.

After dark set a pan of grease, in which is a floating, ignited wick, near the hives. The moths, attracted by the light, fly into it, and fall into the grease.

Rats, To Destroy.

Cover the floor near their holes with a thin layer of moist caustic potash. When the rats walk on this it makes their feet sore. These they lick with their tongues, which makes their mouths sore, and the result is, they not only shun this locality, but it seems to prevent others coming, so that the house and neighborhood is entirely abandoned by them.

Rats, To Destroy. (2).

Fill a deep, smooth vessel, of considerable capacity, to within 6 ins. of the top with water, cover the surface with bran, and set the vessel in a place most frequented by these pests. In trying to get at the bran, they will fall in and be drowned.

Rats and Mice, To Destroy. (3.)

Mix some ground plaster of Paris with brown sugar and Indian meal. Set it about on old plates, and leave beside each plate a saucer or pan of water. When the rats have eaten the mixture, they will drink the water and die. To attract them toward it, you may sprinkle on the edges of the plates a little of the oil of rhodium.

Rats, Extermination of. (4.)

Pour bisulphide of carbon into a lead pipe, inserted in a rat hole. Use about 1½ ozs. of the liquid at a time. If several holes are near together, stop all but the one into which the bisulphide is poured, with bricks. This process should only be used out of doors, never in buildings.

Rats and Mice, To Drive off.

If you are troubled with mice and rats, gum camphor placed about their haunts will keep them away.

Rats Dying in Their Holes, To Prevent.

Poison them by mixing ½ lb. of carbonate of barytes with ½ lb. of lard. It produces great thirst, the rats leave their holes to drink, and are unable to return.

Red Spiders, To Exterminate.

At least once a day syringe the plants freely with water, being careful to wet the under side of the leaves. Keep the room as light as possible, ventilate freely whenever the weather will permit and keep the air moist by setting pans of water on the stove or register. If the soil is dry, use enough water to moisten all the soil in the pot and no more until the surface is dry again. Plants should be repotted in rich fresh soil if they seem stunted or sickly. If the above treatment is continued the red spiders will disappear, as they do not like the water.

Trichinæ in Pork, Cause of.

Swine may be infested with trichinæ by eating carrion or even decayed vegetables. Farmers should reject the theory that putrid swill, dead chickens, or any other filth about the place may be fed to the pigs without doing any harm.

WARES, MARBLES AND METALS.

Alabaster, To Clean.

Wash with soap-suds. If stained, whitewash the stains; let it remain on several hrs., then clean it off. Take the finest quality of ground pumice stone, and mix it with verjuice; let it stand 2 hrs., then dip in a sponge and rub the alabaster therewith; wash it with a linen cloth and fresh water, and dry it with clean linen rags.

Alabaster, To Clean. (2.)

With 1 pt. of cold rain-water mix 2 ozs. of aquafortis; wash the alabaster in this liquid for about 5 mins. with a brush; then rinse in clean water, wipe, and set in the sun for 2 or 3 hrs. Soap discolors it.

Alabaster, To Clean. (3.)

The Italian manufacturers of it clean it by rubbing it with lemon-juice.

Boards, Marble, etc., To Take Grease Out of.

Make a paste with soft soap, fuller's earth, and a little pearl-ash; cover the spots with this, let it dry on, and wash it off the next day.

Brass, For Polishing.

Boil ½ lb. of raisins in 1½ pts. of water; dissolve 1 oz. of oxalic acid in this water. Wash the brass with the mixture until it becomes clear; polish with buckskin and rotten-stone.

Brass, To Clean.

Rub it with a piece of flannel dipped in sweet oil, then rub it hard with finely powdered rotten-stone, then with a soft linen cloth; polish with a bit of wash-leather. Rub creaking hinges with soft soap.

Lacquered Brass, To Clean.

Boil your articles 1 hr. in soft water, then make a strong lather of soap and soft water; let them lie in this 2 days, being frequently taken out and brushed with a hard brush. When dry, rub with a leather or cloth.

Brass, Mixture For Cleaning.

½ lb. of powdered rotten-stone, 5 ozs. of sulphuric acid, 5 ozs. of olive oil, 1½ pts. of alcohol, 3 pts. of water.

Britannia Ware, To Clean.

It should be first rubbed gently with a woolen cloth and sweet oil, then washed in warm suds, and rubbed with soft leather and whiting.

Britannia Metal, To Clean.

Finely powdered whiting, 2 tablespoonfuls of sweet oil, and a little yellow soap, melted to the same thickness; mix with a little spirits of wine. Rub this cream on with a sponge or soft flannel, wipe it off with a soft cloth, and polish with a leather.

Britannia Metal, To Clean. (2).

Moisten the articles to be cleaned with sweet oil; then apply a little powdered rotten-stone, and polish with chamois leather and fine chalk.

Damp, Green Bricks, Wash For Cleaning.

Put 1 pt. of oil of vitriol into a bucketful of water, take an old broom and plentifully sprinkle the liquid on the bricks. Let it remain ½ hr., then scrub well with cold water. This is very powerful, and will destroy clothes or shoes.

Bricks, Wash For.

1 lb. of Venitian red, ½ lb. of Spanish brown, 2 teacupfuls of rye flour. Mix with water, and wash the bricks carefully.

Real Bronze, To Clean.

Wash the ornaments gently, (with a sponge), with soap and water, then rinse them in beer. Do not wipe it off, or rub the ornaments at all, but place them in a warm room, at a little distance from the fire, until they are quite dry. Use very little soap. Bronzed chandeliers, lamps, etc., should be only dusted with a feather brush, or soft cloth. Washing takes off the bronzing.

Bright Bars of a Polished Stove, To Take Black from the.

Boil slowly 1 lb. of soft soap in 2 qts. of water down to 1 qt. Take 3 or 4 spoonfuls of this jelly and mix to a consistence with emery. Rub them well with this mixture on a bit of broad-cloth; when the dish is removed, wipe them clean, and polish with glass, not sand paper.

China, For Mending.

Boil a piece of flint glass in water (river water) for 3 or 4 mins., then pound and grind as fine as possible; mix with the whites of eggs until it becomes a paste. This is the Chinese method.

China, To Mend. (2.)

Make a very thick solution of gum-arabic in water, and stir into it plaster of Paris until the mixture becomes a thick paste. Apply it with a brush to the fractured edges, and stick them together. The whiteness of the cement renders it doubly valuable.

China, To Mend. (3.)

Grind a piece of flint glass on a painter's stone to the very finest powder; rub it into a paste with the white of an egg, and it will form a cement that will unite china so completely that it cannot be separated by any means.

Glass Chimneys Cracking, To Prevent.

If the chimney-glass of a lamp be cut with a diamond, on the convex side, it will never crack, as the incision affords room for the expansion produced by the heat, and the glass, after it is cool, returns to its original shape, with only a scratch visible where the cut is made. Another way is to put them in cold water and let them heat gradually, then boil 1 hr.

Block Tin Dish Covers, etc., To Clean.

Having washed the block tin articles quite clean in warm water, rub the inside with soft rags moistened with fine wet whiting. Then take a soft linen cloth, and go over the outside with a little sweet oil. Next rub it all over with fine whiting, powdered and sifted and put on dry. Afterward finish with a clean dry cloth.

Earthenware, To Preserve.

Put earthenware into water, heat gradually until it boils; then cool. Brown, particularly, toughens in this way. A handful of rye or wheat bran thrown in while it is boiling, will preserve the glazing.

Earthenware, To Temper.

When new, and before used for baking, put in cold water to cover, and heat it gradually until the water boils. This makes it less likely to crack.

Tarnish from Egg Spoons, To Remove.

This may be easily removed by rubbing it with table salt or a little ammonia.

Fire-Arms, To Brighten.

They can be kept bright by rubbing them with alum dissolved in the strongest vinegar; Montpelier is the best.

Flat-Irons, To Take Starch or Rust from.

Tie up a piece of yellow beeswax in a rag, and when the iron is almost, but not quite hot enough for use, rub it briskly with the wax, and then with a coarse cloth.

Freestone, To Clean.

Rub the hearth with soap, and wipe it with a wet cloth. Or rub it over with a little freestone powder, after washing the hearth in hot water. Brush it off when dry.

Frames, To Prevent Flies from Soiling.

Immerse a quantity of leeks for 5 or 6 days in a pailful of water, and wash the picture frames with it.

Gilt Frames, To Renew.

Take 2 ozs. of white of eggs, 1 oz. of chloride of potash, or soda; mix well; blow the dust from the frames; then go over them with a soft brush dipped in the mixture, and they will appear equal to new.

Gilding, To Clean.

Brush off dust with a feather brush. Never wipe with linen, it takes off and deadens the gilding.

Gilding, To Improve.

Mix a gill of water with 2 ozs. of purified nitre, 1 oz. of alum, and 1 oz. of common salt. Lay this over gilt articles with a brush, and their color will be much improved.

Glass Cleaning.

Windows, looking glasses, etc., may be cleaned as follows: Dip a moistened rag or flannel into finely powdered indigo, fuller's earth, ashes, or rotten-stone, with which smear the glass, and wipe it off with a dry, soft cloth.

Glass that Has Been Broken, To Join.

Dissolve ½ oz. of isinglass in a little spirits of wine, add a tablespoonful of water; warm it slowly over the fire till it forms a transparent glue. Then spread it nicely on the edges of the broken glass, unite them, and in a few mins. the joining will be firm and scarcely perceptible.

Glass Ware, To Clean.

Tumblers and wine-glasses should be washed in cold water in which a little soda is dissolved, then turned up to drain, dried with a soft, clean, and dry cloth; polish with a leather or an old silk handkerchief. Chandelier or lustre-glasses are washed in the same way. Decanters may be cleaned by first washing them in a strong suds of white soap and water and a little pearl-ash. Mash up an egg shell fine, drop it into the bottle, pour in some of the suds and shake it well about till the bottle is clean, then empty it; put in fresh suds and clean inside with a small sponge on the end of a stick; rinse out twice with clean cold water. Next put them into the soap-suds, and if they cut wash them with a regular glass-brush; then rinse the outside. Dry the inside with a small piece of linen on the end of your stick. Wipe the outside with a dry clean cloth, and polish with a leather or silk handkerchief.

Glass Globes, To Clean.

If they are much stained on the outside by smoke, soak them in tolerably hot water with a little washing soda dissolved in it, then put a teaspoonful of powdered ammonia into a pan of lukewarm water, and with a hard brush wash the globes till the stain disappears; rinse in clean cold water, and let them drain till dry; they will be as white and clear as new.

Ground Glass, To Make Windows Like.

Make a hot solution of sal-ammoniac. Brush the solution over the panes; the moisture will instantly evaporate and leave a beautiful radiated deposit.

Metal Goods, For Cleaning.

Put upon a woolen cloth as much sweet oil as will prevent its rubbing dry; with this rub the articles thoroughly, wipe them smoothly with a soft, dry linen rag until they are quite clean, then rub them with soft wash leather and rotten-stone. It is better to wash them in boiling water and soap just before rubbing them with the leather and whiting.

Ivory Knife Handles, To Prevent from Being Cracked.

They should never stand in hot water, as this expands the steel, which runs up into the handle, and cracks the ivory. Knife handles should never lie in water.

Cast Iron and Black Hearths, To Clean.

Mix together black lead and whites of eggs to a liquid consistence; paint the stove, etc., all over with it, and rub bright with a hard brush.

Irons, To Clean from Rust.

Pound some glass to a fine powder, nail a linen or woolen cloth upon a board, saturate with gum arabic, sift on the powdered glass, and let it dry. Repeat this 3 times. Then rub the utensils with the cloth.

Polished Iron, Varnish for.

This may be preserved from rust by rubbing lightly with copal varnish mixed with nearly an equal quantity of spirits of turpentine, and sweet oil enough to give the mixture a little greasiness. Lay on this mixture with a bristle brush, (which must afterwards be washed directly with warm water), and see that no dust or ashes gets to it while drying. The varnish may be obtained from a paint-shop or chair-maker's.

Iron, To Preserve from Rust.

Melt fresh mutton-suet, smear over the iron with it while hot, then dust well with unslaked lime, pounded, and tied up in a muslin. Iron so prepared will keep many months. Nothing but salad oil should be used for iron.

Iron, To Prevent from Rusting.

Heat your iron, rub it with clean white wax, put it again to the fire, till it has soaked in the wax; then rub it well with a piece of serge, or coarse woolen cloth.

Kettles and Saucepans, Cleaning.

In a kettle of boiling water, put about 1-16 part of an oz. of sal-ammoniac. Let it boil 1 hr. This will remove the sediment caused by boiling hard water in them.

Brass Kettle, To Clean.

A brass kettle should always be cleaned, before using it for cooking, with salt and vinegar.

Piano Keys, To Clean.

Rub them with a little alcohol applied with a soft rag.

Steel Knives, To Keep from Rusting.

When they are not in use, have them made bright, and perfectly dry; then take a soft rag and rub each blade with dry wood-ashes. Wrap them closely in thick brown paper, and lay them in a dry place. Sifted coal-ashes on a cork, dipped into hot water, are better to clean steel knives than Bristol-brick.

Gilt Lamps and Chandeliers, To Clean.

Wipe off the dust with a soft cloth and wash gently with fine soap-suds and soft lukewarm water. Any wrought work may be carefully cleaned out with a very soft toothbrush.

Looking Glasses, To Clean.

Take a newspaper, fold it small and dip it into clean cold water; when thoroughly wet squeeze it in your hand dry enough so as not to run at all when applied to the glass. After rubbing the glass well with this, let it rest a few moments, and then go over it with a fresh dry newspaper (folded small in your hand) till it looks clear and bright.

Looking Glasses, To Clean. (2.)

Wash them with spirits of wine; dry them; powder slightly with whiting, and rub off with a leather. Care should be taken not to get the whiting into the edge of the frame.

Colored Marble, To Clean.

It may be made very clean by rubbing on it with a brush a paste made of 1 gill of ox-gall, 1 gill of strong soap-suds and ½ gill of turpentine, mixed together and thickened with finely-powdered pipe-clay. Apply this paste to the marble and let it remain for 2 days, then wipe it off; if it is not perfectly clean, repeat the mixture until it is.

Marble, To Remove Smoke Stains from.

Take a large lump of Spanish whiting, soak it in water, not more than enough to moisten it, and put into the water a piece of washing soda; put some of this on a flannel, and rub the marble repeatedly, leaving the whiting on for some hrs. Wash it all off with soap and water, dry well, and polish with a soft duster.

Marble, To Clean.

Take 2 parts of common soda, 1 part of pumice-stone, and 1 part of finely powdered chalk; sift through a fine sieve, and mix with water; then rub it well over the marble, and the stains will be removed; then wash with soap and water.

Marble, To Clean. (2.)

1 oz. of potash, 2 ozs. of whitening, and a square of yellow soap, cut into small pieces; boil all together in a saucepan until it begins to thicken; apply this with a large brush to the marble. If it is very dirty, let it remain on all night; if not, 1 hr. will be sufficient. Then wash it carefully off with plenty of cold water and a sponge. Take care that the mixture is not applied too hot.

Marble, To Remove Grease from.

French chalk reduced to a powder, dusted over the spot, and a hot flat-iron held very near, to soften the grease and make the chalk absorb it. If this will not do, try common clay mixed with benzine smeared over the spot.

Marble, Alabaster, etc., To Remove Grease Spots from.

Dip a soft flannel rag into spirits of hartshorn; rub the spots thoroughly; then rinse with clean water.

Brass Ornaments, To Clean.

Brass ornaments that have not been gilt or lacquered, may be cleaned and a very brilliant color given them, by washing them with alum boiled in strong lye, in the proportion of 1 oz. to 1 pt., and afterward rubbing them with tripoli.

Gold Ornaments, To Clean.

Make a lather of soap and water, and wash the articles; then lay them in dry powdered magnesia. When dry, rub them with a piece of flannel; or, if embossed, use a brush. Or the articles may be washed in soap-suds, and, while wet, put them in a bag with some clean, fresh bran, or sawdust; shake them, and they will look almost like new.

Gold Ornaments, To Clean. (2).

Put a teaspoonful of ammonia in a little soft water, and rub thoroughly with a soft brush.

Ormolu Ornaments, To Clean.

The best way to clean these, is to rub whiting, moistened with gin, well on the articles with an old toothbrush. Rub it off with a clean one, and polish with a leather.

Steel Ornaments, To Clean.

Dip a small brush into some paraffine and then in some emery powder, (such as is used in the knife machines), and well brush the ornaments, and all the rust will soon come off; polish with a dry leather and duster; it will clean any steel article.

Paint, Cleaning.

Mix well together 1 lb. of soft soap, 1 oz. of pearl-ash, 1 qt. of sand, and 1 pt. of table beer. Let them simmer for some time. Put a small portion of this mixture on a flannel rag, and rub it over the paint, then wash it off with clean warm water.

Plate, Polish for.

Make a paste of camphene and finely powdered rotten-stone, equal proportions. Wash the articles in hot soap-suds, apply the paste and polish with a soft cloth or chamois skin. Door-knobs can thus be kept in fine order with very little trouble.

Lamp Shades, To Clean.

Lamp shades of ground glass should be cleaned with soap or pearl-ash; these will not injure or discolor them.

Filigree Silver, To Clean.

Clean it with spirits of hartshorn and water applied with a soft tooth-brush. Filigree ornaments should be kept in a box with arrowroot powder; it will keep them white, and is blown off the ornaments when worn. Filigree Maltese crosses, Genoa bracelets, etc., will gild, and be as good as new gold ornaments of the same styles. It is not expensive to get them gilt.

German Silver, To Clean.

After using, place immediately in hot water, wash well, and wipe dry with a soft cloth. Once a week wash in soap-suds and clean with whiting, or prepared chalk, mixed with whisky, or spirits of wine, so as to make a paste, which should afterwards be brushed off. Should it become discolored, or spotted by vinegar, or other acids, wash it first, and then clean it with sweet oil and powdered rotten-stone.

Stains from Silver, To Remove.

Steep the plate in soap, let it remain 4 hrs., then cover it with whiting, wet with vinegar, so that it may stick upon the silver, and dry it by the fire, after which rub off the whiting, rub it over with dry bran, and the spots will disappear, and the plate look bright.

Silver, To Remove Ink Stains from.

The tops and other portions of silver ink-stands, which become discolored with ink, can be cleaned by making a little chloride of lime into a paste with water, and rubbing it upon the stains.

Silver Plate, To Give a Lustre.

Dissolve alum in a strong lye; skim it carefully; then mix it with soap, and wash your silver utensils with it, using a linen rag.

Stair-Rods, Cleaning.

Pulverize some rotten-stone, and when the powder is made very fine, mix it with sweet oil. Then, with a woolen cloth, rub it well on each stair-rod. Polish with a soft buckskin, on which must be rubbed a little dry rotten-stone finely powdered. Any other brass may be cleaned to advantage in this manner.

Steel and Iron, To Clean.

Make a paste of 1 oz. of soft soap, and 2 ozs. of emery; then rub the article for cleaning with wash-leather, and it will give a brilliant polish.

Steel, To Remove Rust from.

This can be done by a free application of kerosene oil, allowing the oil to remain on until the rust is loosened, and can be rubbed off.

Steel, To Remove Rust from. (2).

Rub the article well with olive oil, then sprinkle a little hot slaked lime over it, and keep in a dry place for 48 hrs.; take some finely powdered fresh unslaked lime, and rub on it quick and hard until the rust all disappears; polish with dry whiting and soft batter.

Steel, To Prevent from Rusting.

Mix with 1-5 part oil varnish 4-5 parts of well-rectified spirits of turpentine. Apply the varnish with a sponge; articles varnished in this manner will retain their brilliancy, and never rust. It may be applied to copper, philosophical instruments, etc.

Steel Jewelry, To Clean.

Make a mixture of French chalk and spirits of wine; rub it over the steel; let it dry and brush it off. Or, dissolve powdered ammonia in water, and wash each piece, and rub them dry with chamois skin.

Marble Steps, To Scrub.

Dissolve a small portion of washing soda in water and use with sand. Soap will discolor the marble.

Glass Stopper, To Remove.

Apply hot water to the neck of the bottle, which will expand, while the stopper retains its former temperature and becomes loose.

Stoves and Grates of Cast-Iron, To Clean.

Boil ¼ lb. of best black lead in 1 pt. of small beer, with a piece of soap the size of a walnut. When that is melted, dip a painter's brush, and

wet the grate, having first brushed off all the soot and dust; then take a hard brush and rub it bright, or mix the lead with the whites of eggs well beaten and use in the same way.

Stoves, To Keep Bright for Six Months.

Make a weak alum water; mix about 2 teaspoonfuls of British lustre, to 1 gill of alum water; when the stove is cold brush it well with this mixture, and polish with a dry brush; each part must be moist to polish well.

Stove, To Mend a Crack in.

Mix wood ashes and common salt in water enough to make a paste; plaster over the crack.

Stone Steps, To Remove Grease from.

Pour boiling hot water and strong soda over the spot, make a thin paste of fuller's earth with boiling water, lay it on the spot and let it remain all night; if the grease is not removed, repeat the process. It is sometimes taken out by rubbing the spot with a hard stone, using sand and very hot water with soap and soda.

Tea-kettle, To Clean.

Put into the tea-kettle a flat oyster-shell, and keep it constantly there. This will attract the stony particles in the water to itself, and prevent their forming upon the tea-kettle.

Tea-kettles, To Remove the Lime from.

Put in your kettle ½ lb. of Spanish whiting, fill with water, and boil until the lime is removed.

Metal Tea-pot, To Clean.

Put into it a solution of common soda boiling hot; let it stand 12 hrs. near the fire; then pour it away, and wipe with a clean cloth.

Japanned Waiters, Urns, etc., Cleaning.

Wash the waiter or urn quite clean with a sponge dipped in lukewarm water and white soap; having wiped it dry, sprinkle a little flour on it; let it stand a while and then rub it with a soft dry cloth, and finish with a silk handkerchief. If there are white heat marks on the waiters, try rubbing them with flannel dipped in sweet oil, and afterwards in spirits of wine. Waiters and other articles of papier mache should be washed with a sponge and cold water, without soap, dredged with flour while damp; and after a while wiped off and then polished with a silk handkerchief.

Glass, Earthen, Potter's Ware, To Prevent Breaking.

Put dishes, tumblers, and other glass articles into a kettle; cover them entirely with cold water, and put it where it will soon boil. After it has boiled a few mins., set it aside, closely covered. Take the glass out when cold. Treat new earthen ware in the same way. When potter's ware is boiled, a handful or two of bran should be thrown into the water, which will prevent the glazing from being injured by acids or salt.

Iron Ware and Stoves, To Remove Rust from.

Put into a rusty kettle as much hay as it will hold, fill it with water and boil it many hours. Set it aside at night, and the next day boil it again. If it is not entirely fit for use, repeat the process. Rub the rusty spots on a stove with sand-paper, and then with sweet oil.

MISCELLANEOUS HOUSEHOLD.

Alum in Bread, To Discover.

Heat a knife and stick it into a loaf. If alum is in it, it will slightly coat the knife. Alum may also be discovered in bread (if it be present) by dipping a slice of the loaf into an infusion of logwood. The logwood will turn a purplish carmine if there is alum in it.

Ammonia, General Use of.

Put a teaspoonful of ammonia in a qt. of warm soap-suds, dip a cloth in it, and go over your soiled paint, and see how rapidly the stains will disappear; no scrubbing will be necessary. It will cleanse and brighten wonderfully. To a pt. of hot suds add a teaspoonful of the spirits, dip in your forks and spoons, or whatever you desire to clean, rub with a soft brush, and then finish with a chamois skin. For washing mirrors and windows, it has no equal. It will remove grease spots from every fabric without injuring the garment. Put on the ammonia nearly clear; lay blotting paper over and set a hot iron on it for a moment. Also, a few drops in water will cleanse and whiten laces and muslins beautifully. A few drops in a bowl of water, if the skin be oily, will remove all greasiness and disagreeable odors. Added to a foot bath, it absorbs all noxious smells; nothing is better to remove dandruff from the hair. For cleaning hair and nail brushes, it is equally good.

Atmosphere, To Test the Purity of.

Fill a glass tumbler with lime water, and place it in any convenient position. The rapidity with which a pellicle forms on its surface corresponds to the amount of carbonic acid, or foul air, present in the atmosphere that surrounds it.

Barometer, Home Made.

Take a common, wide-mouthed, glass pickle bottle and fill it with water to within 3 ins. of the top. Get a Florence oil-flask, and after cleansing the flask thoroughly, plunge its neck into the bottle as far as possible. When the weather is to be fine the water will rise in the neck of the flask, sometimes higher than the mouth of the bottle. Before a wind storm it has been known to leave the flask altogether, hours before the gale was at its height.

Another very good way is to get a glass tube, closed at one end, ¾ ins. in diameter and 12 ins. long. Fill it ¾ full with a mixture of 2 drs. of camphor, 2 ozs. of proof spirits, ½ dr. of pure saltpetre and ½ dr. of muriate of ammonia. Tie the tube over with a bladder. When the weather is to be fine, white flakes will settle to the bottom, and the liquid be transparent above. If it is going to rain the matter will float to the surface. If wind is coming, the white flakes will float upon the surface and the fluid will look as if in fermentation. Frost is denoted by a starry appearance, and hot weather by the matter settling to the bottom as a solid substance.

Beef, To Keep.

If you wish to keep beef 2 or 3 days in hot weather, do not salt it, but dry it well in a clean cloth, rub ground pepper plentifully over every part of it first, then flour it well and hang it in a cool, dry place, where the air will come to it; be sure always that there is no damp place about it; if you find one, dry it with a cloth; but pepper will secure it from this.

Benzole, Necessity of Care in Use of.

Benzole, which is often used to remove grease spots, is so highly volatile and inflammable, that the contents of a 4 oz. phial, if overturned, will make the air of a good sized room highly explosive. It must never be handled near a fire or light, as the flame, igniting the vapor of an uncorked bottle, will leap over to the bottle, even though at a distance of several feet.

Birds, To Preserve.

Remove the intestines, and wipe the inside out quite dry with a towel, and then sprinkle flour over it. Take a piece of blotting paper and put 1 or 2 drops of creosote upon it. Place this in the bird, and tie another, similarly prepared, around it. Then hang it in a dry, cool place, and it will keep for some time.

Boots, To Soften and Make Waterproof.

Neat's-foot oil, and castor oil, equal parts of each. Shake well. This may be applied and rubbed in with the hand. The neat's-foot oil penetrates the leather very easily, and keeps it soft, while the castor oil remains upon and near the surface, giving a glossiness, and resisting the entrance of water; and, if desired, enabling a coat of polish-blacking to soon give a shine to the boots.

Boots, Waterproof Blacking for.

2 ozs. of beeswax, 2 ozs. of tallow, 2 ozs. of spermaceti or paraffine, 1 tablespoonful of lamp-black. Melt all the ingredients together, and stir well. Apply warm, with a brush, and when cold, polish as with ordinary blacking. For the spermaceti keep the little ends of candles.

Bottles Containing Resinous Solutions, To Clean.

After washing the bottles with caustic alkaline lyes, rinse them with alcohol; if they have held essential oils, they must be washed with sulphuric acid and rinsed with water.

Bottles, To Prevent Breakage in Packing.

Danger of breaking bottles may be avoided by slipping rubber rings over them.

Bottles, Sealing.

Use gelatine mixed with glycerine for that purpose, as when hot this is a liquid, but when cold an elastic solid.

Button Holes, To Make.

Button holes require great skill in making. They should be neatly overcast about 3 or 4 threads deep, broad work in them looking very coarse and clumsy; little bars of cotton should be formed across the corners, and neatly overcast, just the depth of the edge. In working button holes, take care to throw the thread forward before catching up the loop on the needle. Gather with strong thread, waxed with white wax.

Carbonic Acid Gas, To Remove.

To remove carbonic acid gas from wells, cisterns, etc.:

1. Let down an open umbrella into the opening and draw it up quickly several times in succession.
2. If a person falls to the bottom from inhaling gas, pour down water.
3. Let down a large bucket, in a short time draw it up and empty the gas as if it were water.
4. The gas can soon be blown out by using a bellows with a rubber hose reaching near the bottom of the well or cistern.

Carpets, To Brighten.

Those who object to tea leaves for sweeping the carpets can use freshly-cut grass instead. It answers the same purpose for preventing dust and gives the carpet a fresh, bright look.

Carpets, To Prevent Moth in.

Before putting down the carpet, wash the floor with spirits of turpentine or benzine. This must not be done with a fire in the room or with any matches or lights near.

Cellars, Testing, for Dampness.

Take a thermometer, and a tumbler filled with ice water; place the thermometer in the tumbler and notice how low it has to sink before any moisture shows itself on the outside of the tumbler. The lower the temperature to which the thermometer has to sink before moisture is precipitated, the less moisture there is in the cellar.

Chair-Bottoms, To Restore Elasticity of Cane.

Wash the under side of the cane with hot water and a sponge; if the cane is dirty use soap, if not, use plenty of water, so that it will be well soaked. After drying in the air, it will be as tight and firm as new, provided the canes are not broken.

Chest-Protector, A Simple.

In raw spring weather, place a folded newspaper over the chest inside the vest, on going out. This makes an excellent protector for the lungs.

Chicken Feathers, Utilizing.

The plume portions of the feathers can be cut from the stem with ordinary scissors. Place the feathers in a coarse bag, which, when full, should be closed and subjected to a thorough kneading with the hands. In 5 mins. the feathers will become felted together, and form a down of great lightness and perfectly homogenous. This is even lighter than eider down. From the feathers of an ordinary sized pullet 1.6 Troy ozs. of this down can be obtained. In a similar manner goose feathers may be treated, and thus ⅘ of the product of the bird utilized, instead of only about 1-5. The chicken down, when woven, forms a beautiful cloth. 1½ lbs. of down is required for 1 sq. yd. of the cloth. This cloth takes dye readily; is thoroughly waterproof, and is almost indestructible, as instead of fraying or wearing out at folds, it only seems to felt the tighter.

Chimneys, To Extinguish Fire in.

Shut doors and windows, and throw some powdered brimstone on the fire, immediately shutting the front of the chimney, to prevent the fumes from entering the room. If brimstone is not convenient, throw salt on the fire.

China and Glassware, Care of.

To season china and glass so that they will endure sudden heat and cold, place the articles in cold water, which must gradually be brought to the boiling point and then allowed to cool very slowly, taking several hrs. to do it in. The more common the materials, the more care in this respect is required. Gilded china must not be rubbed with a cloth, but simply rinsed, first in hot and afterward in cold water and drained till dry. It may be rubbed with a soft wash-leather and a little dry whiting, but not more than once a year. A damp closet will soon tarnish the gilding of the best crockery, hence the china closet should be in a dry

place. Plates should not be made too hot, as the heat cracks the glaze on the surface, if not the plate itself. If the glaze is injured, the water gets to the interior, swells the porous clay, making the whole fabric rotten. In this condition they will absorb grease, and on further exposure to heat, the dishes will become brown and discolored.

To keep glass clean, warm water and a soft cloth are sufficient, but in order to keep water bottles and wine-decanters bright, they must be rinsed out with a little muriatic acid, to remove the "fur" which collects in them. This acid is preferable to ashes, sand or shot; for they scratch the glass, and if any shot is left in accidentally, the lead is poisonous. Clean and polish richly cut glass with a soft brush, upon which a very little fine chalk or whiting is put; the lustre and brilliancy are thus preserved.

Clothing, To Make Watertight.

Immerse the cloth in a mixture of solutions of acetate of lead and sulphate of alumnia. The salts will decompose, and when the cloth is dried, basic acetate of alumnia adheres to the fiber, and thus protects it from moisture.

Cooking, To Prevent Odors from.

A lump of bread about the size of a billiard ball, tied up in a linen bag and placed in the pot in which greens are boiling, will absorb the gases which oftentimes send such an unpleasant odor to the regions above. Or, put 1 or 2 red peppers, or a few pieces of charcoal into a pot where ham, cabbage, etc., is boiling, and the house will not be filled with the offensive odor.

Dampness, To Absorb.

For a damp closet or cupboard, which is liable to cause mildew, place in it a saucerfull of quicklime, and it will not only absorb all apparent dampness, but sweeten and disinfect the place. Renew the lime once a fortnight, or as often as it becomes slaked.

Another good way is, to put common coarse salt in the saucer, and it will have the same effect.

Dogs, Bed for.

Newly made deal shavings make the best bed, as they clean the dog, and drive away fleas.

Eggs, To Keep.

Eggs may be kept good for an indefinite period by the following method: Put them in an open-work basket or colander, and immerse them for a moment in boiling water; let them stay just long enough to form a film on the inside of the shell; this excludes the air. Then place them in some convenient vessel, small end down, and set them in the coolest part of the cellar, where they will keep till wanted for use.

Flat-irons, To Make Smooth.

Beeswax and salt will make flat-irons as clean and smooth as glass. Tie a lump of wax in a rag, and keep it for that purpose. When the irons are hot, rub them with the wax rag, then scour with paper or rag sprinkled with salt.

Floors, To Polish.

To polish stained floors, rub them thoroughly once a week with beeswax and turpentine.

Flour, Treatment of.

Flour is peculiarly sensitive to atmospheric influences, hence it should never be stored in a room with sour liquids, nor where onions or fish are kept, nor any article that taints the air of the room in which it is stored. Any smell perceptible to the sense will be absorbed by flour. Avoid damp cellars or lofts, where a free circulation of air can not be obtained. Keep in a cool, dry, airy room, and not exposed to a freezing temperature, nor to intense summer heat, nor to artificial heat for any length of time above 70° to 75° Fahr. It should not come in contact with grain or other substances which are liable to heat. Flour should be sifted and the particles disintegrated, and then warmed before baking. This treatment improves the color and baking properties of the dough. The sponge should be prepared for the oven as soon as the yeast has performed its mission, otherwise fermentation sets in and acidity results.

Flowers, To Gather.

Flowers should be gathered early in the morning, but not till the dew is nearly dried off them. They should be placed in a flat basket, or on a tray, so as not to press upon and crush each other, and they should be neatly cut, and not mangled or bruised. When thus gathered, they should be covered with a sheet of paper, and immediately conveyed to the apartment where they are to be used, if that apartment be near at hand. But if they are to be sent to any distance, they should be placed in tin cases, such as botanists use when collecting specimens.

Fowls, To Fatten.

The following is a food on which our poultry will fatten very quickly: Put a sufficient quantity of rice to feed the fowls you wish to fatten in a saucepan, with some skimmed milk; let it boil until the rice is perfectly swelled out, and then add a little sugar. Feed them 3 times a day in earthenware pans, giving them only as much as will quite fill them at once. Let the pans be washed out in spring water, that no sourness may be conveyed to the fowls, as that will prevent them fattening; give them the milk the rice was boiled in, and clean water, to drink. By adopting this plan the flesh will have a clear whiteness, which no other food gives; and when it is considered how far 1 lb. of rice will go, and how much time is saved by this method, it will be found to be cheap. A little animal food mixed with vegetable food also causes poultry to fatten rapidly, but before these are killed they should for a

few days have a purely vegetable diet. Another method of fattening fowls is by cramming them, which no doubt fattens them very shortly; by this method you may have fowls ready for table or market in a fortnight, the fowls weighing from 5 to 7 lbs. A good fattening food for fowls may be made as follows: Mix the different meals together with boiling water; then add suet, knead all together, and give in balls as much as will fill each fowl. By this treatment tney will fatten very rapidly, and this food makes them look beautifully plump, and consequently they are eagerly sought for in the market.

Fowls, To Fatten. (2.)

Pulverized charcoal mixed with the food will fatten fowls and at the same time give the meat improved flavor and tenderness. Give a turkey about a gill a day.

Frames, Pretty.

A very pretty frame for heavy vines and bushes is made by driving 2 stakes into the ground and nailing barrel-hoops about 6 ins. apart. Paint any color preferred.

Fruit, To Preserve.

If fruit is packed in creosotized lime, it will remain good for a year. The lime is slaked in water in which a little creosote has been dissolved, and allowed to fall to powder, which is spread over the bottom of a deal box, to about 1 in. in thickness. Above this lay the paper and then a layer of fruit. Place another sheet of paper over the fruit, then more lime and so on, until the box is full. Pack a little finely powdered charcoal in the corners and close the lid tightly.

Furnace Heat, To Moisten.

Hang a wet towel in front of the register and allow the lower edge of the towel to dip in a shallow vessel of water. This simple arrangement will moisten the hot dry air of the furnace, which is so productive of throat and lung diseases.

Furs, To Take Care of.

Furs require the greatest care. They have especially to be guarded from damp and moth. Wet or damp spoils fur, especially chinchilla. The moment the wearer of fur enters the house after a damp or wet walk she should wipe her fur carefully with a very clean cloth, and then dry it at a little distance from the fire. It will decay if it is put away damp. Before putting furs away for the summer shake and wipe them well, (but do not shake chinchilla; it will not bear it; it is so fragile), sew them up in linen with small bags of pepper with them, or pepper the fur—it will shake out afterwards. Cedar shavings put in with the fur are also a good defence against moth. Wrap the linen envelope in another of coarse brown paper. Carefully wipe out the box or drawer in which you place the furs, and take care that it is not a damp place in which you leave them. Furs should be examined several

times during the summer to be sure no moth has got in. They should be put away also before moths are about.

Game, To Keep from Tainting.

Game may often be made fit for eating when apparently spoiled, by nicely cleaning it and washing with vinegar and water. If you have birds which you fear will not keep, pick them and empty them, rinse them and rub them over with salt outside and in; have in readiness a kettle of boiling water, and plunge them in one by one, holding them by the legs and drawing them up and down, so that the water may pass through them. Let them remain in for 5 or 6 mins., then hang them in a cool place. When perfectly drained, rub them outside and in with black pepper. The most delicate birds may be preserved in this way. Thoroughly wash them before roasting or otherwise cooking them. Pieces of charcoal put about meat or birds will preserve them from taint, and restore what is spoiling. Poultry or birds should be drawn and wiped dry, and a bit of charcoal put into the body and over the outside of each; it will keep them nicely; or they may be kept in a pot lined with zinc, with bits of ice between them. Pepper keeps them from flies.

Glass, To Break in any Form.

On the edge of a piece of glass make a small notch with a file; then take the end of a tobacco-pipe or a rod of iron about the same size, heat it red hot, apply it to the notch and draw it slowly along the surface of the glass in whatever way you wish to break it; in this way a crack will be made in the glass and will follow the direction of the iron. To cut round glass bottles and flasks in the middle, dip a worsted thread in spirits of turpentine and wrap round them; when the worsted is fastened on the glass, set it on fire.

Grasshoppers, To Utilize.

If desiccated and ground, grasshoppers are useful as a fertilizer, and also furnish good food for all insect-feeding birds. For all young domestic fowls, there is no better food. They contain silicic acid in a soluble state, and are especially adapted for young birds, increasing the growth of feathers.

Hams, Pickle for Curing.

Boil together ½ lb. of sugar, 1½ lbs. of salt, ½ oz. of saltpetre, and ½ oz. of potash. When the dirt from the sugar has risen to the top, skim it off and pour the pickle over the meat, which should be left in the solution 4 or 5 weeks.

Harness, Working Team.

Martingales should not be used on working teams. Buckle the hames tight enough at the top to bring the draft-iron near the center of the collar. It gives the collar an uneven bearing, if too low, and also interferes with the action of the shoulder.

Honey, To Keep Without Candying.

To keep honey all the year round without candying, it is only necessary to place the honey, which has previously been nicely strained, in a pan or pail, which may be placed inside of another one, putting 2 or 3 bits of wood under the pail containing the honey to prevent it from burning upon the bottom, then fill the outer one with water and just bring to the boiling point, skimming off the wax and all foam which gathers upon the top. As soon as it comes to the boiling point, remove from the stove, and after a few mins. skim, and pour into jars to cool. Cover tightly and place in a cool cellar. It will pay for the trouble.

Honey, To Strain.

There are often ends of honeycomb left from the beautiful pieces served at table. When these accumulate, it is best to melt and strain them; put them in a tin cup in an open oven, and when melted, strain through a piece of coarse book-muslin. If there are any bits of "bee bread" they will remain in the muslin, while the honey and wax run through. When the honey is cold, remove the cake of wax from the top, wash it well in cold water, melt it, and mould in a thimble or in an egg-cup; this will be useful in the work-basket, and the honey will be found an excellent addition to hot biscuit.

Ice Water, To Preserve.

Cover the entire pitcher with a hat-shaped cover of 2 thicknesses of paper, with a layer of cotton batting ½ in. thick between them.

Ice, To Preserve in a Refrigerator.

Wrap it in several thicknesses of newspaper.

Jellies, To Keep from Moulding.

Drop a piece of white writing paper into brandy or alcohol, after it has been cut just the size of the tumbler, then lay it upon the top of the jelly. Some use the white of egg, the same as for the outer covering. Some cover the surface with pulverized loaf sugar about ¼ in. thick. Then cover a paper on the under side with the white of an egg and paste over the top of the tumbler.

Kerosene Oil, Test for.

Into a tumblerful of water at 110° Fahr., stir a tablespoonful of the oil to be tested, and leave till the oil reaches about the same temperature. As the oil floats on the surface, pass a lighted match over it. If the oil does not ignite it can be safely used; but if it does ignite, do not use it whatever the price may be. Another test is to fill a narrow test-tube with the oil to be tested; close it with the finger, invert it, and plunge entirely in water of 140° Fahr.; if, when the temperature has descended to 110°, any gas bubbles are seen in the closed upper part of the test-tube, the oil contains dangerous inflammable vapors. All vapors of

petroleum are inflammable, so it is not necessary to ignite them; the fact of their presence in the oil is sufficient to condemn it.

Lamp Light, To Make Brilliant.

Soak your lamp wicks in vinegar and dry before using. The flame will be much more brilliant, without in the least increasing the consumption of the oil. This will also prevent their easily smoking.

Lampwicks, To Make.

Sometimes housekeepers get out of lampwicks and it is well to know how to make a substitute. Take a strip of Canton flannel 3 times as wide as you want the wick to be and as long as you wish. Fold the fleecy side in so that it will be of 3 thicknesses and baste it up the side. It is then ready for use.

Lard, To Sweeten.

Fry 3 or 4 good-sized potatos in it until they are brown and the lard will be like new.

Lard, To Sweeten. (2).

To take strong taste and smell out of lard, dissolve 1 heaping tablespoonful of green copperas in 1 gal. of water; put the lard into the water and churn it thoroughly; separate, and melt the lard and put into it ½ tablespoonful of soda or saleratus; try and skim until no water remains in it.

Lard, Scorched, To Cleanse.

When the lard gets scorched by frying doughnuts, as it sometimes will, it can be made nice again by slicing a raw potato into thin slices, and dropping into the kettle and frying till quite brown. They absorb all the bitter taste, and collect the dark specks on their surface, and make the lard fit for use again. Another way to cleanse lard in the frying-pan is, just before you set your kettle away, to pour in some boiling hot water, and let it stand and cool. When you wish to use it again, take a knife and run around the edge of the lard; lift it from the kettle, and lay it bottom side up on a flat plate; scrape off all the brown coating for the soap grease; turn out the water and cleanse the kettle; if any water stands in drops on the lard, let it drain off, and your lard is pure and sweet.

Oil of Lavender as a Preservative.

Oil of lavender keeps books from moulding; a few drops only need be used. A single drop of this oil will prevent 1 pt. of ink from moulding. Paste may also be kept from mould by this addition. Leather is also protected from injury by the same agency.

Leather, To Preserve and Make Waterproof.

1 part tallow, 1 part best sperm oil, 1 part tar; melt the whole and apply to the leather; while hot, make repeated applications until the

leather is saturated. You can apply the above in its boiling state to leather without fear of injuring it.

Leather, To Make it Wear.

It is said 2 parts of tallow and 1 of resin, melted together and applied to the soles of new boots or shoes, as much as the leather will absorb, will double their wear.

Lemon-Peel, Tincture from Scraps of.

Fill a wide-mouthed pint-bottle ½ full of brandy, or proof spirits, and whenever you have bits of waste lemon rind, pare the yellow part very thin, and drop it into the brandy. This will strongly impregnate the spirit with essence of lemon, and form an excellent flavoring for tarts, custards, etc.

Lemons, To Keep the Rind and Juice of.

Grate the rind and mix it with an equal quantity of sugar; bottle, cork, and seal. Squeeze and strain the juice, and to 1 pt. allow 1¼ lbs. of sugar; leave it a day or two in an open vessel, then skim, bottle, cork, and seal.

Lemons, Uses in a Family.

Lemonade is one of the best and safest drinks for any person, whether in health or not. It is suitable to all stomach diseases, is excellent in sickness—in case of jaundice, gravel, liver complaint, inflammation of the bowels and fevers. It is a specific against worms and skin complaints. The pippins crushed may also be mixed with water and sugar and used as a drink. Lemon juice is the best anti-scorbutic remedy known. It not only cures the disease, but prevents it. Sailors make a daily use of it for this purpose. A physician suggests rubbing of the gums daily with lemon-juice to keep them in health. The hands and nails are also kept clean, white, soft and supple by the daily use of lemon instead of soap. It also prevents chilblains. Lemon is used in intermittent fevers mixed with strong, hot, black tea or coffee, without sugar. It is valuable also to cure warts, and to destroy dandruff on the head, by rubbing the roots of the hair with it. In fact, its uses are manifold, and the more we employ it externally, the better we shall find ourselves.

Life Preserver, A Very Simple.

It is said that if a person falls into the water a common felt hat can be used as a life-preserver. If the hat be placed upon the water, rim down with the arm around it pressing it slightly to the breast, it will bear a man up for hours.

Meat, To Keep in Hot Weather.

The meat should first be wiped clean and dry. Some sprinkle it well in all parts with salt. Others use black pepper plentifully (washing and wiping it well before using it to remove the pepper or salt), and then

hang it in the coolest place possible—some in the well, others in a cellar. Perhaps the best precaution is to wrap it in a dry cloth, and cover it with charcoal-dust. Some people use wood-ashes, but charcoal will even remove a slight degree of taint. Mutton is improved, as well as preserved, for a short time, by wrapping it in a cloth wet with vinegar, and laying it on the bottom of a dry cellar. All kinds of meat, including fish and fowl, may be preserved in brine for a longer or shorter time.

Mustard, To Mix.

Mustard should be mixed with water that has been boiled and allowed to cool. Hot water destroys its essential qualities, and raw cold water might cause it to ferment. Put the mustard in a cup with a small pinch of salt and mix with it very gradually sufficient boiling water to make it drop from the spoon without becoming watery.

Nails, Biting the.

Children can generally be prevented from putting them to the mouth by dipping the finger ends in some bitter tincture. If this fails, each finger must be encased in a stall until the desire to bite them ceases.

Nest Eggs, To Make.

Break a small hole in the small end of an ordinary hen's egg, take out the contents, and after it is clear inside fill it with slaked lime, tapping it to make it contain as much as possible. When full, seal it up with plaster of Paris and it can not be distinguished by the hen from the other eggs and will not, like other eggs, crack by being frozen.

New Wood, To Remove the Taste of.

Scald the vessel well with boiling water, letting the water remain in it till cold. Then dissolve some pearl-ash, or soda, in luke-warm water, adding a little bit of lime to it, and wash the inside of the vessel well with this solution. Afterward, scald it well with plain hot water and rinse it with cold before you use it.

Nutmeg, Tincture of.

A very useful tincture of nutmeg, ready for immediate use, may be made by adding 3 ozs. of bruised or grated nutmeg to 1 qt. of brandy. A smaller quantity may be made, by observing the same proportions. This will be a very grateful addition to all compounds in which nutmeg is used; a few drops will suffice to impart a flavor.

Paint Brush, To Make Soft.

Paint brushes that are hard as a bone can be cleaned perfectly, and be made soft and silky, by putting into soft soap for a day or two, when the paint can be washed out. See that the soap does not extend up over where the bristles are fastened, as it would cause them to fall out.

Paint Odor, To Neutralize.

It is said on the authority of one who has tried the experiment, that a handful of hay placed in a pail of water in a newly-painted room will entirely neutralize the odor of the paint.

Painting Boats.

In painting boats, use raw oil, as boiled oil mixed with the paint makes it blister and peel from the wood.

Paper, To Oil.

Brush boiled oil over sheets of paper, and suspend them until dry. This makes it waterproof, and a good cover for preserve jars, etc.

Peat, To Estimate Quantity of.

In the ordinary beds peat will weigh from 2,100 to 2,400 lbs. per cu. yd.: 1,340 to 1,490 lbs. if drained in the bed; 320 to 380 lbs. if air dried, when it will be reduced to about ¼ or 1-6 its original bulk.

Pickles, To Detect Copper in.

Take small pieces of the pickle and put them into a bottle in which is a little ammonia, diluted with ¼ its quantity of water. Shake it all up well, and if there is any copper present, the liquid will turn blue.

Rag Carpet, To Renovate.

Stretch it down on the floor nicely; now get a board 1 ft. wide and the length of the breadth of each strip of carpet; this is to keep the stripes even; take a small paint brush, one large and one small one are handy. You have a dark color of extract of logwood, paint the plain stripes this color, then for the bright stripes take bluing and yellow dye, made by dissolving 2 tablespoonfuls of copperas in hot or boiling water, then to set the color, brush over the yellow strong concentrated lye water, also over the dark. The blue will not fade.

Refrigerator, Cheap.

Take a large tight box of the required size, and put some broken blocks on the corners for legs. Then take a small box, having a space for at least 6 ins. on the sides and bottom. Place a layer of powdered charcoal, first sawdust or some other good non-conductor upon the bottom, and set the small box in. Make a closely fitting cover for each box. The ice should be placed in the box in some tin vessel, so arranged that the water will run off through the bottom of both boxes. If kept in a cool place, a small quantity of ice per day will be all that is required.

Sausage, To Keep.

Stuff them and pack in a stone jar, using plenty of salt. Put in a layer of sausage, then one of salt, and so on until your jar is full or the sausage gives out. Put enough salt on top to exclude the air. When preparing for the table, soak 2 or 3 days. In warm weather the water should be changed 2 or 3 times a day.

Scorches.

Scorches made by overheated flat-irons can be removed from linen by spreading over the cloth a paste made of the juice pressed from 2 onions, ½ oz. of white soap, 2 ozs. of fuller's earth, and ½ pt. of vinegar. Mix, boil well and cool before using.

Sheep, To Protect from Dogs.

Provide 15 or 20 sheep in a flock of 100, each with a globular bell about as large as a teacup: this is said to be the best plan known.

Silks and Satins, To Choose.

A silk should be soft, smooth on the surface, and brilliant or glossy, not thin, flimsy, or stiff. Stiff silks cut into holes. The purchaser should carefully *feel* the silk, and gather it into folds. If the folds are round and full the silk is soft, if they are stiff and angular the chances are that the dress will cut in the folds when made up. Hydrochloric acid is a powerful solvent of silk, although it has little or no effect on cotton or wool, at least for a long time. The purchaser of a silk has only *first* to buy or obtain a few inches of it, and drop a little hydrochloric acid — to be had at any chemist's — on the center of the piece; if it be of *pure silk*, a hole will be made; if there is cotton in it *those* threads will remain.

Silks, Two Ways to Judge of.

Note the closeness and evenness of the rib in it, and hold it to the light to judge the better of this. That shows the texture. Then crush it in the hand and release it suddenly. If it springs out quickly and leaves no crease behind, it has verve, and the quality of the silk is denoted by the verve.

Sink-Spouts, Frozen, To Thaw.

Pour boiling water through a piece of lead pipe, the end of which is against the ice to be thawed. If this is continued, the pipe being kept against the ice a foot or more per min. can be thawed. To thaw out waterpipes that are inaccessible, surround small India rubber tubing with coiled wire so as to stiffen it, so that it can be inserted far into the pipe. Then pass a current of steam, from a small boiler over a charcoal furnace, through the tube. This acts at once, except when the course is irregular, when the pipe can only be thawed by the direct application of heat.

Sleeping-rooms, Ventilation of.

Few appreciate the importance of properly ventilating bedrooms. If persons, who think this subject is not worth a second thought, will step upon weighing scales before retiring and then again in the morning, they will find that their actual weight is considerable less in the morning. It is said that the average throughout the year will be more than 1 lb.; that is, at night there is a loss of at least 1 lb. of matter, which has gone off partly from the lungs and partly through the pores of the skin. This consists of carbonic acid and decayed animal matter, or poisonous exhalations. From this we see the necessity of thorough ventilation, especially where 2 persons occupy the same room. Every mistress of a family should, therefore, see that not only all sleeping rooms in her house can be well ventilated at night, but that they actually are so. The window should be left open to admit fresh air, taking care that the draught does not cross the bed. The debility of childhood, the lassitude of domestics, and the ill-health of families are often caused by neglecting to supply pure air. The rooms of invalids should be ventilated by opening windows in the corridor or apartment adjoining. A simple plan for ventilation, but effective, is to cut a piece of board exactly as long as the breadth of the window and 3 ins. wide. Raise the sash, place the slip of board on the sill and draw the sash down closely upon it. There will be no draft in consequence of this displacement of the sash at its lower part, if the slip fits well. But the top of the lower sash will overlap the bottom of the upper one, and perpendicular currents of air, not felt as draft, will enter and leave the room between the two bars.

Stocking, To Knit.

The stitches should be cast on double yarn, 2 stitches taken up through each loop. After knitting 8 or 10 rows round, you should turn directly back, and knit on the wrong side; this makes a little elastic roll at the top. Or you may seam every 2 stitches if you please. This is done by knitting 2 stitches and pearling 2. Ladies' stockings should be narrowed 7 or 8 times, after 4 or 5 ins. have been knit from the top. The narrowing should be done on each side of the seaming needle, and 5 or 6 rows knit between, each time. A long heel makes a better shaped stocking than a short one, especially if gores are knit into the sides. Gores are knit thus: knit round the foot of the stocking once, and narrow at the beginning of one side needle, and the end of the other. The second time of going round, knit through the instep needle; knit 2 stitches on the side needle, narrow; then turn back and knit the instep needle on the wrong side, just as you did in knitting the heel; knit 2 stitches in the same way from the side needle, and narrow; slip the stitch you have narrowed back upon the side needle, and knit on the other 2, which belong there; then turn back and knit round the stocking after the usual manner. This knitting the instep needle twice, when you knit the others once, will produce a hole each time; but narrowing the last double knit stitch with one from the side needles every time you go round remedies the evil. The first side you knit, after leaving the instep, knit 2 stitches, and narrow by slipping one stitch under the other; at the last side needle leave 4 and take 2 stitches up together. The heel must contain just ½ of the stitches in the whole

stocking. When nearly done, it must be narrowed 7 or 8 times before it is fastened together, by placing its 2 halves side by side, and knitting 2 stitches together with a third needle. Some finish it in this way: they take just ½ the stitches of the heel in the middle of the needle, leaving ¼ on one side and ¼ on the other; they knit the middle only; but each time they take up one stitch from the side, and narrow it with one on the middle until all the side stitches are gone. The foot is formed by taking up the loops on each side of the heel. Before these are knit, the side needle should be widened by taking up an additional loop at the end of every 3 stitches; it should then be narrowed at the corner of the side needles until the foot is small enough. The toe may be formed by dividing the stitches in such a way that ½ will be on the instep needle, and ¼ on each of the others. Knit 2 stitches at the beginning of the instep needle, and then narrow by slipping 1 of the 2 next stitches under the other; at the end leave 4 stitches, and narrow by taking up 2 stitches at once; slip, and bind in the same way at the beginning of one side needle; and narrow by taking up 2 at once, at the end of the other. Another way is to narrow every 7 stitches when you begin the toe; knit 7 rows, and then narrow every 7 stitches again; knit 6 rows and narrow every 6 stitches; knit 5 rows, and narrow every 5 stitches, and so on to the end. Children's socks and little shoes are also useful and pleasant lady's work.

Suet, To Keep.

Take that which is the firmest and free from skin and veins. Remove these and let the suet melt gradually, then pour it into a pan of ice water or cold spring water. When it is hard, wipe it dry and put it in a cool, dry place. It can be kept a year. When it is needed for use, it must be scraped carefully.

Sumac, Cultivat on and Preparation of.

In tanning the finer kinds of leather, especially the hard-grained moroccos, sumac is used; also as the base of many colors in calico and delaine printing. Great care must be taken in curing it. It is cut when in full leaf, and when properly dried, is ground, leaves and sticks together. After cutting it must not be exposed to heavy dew or rain, as it will be materially injured. When in full bearing, an acre will produce at least 3 tons; which, when ready for market, is worth from $80 to $100 a ton. It costs the curers 1 cent per lb. in the green state. It is best to plant it in rows, so as to cultivate between either by seed or cutting of the roots. Cuttings can readily be obtained as sumac is as tenacious of life as blackberry or horse-radish. It needs only one planting, and the crop can be gathered any time from July to the time of frost. If cut early in the season and annually, the leaves and the stocks can be ground together. If not cut until the stock has formed into solid wood, the leaves must be stripped from the stock which is thus wasted. There is little increase in the weight of the leaves after the middle of July.

Tassels, To Make.

Very pretty tassels may be made at home by the following directions, and if the work is carefully done, they avoid the irregular, unfinished

look that is apt to mark home-made articles: They are expensive adjuncts to purchase and are easily soiled, particularly on window shades, so that it is well to know how to replace them. Cover 2 large button moulds after the usual manner with cloth or silk. Sew on a thick fringe round the edge of one; either yarn may be used or ready-made fringe. Join the upper button-mould to the lower round of the edge with a few blind stitches, and sew the cord which is to suspend it in the center of the top button. If a more elaborate head is desired, insert a twist spool, or a larger one, covered with silk between the buttons. To make very large and heavy tassels you can use very large button-moulds and spools; put embroidered ribbon or upholster's braid or gimp round the spool, join neatly, and substitute cord for yarn or worsted fringe.

Tattoo Marks on the Skin, To Remove.

Cover the mark with a plaster that will blister; after keeping the place open about a week with an ointment, dress it to get well. The tattoo-marks will disappear as the new skin grows.

Tea-Kettle, To Prevent Rust Forming in.

In the bottom of the kettle keep 1 or 2 oyster shells. When water is wanted, pour it off carefully, so as not to stir up the sediment. Do not let water stand in the tea-kettle when not in use.

Tight Ring, To Remove.

When a ring happens to get tightly fixed on the finger, as it will sometimes do, a piece of common twine should be well soaped, and then be wound round the finger as tightly as possible, or as can be borne. The twine should commence at the point of the finger, and be continued till the ring is reached; the end of the twine must then be forced through the ring with the head of a needle, or anything else that may be at hand. If the string is then unwound, the ring is almost sure to come off the finger with it. Or, soap the finger well, and slip the ring up while it is soapy, holding the finger up for a time first.

Vermin, To Cure.

Boil potatos with jackets on, then apply the water as soon as it is cool. It is immediate death to vermin. In 2 days thereafter the eggs (or nits) will all be hatched out, and be too young to lay more; then apply the potato water again, and success is complete, and vermin trouble over for that season.

Water, Boiling.

When water has once been made to boil, the fire may be very much lessened, as but little heat is required to keep it at a boiling point. There is no advantage whatever in making water boil furiously; the heat will escape in steam, without raising the heat of the water.

Windows, Washing.

Take out the dust that hardens in the corners of the sash with a narrow-bladed, sharp-pointed wooden knife. To polish the glass, use dry whiting. They must first be washed with weak black tea mixed with a little alcohol.

Writing, To Obliterate.

Recently written matter may be completely removed by a solution of chlorine gas in water Wash the written paper repeatedly with this, and afterward wash it with lime water, to neutralize any acid which may be left. The writing will thus be removed. If the writing is old, the preceding process will not be sufficiently efficacious, owing to the change which the ink has undergone. In such a case, the writing must be washed with sulphate of ammonia, before the solution is applied.

USEFUL HINTS.

Potatos, any time of the year, can be made mealy if boiled in salt and water and drained, and then covered with a thick towel and left in back of the range 5 mins.

To retain the color of any vegetable, plunge it into cold water after boiling.

Cooks make the mistake of boiling things too much. After reaching the boiling point, meats should simmer. The toughest meats can be made tender by so doing.

It is always best to underseason rather than to overseason food.

When anything is accidentally made too salt it can be counteracted by adding a tablespoonful of vinegar and a tablespoonful of sugar.

Meats of any kind should not be washed, but wiped with a towel to preserve the juices and quality.

It is Well to Know

That fish can be scaled much easier by dipping into boiling water about 1 min.

Salt fish are quickest and best freshened by soaking in sour milk.

That milk which is turned or changed may be sweetened and rendered fit for use again by stirring in a little soda.

That salt will curdle new milk; hence, in preparing milk porridge, gravies, etc., the salt should not be added until the dish is prepared.

That fresh meat, after beginning to sour, will sweeten if placed out of doors in the cool air over night.

That kerosene will soften boots or shoes which have been hardened by water, and render them pliable as when new.

That kerosene will make tin tea-kettles as bright as new. Saturate a woolen rag and rub with it. It will also remove stains from cleaned varnished furniture.

For poisoning from phosphorus, as when children suck matches, give a tablespoonful of magnesia and then, freely, gum arabic water; less magnesia if only a little phosphorus is taken.

Ammonia taken raw by accident—give new milk, olive oil, ice in bits; bind ice on the throat.

Poultices are the better for the addition of a little sweet or castor oil and a few drops of laudanum.

Turnip-peel, washed clean and tied in a knot, imparts a flavor to soups. Celery leaves and ends serve the same purpose.

Meat and poultry will lose their flavor and firmness if left in the water after they are done, as will also fish, which will break in pieces.

The habit of eating feathers is a morbid desire in poultry, the result of close confinement and a want of fresh meat, or food containing nitrogen.

Whenever you see your sauce boil from the side of the pan you may know that your flour or corn-starch is done.

When a well is cleared out, if any offensive substance is found in it, have the bottom sprinkled with 2 or 3 qts. of quicklime.

A store-room should be dry, clean and cool. In the coolest and driest part should be kept the jams, pickles and preserves. Tin boxes must hold biscuits or cakes. Coffee should not be kept in quantities unless it is unroasted, which is the best way to buy it; the berry, if not roasted, will improve by keeping; if roasted it loses its flavor, even when kept in tins.

Soap should be bought, for cheapness, by the cwt., if possible; if not, by the bar; it should be cut in pieces for use, and put in a drawer, or on the floor of the store-room to dry and harden slowly, which will make it last much longer.

Starch must be kept in a dry place.

Sugar, sweetmeats and salts must be kept very dry.

Rice, tapioca, sago, etc., must be kept close covered, for fear of insects.

Lemons should be purchased, for keeping, in June or July, when they are cheapest. They must hang in netted bags.

Eggs may be preserved by brushing over with gum, then lay them in a cool place, or they may be washed with quicklime, saltpetre and 1 oz. of cream of tartar.

The housekeeper should always have a ball of string, a hammer, nails, a pair of scissors, and a box of gum in her store-room.

Spices must be kept in tins. Pickles and dry preserves and lemon peel in glass bottles, which may be hermetically closed by means of gelatine caps. Gelatine mixed with glycerine yields a compound which is liquid when hot, but becomes solid by cooling, at the same time retaining much elasticity. To apply it, dip the neck of the bottle into the liquid mixture, and by repeating the operation the cap may be made thicker.

Flour should be kept in a barrel, with a flour-scoop to dip it, a sieve to sift it, and a pan to hold the sifted flour, either in the barrel or close by it.

Indian meal should only be bought in small quantities, not more than 15 or 20 lbs. at a time, and kept in a covered keg or tub where it can be very cool and dry. Always get it freshly ground if possible.

Oat meal, cracked wheat, maccaroni, pearl wheat, tapioca, sago, etc., are all better bought in small quantities. They must all be kept in covered jars or closed boxes. These are very healthy and form excellent dessert.

Keep butter in the dryest and coldest place that can be found. The same rule applies to lard.

Keep salt in the dryest place possible. Fine salt is, of course, best for table use, but coarse salt is much better for cooking.

Soda should be bought in small quantities and then kept tightly corked, since if it grows damp it is impossible to use it properly.

The spices are better kept in tin boxes, labeled carefully and covered tightly.

If molasses is purchased by the barrel it should be placed in the cellar. Otherwise it may be kept in a demijohn or jug in the pantry, but neither must be corked or bunged tightly.

Keep cheese in a tight tin box where it is cool and dry. Neither cake nor bread should be exposed to the air.

Smoked beef and hams, when cut, should be hung in a coarse linen bag, closely tied up to keep them from the flies.

The best vinegar is made of wine or cider. Buy a half-barrel of it and set it in the cellar, and then you will know what you are using. Never put pickles in glazed ware, as the vinegar will unite with the glazing and form a poisonous compound.

HOUSE PLANTS AND BIRDS.

CARE OF PLANTS.

In selecting plants, take those whose leaves are of a deep green; also those that are short and bushy and have no bloom on them. If any are in bloom, cut off the flowers before planting, as this will only delay the bloom a short time and greatly strengthen the plant. Plants reared in a greenhouse or under frames should be kept a short time in the pots before setting them in beds, placing them out of doors in the daytime and taking them in at night, to make them hardy and prevent them suffering from the night air. When plants are placed in a cold frame, be careful to lift the frame during the daytime, or the moisture that gathers on the inside of the glass will fall upon the plants and kill them.

An excellent dressing for all kinds of flowers is made of quicklime. The fertility of the soil, where flowers are growing, should be improved as much as possible, so that the seeds will be mature, ripe, and plump. Any dressing that is used should be spread around the flowers, and raked in thoroughly. The brilliancy of white flowers, or roses, having nearly white petals, will be greatly improved by surrounding the roots of growing plants with iron, sand, and unleached ashes. If you have plenty of wood-ashes, a dressing of them should be spread over the ground about ½ in. deep, and raked into the soil. A supply of oxide of iron can be obtained in the form of the dark-colored scales that fall from the heated bars of iron, when the blacksmith hammers the metal. If iron turnings and iron filings, which can be obtained at the machine shops, be worked into the soil near flowers, in a few years, all the minute fragments will have been dissolved, and furnish the choicest material for painting the gayest colors of the flower garden.

Plants that are to be taken from the ground to be kept in the house during the winter, should be potted as early as September, before fires are built, in order that they may become accustomed to the more confined air.

For potting plants, the mould should be light and loamy, the fertilizing material used being well decayed. Use but very little of any kind of fertilizer, if the soil is rich of itself. Put several small pieces of broken pottery in the bottom of the pot, to assist the drainage; and when you set out the plants, keep them well down in the pots, and press the mould around the roots. The top of the flower-pot should be about ½ in. above the surface of the mould. Plant slips close to the sides of the pots and in small pots. Plants should be repotted in larger pots, when the roots have become matted around the sides and bottom of the pots. In repotting plants it is not necessary to remove any of the mould from the roots, but simply to fill in the space in the larger pot with rich, new mould. Great care is needed in the treatment of plants. If they drop

their leaves, they have been injured either by over-potting, over-watering, over-heating, by exposure to cold, by applying too much of such stimulants as guano, or by any other means by which the fine rootlets that feed the plant have been destroyed, and disease induced that may lead to death. In either case, let the soil in which the plant is potted become nearly dry; remove the plant from the pot, crush the ball of soil in which the roots are enveloped, just enough to let the sour, outer crust of the ball be shaken off; repot the plant in dry soil. Any fresh soil, mixed with equal bulk of leaf-mould or street-sweepings will do, using a new flower-pot, or having washed the old one so that the moisture can freely evaporate through the pores. Do not over-feed sick plants any more than you would sick people. The pot should only be large enough to allow about 1 in. of soil between the pot and the ball of roots. After watering the plant enough to settle the soil, do not apply any more until it has begun to grow, unless the atmosphere is so dry that the moisture has entirely evaporated from the soil; then give what water is needed, or the plant may die from starvation. The danger to be avoided generally, is saturating the soil with too much water.

GENERAL DIRECTIONS.

Bulbous Flowers, To Make Blossom.

Fill a flower-pot half full of quicklime, and the remainder with good earth, plant your bulbs and keep the earth damp. The heat of the lime, tempered by passing through the earth, will cause the bulbs to send forth shoots to blossom.

Charcoal, Effect of on Flowers.

The colors of red and violet flowers are rendered extremely brilliant by covering the earth in their pots with about ¼ in. of pulverized charcoal. Charcoal does not affect yellow flowers at all in this way.

Fallen Leaves, To Utilize.

Fallen leaves are excellent to mix with hot-bed material, as they do not heat so rapidly as stable-manure, and hence last longer and maintain a more regular heat. They are also excellent to put round cold frames for the protection of half-hardy plants. Put a board up to the height of the frame boards about a foot from them and fill leaves in between. The bottom of the frames may be filled in with the leaves if the plants are at all tender. For potting plants and for flowers in general there is nothing better than fallen leaves that have been 2 or 3 yrs. decaying.

Geraniums, To Keep in Winter.

Take the plants out of their pots, trim off the leaves and outer branches, shake off all the soil from the roots, hang them in bunches, roots upward, in a dry, dark closet or cellar where they cannot be touched by the frost. In the spring repot them in good, rich soil.

House Plants, To Make Grow.

1. A most excellent thing is said to be to saturate the earth around them every day with the coffee left over at breakfast.
2. For house plants, 5 or 6 drops of ammonia to every pt. of water, once a week, will make them flourish.

House Plants, To Prepare Earth for.

Put together equal parts of the 3 following things—soil from the sides of a barn-yard, well-rotted manure, and leaf mould from the woods, or earth from the inside of an old tree or stump. Add a small quantity of sand. For cactuses, put as much sand as of the other materials and a little fine charcoal.

Insects on Plants, To Discover.

When the leaves of plants curl up or are of a reddish or yellow tint, you will find the plants are infested by a very small green insect or else by red spiders. To destroy these, scald some common tobacco with water until the latter is colored yellow, and sprinkle the leaves of the plants with it, when cold. Pass the stems and leaves of the plants between the fingers, shake the plant well and water the bed thoroughly, as this will destroy most of the insects shaken from the plant.

Moss on Trees.

This may readily be destroyed by using a whitewash of quicklime and wood ashes.

Plants, Creeping, Pegging Down.

The first bloom of verbenas and lobelias should be picked off, and as the branches extend they should be pegged down closely to the ground. As they lengthen they will take root and thus drawing a great deal of moisture from the soil they will cover a large space and bloom freely. In this way a lobelia will cover a sq. ft. and a verbena a sq. yd. of ground.

Plant-Protector, A Newspaper.

Paste together several newspapers and fold the edges over strings, thus making a screen, which can be suspended or spread loosely over the plants in such a manner as to form an excellent protection for the young shoots from cold in winter and also from the sun's rays in summer.

Propagating Plants.

Do not let geraniums and calceolarias bloom too soon, but pinch off the first flowers that appear and pinch out the eyes of all straggling branches, and they will at once throw out side-shoots, thus forming healthy, strong and well-shaped plants. In selecting plants take those whose branches are close to the surface of the soil.

Roses, Soot Tea for.

Get soot from a stove or chimney where wood is used for fuel, put it into an old pitcher, and pour hot water upon it. When cool, use it to water your plants every few days. When it is all used, fill up the pitcher again with hot water. The effect upon plants, especially upon roses that have almost hopelessly deteriorated, is wonderful in producing a rapid growth of thrifty shoots, with large thick leaves, and a great number of richly-tinted roses. Never despair of a decayed rose till this has been tried.

Seeds, Vitality of.

If seeds are too old they will not germinate. If properly gathered and preserved, beans and peas will retain their vitality 2 yrs.; beet and tomato, 7; cabbage and turnip, 4; carrot and sweet corn, 2; cucumber, melon and squash, 10; onion and parsnip, 1; radish and lettuce, 3.

Slugs, Rose, To Destroy.

In the morning, while the leaves are covered with dew, sift wood ashes on them, being careful to turn the branches over, so that the slugs on the underside of the leaves will get their share of the siftings. If the leaves are not covered with dew, first sprinkle the bushes, and the ashes will then cling to the slugs and utterly destroy them.

Water-Lilies, To Raise.

In the following way, water lilies may be raised at home. Sink half of an old cask in the ground, cover the bottom with swamp mud and peat and then fill it with water. Early in the spring, dig the lily roots, and place them in the earth at the bottom of the tub.

CARE OF BIRDS.

Canaries.

The canary must be kept perfectly clean. Strew the cage every morning with clean sand or fine gravel, as this is essential to the life and health of cage birds; give the birds a supply of fresh water every day, for drinking and bathing. During the moulting season, keep a small bit of iron in the drinking water. The food of the canary should be principally the small brown or summer rape-seed; some chickweed in spring, lettuce leaves in summer, and endive in autumn, with slices of sweet apple in winter, will do no harm, but bread and sugar should be avoided. A few poppy or canary-seeds, and a small quantity of bruised hemp-seed may be added to the above list, but the last should be used very sparingly. Cleanliness, simple food, and fresh, but not cold air, are necessary to the well-being of a canary. In the winter never hang the cage in a room without a fire, but, even then, if the sun shines and the air is not extremely cold, it will do no harm to open the window. The cage should

be 1 ft. high, at least 8 ins. in diameter, and there should be perches at different heights. Care must be taken not to place the cage where a draft of air can strike the bird. Birds like cuttle-fish bone; a little hard boiled egg and cracker grated fine also agrees with them. Most birds that die are killed by bad seed; a piece of apple, a leaf of cabbage, or other green food will keep down the tendency to fever, and prevent constipation. Birds should bathe regularly every day. If they are sick and not inclined to eat, take away all the food for a day, and then only give soaked bread, in which there is but little moisture.

Canary Birds, To Rid of Mites.

Place a clean white cloth over the cage at night. The vermin leave the bird and gather upon the cloth. They are very small, red, and scarcely discernible with the naked eye.

Mocking Birds' Food.

Mocking birds' food may be made of corn meal and pea meal, one part each, thoroughly mixed; ½ part moss meal; to the mixture add melted lard, not enough to make it too fat or greasy, and sweeten with molasses. The mixture should now be fried in a frying pan for about ½ hr.; stir it all the time, and be very careful not to let it burn. If made properly and put in a covered glass jar, it will keep for several weeks; but if not fried enough it will not keep. This food is healthful instead of being injurious to mocking birds and other birds of a similar nature, and they prefer it to all other food. Moss meal is prepared from moss seed, brought to this country from Germany, and pea meal is made of peas split and dried in an oven and then finely ground in a mill.

Moulting.

Moulting can not be prevented, but must be carefully assisted. Draughts of air must be carefully guarded against, as the greatest danger to which they are exposed is cold. If the cages are open ones they should be partly covered with a cloth or paper, to keep the birds warm, and need not be cleaned more than once a week, though fresh food and water must be supplied daily. Covering the cage, putting a little saffron in the water and giving them nourishing food will soon restore the plumage, more beautiful, if possible, than that cast off. The covering of the cage should be cast off gradually; then cleanse the cage thoroughly, and give the birds their ordinary food. While moulting, if the weather is fine and warm, the birds should be put in the sun for 1 or 2 hrs.

Parrots.

Parrots must have strong, roomy cages; the best is the "indestructible cage," made of corrugated wire, with perches of lignum vitæ. Parrots are very destructive birds, and if they can find a loose wire or weak spot in the cage, they will work with beaks and claws until it is entirely destroyed. Cockatoos and macaws are chained to a perch by the leg, and 2 little tins, one to hold food and the other water, are fastened to the perch, and a large, flat tin underneath contains gravel, which is nec-

essary to their health. Parrots, being natives of the tropics, and very susceptible of cold, should be kept in a warm room during the winter, and carefully guarded from draughts, which often produce asthma, causing the death of many parrots; yet, they require a good deal of fresh air, and plenty of water to drink and bathe in. Parrots should bathe once a week at least in summer, and if they will not bathe themselves, they must have tepid water poured over them from a watering-pot; then set them before a fire, or in the sun to dry, being very careful to have the cage dried thoroughly. Parrots frequently have the gout, and sometimes loose their toes from this disease, which is brought on by dampness.

Their Food.

The food for tame parrots is Indian corn, boiled and allowed to become cold, and canary seed. They like hemp seed, but it is too heating for general use. They may have a moderate quantity of ripe fruit, and nuts of any kind; some are very fond of a little mealy potato, and crusts of bread or toast. Once a day you can give them as much white bread, soaked in fresh milk with a little sugar, as they will eat at one time. Food must not be left in the cage, as it will get sour and be injurious. Parrots must never be allowed to eat meat, however small the quantity, and the less butter and grease of any kind the better. They live to a great age if well cared for, and are so amusing and affectionate that it is a pity to have them die from neglect.

To Teach them to Talk.

A parrot can be taught to talk very quickly by placing him near another who can speak. If placed where they can hear but not see each other, the one will soon begin to imitate the words spoken by the other.

The parrot's cage should always be covered in winter with a woolen rug at night, and it is a good plan, just after covering the cage, to repeat several times, in the same tone, the sentence you wish him to learn. Though he may not seem to notice at first, yet sometime, when least expected, he will repeat the sentence in exactly the same tone that he has heard it. Reward him at once with a bit of sugar, or fruit, or any little dainty that he likes. Parrots understand very quickly that obedience is rewarded.

Feather Plucking.

If a parrot plucks its own feathers on account of a highly inflammatory condition of the blood, induced by feeding it dainty morsels ill-suited to birds, leave off gradually the food that does not agree with it, making it feed upon seed suited to its condition and it will soon recover. If it is simply trying to get rid of parasites that are upon its body, the cage must be well cleaned; a drop of turpentine in each corner of the cage and upon the perch will soon destroy them; also, dust the body of the bird well with some insect powder, or rub a little train oil upon the bare part of the bird's body.

DISEASES OF BIRDS.

Asthma.

Birds that have asthma, have very short breath, often open their beaks to gasp for air, and if frightened, keep them open a long time. This disease is frequently caused by their mode of life, their food being too dry and heating, consisting principally of hemp-seed, which is very injurious, and is all the more hurtful as they like it, and hence are inclined to eat too much. The unchanged air of the rooms also, and the great heat kept up during winter, are very injurious to their delicate lungs. The best remedy is a moist and refreshing regimen, and some aperients more or less often, according to the violence of the disease. The following treatment has often been successful: First, leave off hemp-seed entirely, giving them rape-seed, plenty of bread soaked in pure water, and then pressed; endive, lettuce, or watercresses, twice a week, also boiled bread and milk about the size of a nutmeg. To make this, throw a piece of white bread, about the size of a nut, into a teacupful of milk, boil it and stir it all of the time with a wooden spoon till it is of the consistence of pap. This must be cold before it is given to the birds, and must not be used when sour, as it will prove injurious. This paste purges them sufficiently and sensibly relieves them, and in violent attacks, if nothing else is given for 2 or 3 days, it will have the desired effect. If the disease is slight, give the paste once in 3 or 4 days. Birds should, if possible, be induced to bathe every day, but the water should be milk-warm. Birds should not be tormented, or seized too suddenly, as the fright thus occasioned is very injurious to the lungs, often causing the rupture of a blood-vessel in the breast, which is shown by a drop of blood in the beak, and is generally followed by death. If asthma is brought on by eating seeds that are too old, spoiled, or rancid, some drops of oxymel may be swallowed for 8 days, but it is best to change the seed and be sure that none but good seed is in the trough. Birds that eat insects and worms, sometimes swallow other substances, which, sticking in their throat, stops their respiration and stifles them. The foreign substance must be extracted in some way, as this is the only remedy.

Consumption.

Consumption may be known by total loss of appetite, extreme thinness of the breast, the swelling of the lower part of the belly, and similar symptoms. The juice of the wild turnip, given to drink instead of water, is considered a successful remedy.

Costiveness.

Costiveness is indicated by the frequent unsuccessful attempts of the bird to relieve itself. Aperients should be used, and boiled bread and milk will be found beneficial. If a spider does not produce the desired effect, anoint the vent of the bird with the head of a pin steeped in linseed oil; if the bird eats meal worms, one of these, bruised in sweet oil and saffron, will be swallowed at once and will prove a certain remedy.

Diarrhœa.

Diarrhœa is often occasioned by a change of food, especially in birds that have recently been caged. These generally die. Sometimes chalybeate water and oil produce the desired effect, but it is better, if possible, to obtain for the bird its natural food. The disease can be cured if taken before the inflammation is violent; a complete cure is generally affected by using boiled bread and milk and lettuce, or any other green, refreshing food. Chronic diarrhœa may be cured by mixing chalybeate water with a little milk for their drink.

Pip.

Pip is a catarrh or cold that stops up the nostrils, and hardens the membrane covering the tongue. This hardened membrane should be removed in large birds, taking it off from the base to the tip; then this part can again perspire, the saliva necessary for digestion can flow, and the taste and appetite will return. Catarrh can generally be cured by using a mixture of fresh butter, pepper, and garlic. Let the birds also drink the pectoral infusion of speedwell; and open the nostrils by passing up a small feather. The indications of this disease are rubbing of the head, the beak often open and yellow at the base, and dryness of the tongue.

MEDICAL AND SURGICAL.

SYMPTOMS OF DISEASES.

Ague.

This disease is ushered in by slight feverishness, and a feeling of fatigue and debility. Then follows, somewhat suddenly, the cold stage, in which the patient is attacked with severe shivering; the skin is cold and pale, and the teeth chatter. Severe headache occurs, the pulse is rapid, and the breathing hurried. This continues for 2 or 3 hours, and then comes the hot stage, in which the headache becomes more severe; the whole surface of the body is hot, flushed and dry, the features swollen, the eyes bloodshot, the pulse full and strong; thirst is very urgent, and appetite lost. Sometimes delirium occurs, and may mislead us to the real nature of the fever. This lasts for 6 hours or more, and is then replaced by the sweating stage, in which relief comes by moisture appearing on the forehead and face, and gradually increasing until it covers the whole body, and the patient rapidly recovers.

Asthma.

This consists in a sudden attack of tightness across the chest, with difficulty of breathing, so urgent and distressing that there is danger of suffocation. The patient is fighting and struggling for very life, gasping for air, speech nearly impracticable, the eyes protruding, the countenance anxious, flustered, or of a blue discoloration. The skin becomes covered with cold, clammy sweat, the hands and fingers blue; and the disease is distressing in the extreme, but, happily, is not often fatal, but passes off with the restoration of the bronchial secretion, which has been suspended. The paroxysm, however, seldom lasts more than a few hours, but the bronchitis, which follows, sometimes lasts several days.

Bright's Disease of the Kidneys.

After an indefinite period of impaired health, the patient's countenance begins to assume a pallid, unhealthy hue and presents puffiness of the eyelids on rising in the morning. After a while the ankles are found to swell toward evening, and sooner or later the swelling of the ankles

becomes permanent, extends up the legs and presents the characteristic of "pitting;" *i. e.*, the impression of the fingers will remain for a minute or so after the pressure has been removed. The distinctive symptoms, however, by which the existence of this disease may be known is the presence of albumen in the patient's urine, which can be determined by testing in various ways.

Bronchitis.

This is the form of inflammation of the chest that is most prone to become chronic and to recur as "winter cough," periodically, attended with profuse expectoration and shortness of breath. In aged people it is seriously aggravated by severe weather, under which circumstances debility rapidly becomes extreme, and the patient, becoming drowsy and unable to relieve himself of the phlegm, dies from suffocation.

Catarrh.

This terrible disease begins as a common cold; when it becomes chronic it takes a different form, the phlegm or waste matter becoming acrid and nearly poisonous, serves to keep up the disease. This phlegm seems to be matter that has not been carried off by perspiration. It often happens that a cold runs into catarrh so slowly as not to be noticed until it seems as if there were a thread or hair in the roof of the mouth or throat. In this case the phlegm is becoming the cause of disease, as this is the first stage of chronic catarrh.

Chicken Pox.

In most cases this is a trifling malady, with little or no febrile symptoms. In others it is preceded with 24 or 36 hrs. of feverish disturbance. These symptoms usually subside on the appearance of an eruption of pimples on the body, face and head. On the 2d day the pimples present small vesicles or bladders, containing a clear fluid like water. On the 3rd or 4th day the vesicles contain opaque, yellowish fluid; these dry and fall off in scabs during the next 2 or 3 days, leaving, generally, no trace behind. Sometimes the skin is slightly pitted, especially if the spots were scratched.

Cholera, English.

In summer and early autumn diarrhœa often begins suddenly, without any signs of previous bilious disorder. It is frequently accompanied by cramps of the legs, with nausea and vomiting; the tongue is furred, and great thirst is caused; the pulse is feeble; the loose motions are numerous, bilious at first, becoming more and more watery until they contain little more than mucus.

Cholera, Asiatic.

This is usually preceded by a variable period of looseness of the bowels and a feeling of general indisposition. In the severe form of cholera, the previous choleric diarrhœa becomes altered in character; before this

takes place recovery is not unfrequent. The stools become watery, having a peculiar odor and "rice-water" appearance. The vomiting assumes the same characters. There is a feeling of sinking and prostration rapidly increasing. Cramps begin in the feet and hands and extend to the limbs and body. The features assume a sunken, contracted aspect, with a look of indifference in the countenance. The surface of the body becomes cold and blue, or leaden-hued, and has a clammy sweat. The tongue partakes of the coldness of the surface. There is great thirst. The pulse, feeble, soon fails to be felt. The voice becomes scarcely audible. The kidneys cease to act, and complete collapse and death rapidly supervene at periods varying up to 2 days on the average. Notwithstanding the coldness of the surface of the body, the patient suffers from internal heat and craves cold drinks. After the cold stage has lasted some time, it is followed by a febrile stage, which may run into a typhus condition, in which stage many cases prove fatal.

Cholera Morbus.

At first there is sickness and distress at the stomach, which is followed by violent gripings and vomiting of thin, dirty-yellowish, whitish or greenish fluid, accompanied by similar discharges from the bowels. The pain is intense at times, and the stomach-sickness and distress continue between the vomiting and purging. The pulse, at first rapid, soon becomes small and feeble; the tongue is parched and dry and though the thirst is distressing, no liquid can be retained on the stomach.

Colic.

A severe twisting and griping pain in the bowels, accompanied with flatulence, sometimes with vomiting, and always attended by constipation. The pain is paroxysmal and comes on suddenly, and is rather relieved than aggravated by pressure. In colic the tongue is not necessarily furred, nor is the pulse quickened, both of which conditions will be found in inflammation of the bowels. In one obstinate form of colic the action of the bowels become reversed and vomiting may take place. In such a case it should clearly be made out that no rupture or internal strangulation of the intestines exists. A mere muscular pain may be taken for colic or for inflammation, the latter more likely than the former.

Cough, Whooping.

A contagious or infectious disease, beginning as a common cold, and after a few days, when the febrile symptoms have disappeared, showing a spasmodic or paroxysmal character. The cough comes in distinct fits, each of which consists of a series of forcible expirations or cough noises, followed by an inspiration, or hard drawing in of the breath, which gives the cough its name. Great distress accompanies the fits, the face becomes red, the eyes bloodshot and at times bleeding from the nose and mouth takes place. These fits are generally terminated by vomiting. During an attack a child will exhibit great fear. Adults are seized equally suddenly and the attacks are very severe in their cases. The disease generally attains its height in 10 or 12 days, when it gradually subsides, though it seldom completely leaves a patient for some weeks or even months, and is apt to recur on taking cold.

Croup.

This is a disease which is alarming from the suddenness of its attack and the rapidity with which it runs its fatal course if unchecked; but, on the other hand, in the majority of cases, it is easily checked if the treatment begins as soon as it occurs. A child goes to bed apparently well, or having a slight cold or cough. After a time it wakes up with a hoarse, ringing, rasping cough, and difficulty in breathing, and countenance expressive of its trouble; each inspiration and expiration being attended with a rough, metallic, tubular sound, and a voice masked or obliterated by a harsh, hoarse, croaking, vocalization. The cough is dry, harassing, and not attended with expectoration at first, but afterward some portions of membrane, like mucus, may be coughed up. The pulse becomes rapid, the skin hot, the countenance more and more distressed, and if relief be not afforded at once, the patient becomes drowsy, the complexion becomes blue and the little patient may die from suffocation within 48 hrs.; hence the treatment must be prompt and active.

Diftheria.

The throat is very sore, there is difficulty in swallowing, and the tonsils, uvula, palate and adjacent parts are covered with an extremely adventitious membrane; the sub-maxillary ganglions are swollen and painful and a short cough is occasionally heard.

Dysentery.

This is an inflammation of the larger or lower intestine, common in hot weather. It begins with shivering and a febrile condition. Diarrhœa follows, with almost incessant desire to go to stool. The motions, hard and lumpy at first, become little more than blood and mucus, and are voided with painful straining. The pulse is rapid but feeble, the skin hot, the countenance anxious, the patient restless. In the worst cases the disease becomes chronic, and the patient is worn out by the pain and fever, or sinks rapidly into a state of collapse.

Dyspepsia.

The patient has various kinds of pain in the region of the stomach, which occur soon after meals. These pains are also sometimes felt between the shoulders and in the back, flatulency causing some distension of the bowels; pain that is called "heart burn," nausea and often vomiting, headache, disturbed sleep, palpitation of the heart, and other sympathetic inconveniences also occur. Dyspepsia is caused by the use of stimulating liquors, or of narcotics; the use of too highly seasoned or rich food, sedentary habits, and want of proper exercise.

Erysipelas.

This disease generally begins with shivering and other symptoms of a feverish condition. After a short interval there appears somewhere on the surface of the body a red patch, which may rapidly increase in

extent. The skin is red and shining, and has a sense of tingling and burning. The swollen skin pits somewhat on pressure with the finger. After a time the swelling and redness begin to subside in the part where it commenced and creep along to another part of the surface of the body or limb. As the inflammation subsides, the skin peels off in dry scabs, or large blisters which contain a yellowish fluid. Sometimes the inflammation is so severe and intractable that the swelling begins to form an abscess. In this case the hardness goes off and the inflamed part takes on a soft, boggy feeling. The danger of this disease is that it may spread to internal organs.

Measles.

This is an infectious eruptive fever, having an incubative period of 14 days, commencing with marked catarrhal symptoms. The child appears to have a cold; he has sneezing, running at the nose, watering at the eyes, and a short, hard cough. In a short time the skin becomes hot, the pulse is quickened, and on the 3d or 4th day a mottled rash begins to show itself on the face, chest and body. This rash consists of distinct spots slightly raised above the surface of the skin, and clustered in groups, often having an indistinctly crescentric arrangement. It begins to disappear in about 3 or 4 days, and is usually all gone by the end of a week.

Mumps.

At first there is soreness and stiffness in the side of the neck; then there is swelling of the parotid gland, which is painful, and continues to increase for 4 or 5 days, and makes it difficult to open the mouth or swallow. Sometimes the swelling is only on one side at a time, but commonly on both. This is often accompanied with fever, dry skin, quick pulse, furred tongue, and constipated bowels. This disease, though contagious, is not dangerous.

Pleurisy.

In pleurisy there may be no cough at all, and the fever not active; but the pain is cutting and acute, and usually referable to a spot or limited part, and increased by coughing, etc. The pulse will be accelerated, the tongue furred, the bowels disturbed in their functions, the urine high-colored and depositing a red sediment.

Quinsy.

This disease begins with a slight feverish attack, and considerable swelling of the tonsils, causing some difficulty in swallowing. These symptoms become more intense, there being severe headache, thirst, and darting pains in the ears. After from 5 to 7 days the disease naturally subsides, or an abscess may form on the tonsil and burst. Sometimes the tonsils remain enlarged after the swelling subsides. Quinsy is caused by exposure to cold.

Acute Rheumatism.

This is an inflammation or febrile affection that attacks the joints and muscles, or their coverings and sheaths. The pain in the joints is so

acute, and they are so sensitive to the slightest movement, that the patient has a dread even of a shaking of the bed he lies on. The joints are swollen and red as well as painful. A high degree of fever attends the inflammatory affection of the joints; the pulse is full, strong and fast; the tongue is furred; the bowels generally costive; the urine scanty and high colored. The seat of the inflammation rapidly changes from one joint to another.

Typhoid Fever.

This generally begins with chilliness, loss of appetite, and heat of the skin; sometimes vomiting and generally diarrhœa, which seems to defy remedies. The patient becomes weaker, and from about the 7th to the 10th day from the seizure, there appear on different parts of the body — generally on the back and front of the chest and abdomen, rose-colored spots, which are slightly raised above the surface, but which disappear on pressure and quickly return when the finger is removed. In ordinary cases there are about a dozen of these. In 48 hrs. these spots fade away, and are replaced by fresh ones; these in turn fade and are replaced by others and so on. The severity and danger bear some relation to the number of the spots. The abdomen feels hard and is quite tender, especially just above the right groin. The tongue is furred at the center and red at the tip, as the diarrhœa continues, the motions being loose, sometimes quite black, at others light-colored. If this continues, the tongue becomes ulcerated, brown, and dry. There is great thirst; the pulse ranges between 90 and 120. The temperature will reach 102° to 104°. The patient may be delirious, but this does not always denote that the disease will assume a serious form. The improvement even in favorable cases is slow; it is indicated by the number of stools diminishing and becoming more solid. The spots disappear, the skin is cooler and more moist, the appetite returns, and as convalescence progresses, sometimes becomes ravenous. The appetite requires to be carefully controlled during convalescence, ulceration of the bowels being the dangerous tendency of the fever. Indiscretion in diet will easily induce a relapse.

Worms, Intestinal.

Variable and vitiated appetite, fœtid breath, feverishness, grinding of the teeth, picking at the nose, itching at the seat, disordered bowels, and pains in the stomach. There are 3 kinds of worms voided from the intestines, viz.:—1. The round worm, resembling the common earth-worm. 2. The threadworm—some short white worms, some of a longer variety. 3. Tape-worm; the length of which may extend to many feet, and which consists of small joints.

DRUGS SUITED TO DOMESTIC USE.

Acacia Gum—Used in catarrh and other irritations of mucous membrane. Dose: ½ dr.

Acid, Acetic—Vinegar distilled from wood and purified. Used in lotions for cooling purposes, diluted with water, also in ringworm and

removing warts. It is not given internally, except in combination with other remedies.

Acid, Benzoic—Used in chronic bronchitis. Dose: 5 grs. to ¼ dr., twice a day.

Acid, Carbolic—(Pure and impure). A powerful antiseptic substance; obtained from coal-tar oil. About 1 gr. of the acid is enough for the toothache. The impure acid, known as Calvert's, is used, diluted with water, for disinfectant purposes.

Acid, Sulphuric—(Diluted). Sulphuric acid mixed with 11 times its bulk of water. Used in dyspepsia, also to check sweatings, salivation, and diarrhœa; also as a gargle.

Acid, Tartaric—Used in fevers with some soda or potassa, as an effervescing draught, instead of citric acid; the acid is dissolved in water as a substitute for lemon juice, and added to soda. Dose: 15 to 25 grs.

Aloes, Barbadoes—Used in dyspepsia and head-affections; also as a common purgative. Dose: ¼ gr. to 5 grs., well powdered or dissolved in hot water.

Alum—Used internally in hemorrhages and mucous discharges; externally, as a wash in ophthalmia, or as a gargle in relaxed uvula. Dose: 10 to 20 grs.

Ammoniacum, Gum—A natural exudation from the *Dorema ammoniacum*, a plant which is a native of Persia. Therapeutical effects. Stimulating expectorant. Used in asthma and chronic bronchitis, especially in old people. Dose: 10 to 30grs., in pills or emulsion.

Ammonia, Liquor of—Ammonia condensed in water. Used, when largely diluted, in faintings, asphyxia, hysteria, spasms, acidities of the stomach; and externally as an irritant of the skin. Dose: 5 to 15 minims.

Asafœtida, Gum—Used in hysteria, flatulence, colic, etc. Dose: 5 to 10 grs.

Borax, Biborate of Soda—Used in intestinal irritation of infants. Externally applied to thrush, and to cutaneous diseases. Dose: 5 to 30 grs. Externally applied dissolved in 8 times its weight of honey or mucilage.

Buchu, Leaves of Buchu—Used in gout and rheumatism, but chiefly in chronic inflammation of the bladder.

Camphor—Used in hysteria, asthma, chorea, and generally in spasmodic diseases. Externally, in muscular pains, bruises, etc. Dose: 3 to 5 grs. in pills. When dissolved in water as camphor mixture, the quantity is scarcely appreciable.

Capsicum—Used in dyspepsia, flatulence, externally as an ingredient in gargles for relaxed sore throat. Dose: 3 to 5 grs. in pills; 2 drs. to 8 ozs. form the strength for using as a gargle diluted largely with water.

Cascarilla Bark—Therapeutical effects. Stimulant, stomachic, and tonic. Used in dyspepsia, flatulent cholic, chronic dysentery, and gangrene. Dose: 20 to 30 grs. of this powder 3 or 4 times a day.

Castor Oil—Obtained from *Rieinus communis*. Therapeutical effects. Mildly aperient. Used in colic, and in those cases of constipation which will not bear drastic purgatives; also for mixing with gruel for the ordinary enema. Dose: a teaspoonful to 1 or 2 tablespoonfuls; an ounce is the proper quantity for mixing with gruel to make an enema.

Simple Cerate—Add 20 ozs. of melted wax to a pt. of olive oil, and mix while warm, stirring till cold.

Cerate of Acetate of Lead—Melt 4 ozs. of white wax in 8 fluid ozs. of olive oil; then gradually add 4 drs. of powdered acetate of lead, previously rubbed with 2 fluid ozs. of olive oil, and stir with a spatula till they unite.

Compound Soap Cerate—Boil 15 ozs. of powdered oxide of lead with 1 gal. of vinegar over a slow fire, constantly stirring them until they unite; then add 10 ozs. of soap, and boil again in a similar manner till all the moisture is evaporated; lastly, mix with them 12½ ozs. of wax, previously melted in a pt. of olive oil.

Chalk, Prepared—Used in acidities of the stomach and bowels, and to correct the irritation which is established in diarrhœa. Externally, as a mild application to sores and burns. Dose: 10 to 15 grs.

Chamomile Flowers—Therapeutical effects. Tonic, stomachic, and carminative. The warm infusion, when weak, is emetic. Externally, soothing. Used in dyspepsia, hysteria, flatulence, and also to work off emetics. Dose of the powder: 30 to 40 grs., twice a day.

Charcoal—Vegatable. Used as an ingredient in toothpowder; also to mix with other substances in forming a poultice for foul ulcers. Sometimes given internally. Dose: 10 to 20 grs.

Chloride of Lime—A combination of chlorine and lime—proper, chlorinated lime. Therapeutical effects. Slightly tonic, strongly antiseptic, and destructive to noxious effluvia. Used either in powder or solution, on scrofulous swellings, and other glandular tumours, combined with bitters or alteratives; also as a disinfectant. Dose: 5 to 10 grs., twice a day.

Cinchona Bark—(Yellow). Therapeutical effects. Astringent, tonic, antiseptic, and febrifuge. Used in typhoid fevers, and in all low states of the system, being in such cases superior to quinine. Dose: 10 to 50 grs. in wine or wine and water.

Cinnamon Bark, Oil and Water—Used as a warm and cordial spice, to prevent the griping of purgatives, etc.

Cod-Liver Oil—Prepared from the liver of the cod-fish. Therapeutical effects. Nutritive, and acting also on the general system, from containing very small doses of iodine and bromine. Dose: 1 dr. carried up to 4 in any convenient vehicle, as infusion of cloves.

Confection, Aromatic—Is prepared by mixing a number of spices together with sugar; but as it is sold by the druggists in a much better and cheaper form than it can be prepared at home, it is useless to give the formula here. It is intended as a cordial addition to chalk mixture, etc., and is used in diarrhœa, hysteria, and dyspepsia; the dose being 10 to 20 grs.

Creosote—A peculiar liquid prepared from pyroxylic oil. Used internally in phthisis; also in troublesome vomiting, from any cause not readily understood, as seasickness.

Decoction of Barley—(Barley water). Wash 2½ ozs. of pearl barley, then boil it in ½ pt. of water for a short time. Throw this water away and pour on the barley 4 pts. of hot water; boil slowly down to 2 pts. and strain. Therapeutical effects. Soothing and nourishing. Used as a diluent drink in fevers, and in inflammation of mucous surfaces, especially those of the urinary organs.

Decoction of Barley, (Compound)—Boil 2 pts. of barley water (see above) with 2½ ozs. of sliced figs, 4 drs. of bruised, fresh liquorice, 2½ ozs. of raisins, and 1 pt. of water, down to 2 pts., and strain. Effect the same as barley water, but, in addition, laxative.

Decoction of Broom, (Compound)—Take ½ oz. of broom, ½ oz. of juniper berries, and ½ oz. of bruised dandelion; boil in 1½ pts. of water down to a pt., and strain. Therapeutical effects. Diuretic, and slightly aperient. Used in dropsy. Dose: 1½ ozs. to 2 ozs., twice or thrice a day.

Decoction of Cinchona—Boil 10 drs. of bruised yellow cinchona in 1 pt. of water for 10 mins., in a closed vessel, then strain. Used in fevers, malignant sore throat, and dyspepsia. Dose: 1½ ozs. to 3 ozs., 3 times a day.

Decoction of Dandelion—Boil 4 ozs. of bruised dandelion in 1½ pts. of distilled water, to a pt., and strain. Used in torpid conditions of the liver, jaundice, habitual constipation, etc. Dose: 2 or 3 ozs., 2 or 3 times a day.

Decoction of Iceland Moss—Boil 5 drs. of Iceland moss in 1½ pts. of water down to a pt., and strain. Used in consumption and dysentery. Dose 1 to 2 ozs.

Decoction of Poppyheads—Boil 5 ozs. of bruised poppyheads in 3 pts. of water for ½ hr., and strain. Used as a fomentation in painful swellings and inflammations.

Decoction of Quince Seed—Boil 2 drs. of quince seed in 1 pt. of water, in a tightly covered vessel for 10 mins., and strain. Used in thrush and irritable conditions of the mucous membrane.

Decoction of Sarsaparilla, (Compound)—Mix 4 pts. of boiling decoction of sarsaparilla, 10 drs. of sliced sassafras, 10 drs. of guaiacum-wood shavings, 10 drs. of bruised stick-licorice, and 3 drs. of mezeron-bark; boil ½ hr., and strain. Used in cutaneous diseases, chronic rheumatism, and scrofula. Dose: 2 ozs., 2 or 3 times a day.

Extract of Hop—Physical properties. A dark-colored, bitter extract, without much smell. Therapeutical effects. Tonic and sedative. Used in chronic dyspepsia and loss of sleep. Dose: 10 to 15 grs.

Gentian Root—Physical properties. A root usually sold in slices; inodorous; intensely bitter; externally, brown, twisted and wrinkled: internally, yellow, spongy and flexible; properties readily imparted to wine, spirit or water. Used in dyspepsia and general want of tone. Dose: 10 to 20 grs.

Infusion of Cascarilla—Macerate 1½ ozs. of bruised cascarilla in 1 pt. of boiling water for 2 hrs., in a covered vessel, and strain. Therapeutical effects. Stomachic and tonic. Used in dyspepsia, diarrhœa, and general debility. Dose: 1 oz. to 2 ozs.

Infusion of Gentian, (Compound)—Macerate 2 drs. of sliced gentian, 2 drs. of dried orange-peel, 4 drs. of lemon-peel, in 1 pt. of boiling water, for 1 hr., in a covered vessel, and strain. Therapeutical effects. Stomachic and tonic. Used in dyspepsia and general debility. Dose: 1½ to 2 ozs., 2 or 3 times a day.

Infusion of Horseradish, (Compound)—Macerate 1 oz. of horseradish, sliced, and 1 oz. of bruised mustard-seed in 1 pt. of boiling water 2 hrs., in a covered vessel, and strain. Then add a fluid oz. of the compound spirit of horseradish. The same as the root. Dose: 1 to 3 ozs., 3 or 4 times a day.

Infusion of Quassia—Macerate 10 drs. of quassia, sliced, in 1 pt. of boiling water 2 hrs., in a covered vessel. Therapeutical effects. Tonic and stomachic. Used in dyspepsia. Dose: 1½ to 2 ozs.

Infusion of Roses, (Compound)—Put 3 drs. of the dried red rose leaves into 1 pt. of boiling water, then add 1½ fluid drs. of diluted sulphuric acid. Macerate for 2 hrs., and strain the liquor; lastly, add 6

drs. of sugar. Therapeutical effects. Astringent, refrigerant, and antiseptic. Used as a drink in fevers; also a vehicle for sulphate of magnesia, quinine, etc. Dose: 1½ to 2 ozs.

Liquor of Acetate of Lead—Sold by the druggists. Used as a lotion to inflamed surfaces when largely diluted with water.

Liquor of Potass—Used in acidity of the stomach and bowels; also in irritability of the stomach and of the bladder, and in cutaneous diseases. Dose: 10 to 30 drops, in beer or bitter infusion, or lemonade.

Magnesia, Carbonate of—Used in dyspepsia with costiveness, in the constipation of children and of delicate grown persons. Dose: ½ to 1 or 2 drs.

Mercury, Chloride of Calomel—Used in chronic diseases of the liver and general torpidity of the stomach and bowels; in dropsy, in combination with other medicines. A most dangerous medicine when employed by those who are not aware of its powerful effects. Dose: 1 gr. twice a day as an alterative, 4 to 5 grs. as an aperient, combined with, or followed by, some mild vegetable purgative.

Mixture of Iron—All mixtures of iron should be prepared by capable druggists.

Pill of Iron, with Myrrh—Used in dyspepsia, chlorosis, hysteria.

Poultice of Charcoal—Macerate, for a short time, before the fire 2 ozs. of bread in 2 fluid ozs. of boiling water; then mix, and gradually stir in 10 drs. of linseed meal; with these mix 2 drs. of powdered charcoal, and sprinkle 1 dr. on the surface. Used in gangrene.

Poultice of Yeast—Mix 5 ozs. of yeast with an equal quantity of water, at 100°; with these stir 1 lb. of flour, so as to make a poultice; place it by the fire till it swells, and use. Stimulant, emollient. Used in indolent abscesses and sores.

Quinine, Sulphate of—Physical properties. Colorless, inodorous, lustrous, bitter efflorescent crystals, totally soluble in water previously acidulated with sulphuric acid. Therapeutical effects. Stomachic, stimulant, febrifuge, and tonic. Used in general debility, neuralgia, and after fever. Dose: 1 to 3 grs.

Soda, Bicarbonate of — Physical properties. A heavy, white powder, without smell, and tasting slightly soapy. Entirely soluble in water. Therapeutical effects. Anti-acid. Used for acidities of the stomach. Dose: 5 to 30 grs.

Spigelia—A very useful remedy for round worms. Dose: 10 to 20 grs. of the powder, given fasting; or ½ to 3 ozs. of the infusion made by pouring 1 pt. of water on ½ oz. of the root.

Sirup of Iodide of Iron—Is used because the iodide of iron is liable to injury from change. Therapeutical effects. Alterative, and affording the effects of iron and iodine. Used in scrofulous diseases, and in cachectic states of the system. Dose: ½ dr. to 1 dr.

Wine of Iron—Digest for 30 days 1 oz. of iron wire or tacks in 2 pts. of sherry. Therapeutical effects. Stomachic and tonic. Used the same as other iron medicines. Dose: 30 to 60 minims.

MEDICAL.

Ague, To Avoid.

Those who are obliged to live in districts where this disease prevails, should observe the following suggestions: 1. Choose for sleeping

apartments, rooms on the sunny side of the house. 2. As soon as the dew begins to fall, build a fire, as the heat will do much to kill the malaria. 3. Do not expose yourself to the malarial air after sunset or before sunrise. 4. Take a thorough bath every day on rising, in a warm room, with friction enough to produce a reaction. This will keep the skin healthy and active. 5. Regulate the bowels by a proper diet. In many cases ague is caused by the accumulation of morbid matters in the system.

Ague.

Take 1½ tablespoonfuls of the juice of freshly dug pounded mandrake root, add the same quantity of molasses. Divide this into 3 doses and give them 2 hrs. apart, beginning so that all will be taken before the chill comes on. Then make a strong drink of dogwood bark steeped, and drink of it freely for about 2 weeks.

Ague in the Breast.

Make a salve of 1 part gum camphor, 2 of yellow beeswax, and 3 of clean lard; let these melt slowly together. Spread thinly upon cotton or linen cloth, covering this over with flannel. It can be used cold or warm. The milk must always be drawn from the breast, even if very painful. This treatment, if persevered in, will effect a cure.

Apoplexy.

If there is a tendency to this disease, the best thing to do is to keep the bowels open by some mild laxative, and eat sparingly, drinking nothing to heat the blood. When the trouble really comes on, raise the head in an upright position, loosen the clothing, put the feet in hot water and apply cold water to the head. Keep the room cool, and a constant supply of fresh air. Give nothing internally until the difficulty in the breathing is removed, and then only under the direction of a good physician.

Asthma.

Strammonium leaves, saturated with solution of saltpetre, dried and then used in small quantities by the sufferer, who burns it and inhales the smoke, will bring relief.

Asthma (2).

There are various remedies for this terrible disease, none of which are certain at all times and in all places. A cure has been effected by a tea made from the leaves of a common chestnut, that have just fallen in the fall. Put these away, make a drink, use it unsparingly for 2 or 3 months, if necessary.

Asthma (3).

Simmer in 1 qt. of water 1 oz. of bonset, 1 of slippery elm, 1 of flaxseed, and a stick of licorice. Strain it and add 1 pt. of the best molasses, and ½ lb. of loaf sugar. Simmer altogether, and bottle tight.

Asthma (4).

Pulverize and thoroughly mix 1½ ozs. of sulphur, 1 of cream tartar, 1 of senna, and ½ oz. of aniseed. Take 1 tablespoonful in about 2 of molasses on going to bed. The dose may be increased or diminished, as best suits the state of the bowels of the patient.

Bile, A Homely Cure for.

Here is rather a curious remedy for the cure of indigestion. It is simply the cultivation of the habit of chewing, while out of doors, different kinds of green leaves, and swallowing the juice. One can always cull a leaf from a hedge or bush as one passes. Almost all are good that are not nauseous, such as the ivy, or poisonous, as the laurel leaf. One of the latter, however, is a capital thing where there is slight irritation of the stomach. The chewing of leaves cures dyspepsia, principally by increasing the flow of the salivary juice, and partly by the tonic or stimulating action of the leaf chewed. The leaves most likely to be beneficial, are those of the pine trees, spruce or Scotch fir, blackthorn, currant and rose bushes, mint, the petals of many flowers, the stalks of mountain daisies, the white portion of rushes, the bark of many young trees, and the tender parts of the stalks of green wheat, oats, or almost any of the larger grasses; but your own taste must in a measure guide you, if you elect to make a trial of the remedy. The chewing is better to take place before or between meals, than immediately after.

Wine Bitters.

Rub to a powder 2 drs. of cochineal and put into 1 gal. of brandy. Add 4 ozs. of gentian root, 8 of dried orange or lemon-peel, and ½ oz. of coriander-seed, all well pounded. Stand in a warm place and shake frequently, and it will be ready for use in a few days.

Bitters. (Excellent).

Mix in a mortar 2 ozs. of gentian root, 1 of orange-peel, a handful of chamomile flowers, and 2 drs. of cardamon-seed. Put them into 1 pt. of brandy, set it in a warm place, shake frequently, and in 3 or 4 days filter it through brown paper, when it will be ready for use.

Bleeding from the Lungs.

Bleeding from the lungs has been stopped after all the usual remedies, lead, opium, etc., had failed, by the inhalation of very dry persulphate of iron, reduced to a palpable powder, and drawn into the lungs in a small quantity every hour until relieved.

Bowels, Acute Inflammation of.

The symptoms of this disease are a chill with general uneasiness and griping pains that increase in intensity until they become intense and burning. There is stomach sickness, costiveness, thirst, fever, and the tongue is dry and red. It differs from colic, in that pressure on the

bowels produces pain, and the pain never entirely ceases as in colic, and the breathing is short and altered. To treat it successfully, hot mustard poultices should be applied; soothing injections given, and slippery elm or flax-seed tea taken plentifully. It is a necessity to keep up a free perspiration.

Bowels, Chronic Inflammation of.

At first use mustard poultices and hot fomentations. If the bowels are very feverish, use cold compresses at night, the body being well covered up in flannel. Take a warm bath twice a week, being careful not to take cold. A simple and unstimulating diet must be used; at first gum-water, rice or barley-water, sago or arrow-root gruel; then chicken-broth, beef-tea or tender beef steak. When the inflammation is subdued a mild laxative should be given.

Brain, Inflammation of.

Make cold applications to the head; hot applications to the feet, and empty the bowels by copious injections of water. The treatment must be early administered and very energetic.

Concussion of the Brain.

Symptoms—This condition may be the result of either a fall, or blow on the head, or it may be occasioned by a violent jerk to the body, especially to the lower part of the spine. After one or other of these accidents, the symptoms of concussion will be: Unconsciousness, and loss of power of moving, a small and feeble pulse, the pupil of the eye insensible to light, the complexion pallid, skin cold, and there may be vomiting. Convulsions, also, are likely to occur if a child is the subject of concussion.

Treatment—Small quantities of stimulants, such as wine, brandy, ether, or salvolatile in water, should be given every ½ hr., if the patient can swallow, until signs of reaction begin to show themselves. This will be known by the restoration of warmth and color to the surface of the body, together with increased force in the pulse, and gradually reviving consciousness. From this point, health may be re-established, or inflammation, or some other affection of the brain, may follow. Hence the importance of cautious and judicious administration of stimulants during the stage of depression which follows the shock.

Breath, Fœtid.

When caused by a diseased stomach, aperients should be administered, and if they do not succeed, an emetic may be given, followed by a dose of salts or castor oil. If decayed teeth are the cause, they should be removed, or at least kept clean. The tooth brush should be used daily. An effective method is to rinse out the mouth with a little clean water, to which a few drops of chloride of lime, or chloride of soda, have been added. The following lozenges are excellent: Orris powder, 1 oz.; gum catechu, 2 ozs.; white sugar, 4 ozs.; make into a paste with mucilage, adding 1 or 2 drops of neroli. 1 or 2 may be taken at a time.

Breasts, Caked.

Boil a handful of chamomile and as much mallows in milk and water. Apply it between 2 flannels as hot as can be borne every 12 hrs. Knots or swellings in any part where there is no inflammation, may be dissolved in this way.

Bronchitis.

Soak the feet in hot water, and place bottles of hot water around the patient in bed; giving hot drink to induce perspiration. If the bowels are not free in action, give some laxative, such as rhubarb and magnesia. If very severe, an emetic must be given. Give 10 drops of veratrum viride every hour to keep up perspiration. Put a mustard paste upon the chest. Take no food except toast, rice or gum-arabic water. A good remedy for the cough is a mixture of ½ oz. of tincture of lobelia and ½ oz. of sirup of squills, given 20 drops 4 times a day.

Bronchocele (Enlarged Neck).

Mix 2 drs. of iodide of potassium, 1 dr. of iodine, 2½ ozs. of water. Shake well, and cork in a bottle. Take from 5 to 10 drops in a little water before each meal. Apply with a little brush externally night and morning until the swelling disappears.

Cancer Remedy.

Break an egg, pour out the white, and mix salt with the yolk as long as it will receive it. Stir until a salve is formed and apply it by a sticking plaster to the cancer twice a day. This is said to be excellent.

Canker.

Simmer over a steady fire 1 teaspoonful of alum, 2 of powdered gold thread, 2 of loaf sugar, 3 of powdered sage, 2 of honey, and 1 large teaspoonful of water. Give a teaspoonful 5 times a day.

Catarrh.

Snuff strong salt water 3 times a day, drawing into the nostrils from the palm of the hand all that can be taken, and retaining it as long as possible. Persevered in this is quite effectual, especially if the disease has not become chronic.

Catarrh Snuff.

Mix 1 part of finely pulverized saltpetre with 2 parts of white sugar reduced to flour. This must be snuffed up the nose many times during the day.

Cholera.

To check the diarrhœa in the first stage, give laudanum, in doses of 5 to 10 drops every 3 hrs.; and give chloroform, opium and other powerful narcotics. An effectual remedy is 16 grs. of pulverized opium, ½ dr. of

pulverized camphor, ½ dr. of pulverized cayenne, made into 16 pills and taken 1 every hr. Stimulants without narcotics often effect a cure. Brandy and cayenne, together with warm injections, the body being kept warm by hot bottles or bricks, by rubbing with flannel, and tincture of cayenne, frequently arrest the disease. Active treatment is necessary as the disease makes rapid progress.

Cholera and Diarrhœa.

Mix together ½ dr. of oil of peppermint and 3 drs. each of oil of turpentine, spirits of camphor and laudanum. In cholera give to an adult 1 tablespoonful in a glass of warm brandy and water, not very strong of brandy. For common diarrhœa 1 teaspoonful taken in the same way is sufficient. For children the dose must be reduced to from 5 to 20 drops, according to the age, to be repeated every ½ hr. or hr., according to the severity of the attack.

Cholera Morbus.

The important thing in this disease is to heat the body and especially the stomach and liver. Apply mustard poultice to the stomach. Wrap the patient in warm flannels, give warm injections frequently, and a dose of a little cayenne in hot brandy to stop the vomiting. In excessive pain add a few drops of laudanum to the injections.

Cholera Morbus. (2.)

Take 1 wineglassful of West India rum, 1 of molasses, 1 of soft water and 3 tablespoonfuls of ginger. Mix together and take.

Chronic Diarrhœa.

The following is to be used as an injection: New milk, with thick mucilage of slippery elm of each 1 pt., sweet oil 1 gill, molasses ½ pt., salt 1 oz., laudanum 1 dr. Inject of this mixture what the bowels will retain.

Catching Cold, To Avoid.

Sponging the body with cold water every morning on first getting out of bed, followed with a great deal of rubbing with a wet towel, will give tone to the skin, and prove a safeguard to the injurious influence of cold and sudden changes of temperature.

Cold in the Head, To Arrest.

When the cold first appears, take 3 drops of spirits of camphor in water every 3 hrs., and you will experience an immediate relief.

Cold, To Cure.

Mix 14 drops of strong camphor, 1 tablespoonful of white sugar with 2 tablespoonfuls of boiling water. Take this on getting into bed. Rub the bridge of the nose between the eyes with a little oil. Cover warm and sleep it off.

Cold, To Put Back.

As soon as you feel the symptoms, place your feet in water as warm as you can bear, and keep them there about 10 mins. Then change them into very cold water for about 1 min.; after which wipe dry and put on warmstockings, and take from 1 to 2 grs. of quinia dissolved in hot whisky.

Colic, Bilious.

An active purgative must be given at once. To relieve the pain, pulverized camphor, 4 grs., cayenne, 12 grs., white sugar, 1 sc. Should be divided into 4 powders, and given once in 15 mins., at the same time put a mustard poultice on the bowels. Hot drafts, containing a few drops of laudanum, over the stomach will allay the sickness. Put drafts on the feet also. A warm bath often has a good effect, and hot bottles and bricks at the side and feet promote perspiration.

Common Colic.

In 4 ozs. of water put 15 drops of nux vomica, and take a teaspoonful every hour. It is almost a certain cure.

Lead Colic.

Drink ½ pt. of sweet milk at each meal, to antagonize the influence of any particles of lead which may find their way into the stomach. Those who work in red and white lead should keep their finger nails trimmed closely, wash their hands well with soap and water, and rinse the mouth before eating.

Wind Colic.

If there is no sickness at the stomach, a little essence of peppermint in water, may be sufficient to expel the wind and give relief. If there be costiveness, and continual pain, a stimulating injection should be given.

Constipation.

Care should be taken to establish the habit of attempting to evacuate the bowels at a particular hour each day. The best hour is just after breakfast. To this should be added a diet composed of the most digestable food. Bread made from unbolted flour, and fresh fruit and vegetables, are the proper diet; avoid puddings, cakes, doughnuts, etc., until a cure is effected. Take light exercise between meals. Frequent bathing, and water injections taken just before going to stool, at the regular hour, are excellent.

Constipation. (2.)

The foliowing, for persons with very craving appetites, demanding large amounts of food, will be found to be excellent: 20 grs. of podophyllin, and ½ oz. of tincture cinchona; macerate in 1 pt. of Sherry wine. Dose: 1 teaspoonful 2 or 3 times a day.

Constipation. (3).

Make into 20 pills the following: 20 grs. of powdered ipecac, 20 of mercury with chalk, and 40 of compound extract of colocynth. Take 1 each morning.

Constipation, Senna Paste for.

½ lb. of figs, ½ lb. of raisins, and 2 ozs. of senna leaves. Chop them together fine, then pound with a hammer upon a board or stone, and roll together to a fine consistent mass. Eat a small piece every night upon going to bed.

Cough Remedy.

Upon ¼ lb. of gum-arabic pour ½ pt. of boiling water; when dissolved add ¼ lb. of sugar and ¼ gill of lemon juice. Simmer 5 or 10 mins. Bottle and cork. This is soothing for a throat irritated by a hacking cough.

Cough Remedy. (2).

Take every morning in 1 teaspoonful of honey enough finely powdered saltpetre as would cover a dime.

Cough Remedy. (3).

Dissolve 1½ ozs. of gum-arabic and ½ oz. of licorice in ½ pt. of water. Add 50 drops of laudanum and 2 teaspoonfuls of antimonial wine. Take 1 tablespoonful when troubled by the cough.

Cough Remedy. (4).

Soak 1 teacupful of flax-seed over night. In the morning put in a kettle 2 qts. of water, a handful, split-up, of licorice root, ¼ lb. of raisins broken in half. Let them boil until the strength is thoroughly extracted, then add the flax-seed. Let all boil ½ hr., watching and stirring to prevent burning. Then strain and add lemon-juice and sugar to taste. Take any quantity, cold, through the day, and 1 teaspoonful, warm, at night.

Coughs and Colds, Remedies for.

1. Drop 3 eggs in a pt. of vinegar; after standing 3 days, add ½ lb. of honey, and mix thoroughly. Bottle tight, taking a wineglassful night and morning.
2. Soak 1 cupful of flax-seed all night. Boil a coffeecupful of flax-seed and 2 qts. of water until reduced to a jelly; strain and squeeze in the juice of a lemon; roll ¼ lb. of raisins, mix in the jelly and simmer 1 hr. Strain again, add ½ a teacupful of loaf-sugar, and take a tablespoonful every hour.

Splendid Cough Sirup.

Take 1 oz. of boneset, 1 of flax-seed, 1 of slippery elm, and 1 stick of licorice. Boil in soft water until the strength is extracted. Strain care-

fully, and add 1 pt. of best sirup, and 1 lb. of loaf-sugar. Simmer together. Bottle up tight when cold. Dose: 1 tablespoonful 3 or 4 times a day.

Carbolic Acid in Whooping Cough.

Evaporate slowly over the gas or a spirit lamp, a weak solution of carbolic acid in the room (closed) where the child, who already has the cough, or who may have been exposed to it, is at play or asleep, for ½ hr., twice a day, while symptoms of whooping remain. This cough is supposed to be caused by a fungus, and weak solutions of carbolic acid produce conditions unfavorable to the formation and development of the lower organisms, whether vegetable or animal.

Diarrhœa and Dysentery. (General Directions).

Both in diarrhœa and dysentery the most important thing for the patient is *absolute quietude* in bed. Take no liquid beside the medicine. Ice may be eaten in small quantities. If compelled to walk, pin a woolen cloth tightly around the abdomen, so as to make it double across the front.

Diarrhœa. (2).

Take 1 pt. of camphor water, 6 ozs. of spirits of lavender compound, and 1½ ozs. of sugar. Mix together, and give the patient a tablespoonful 3 times a day.

Diarrhœa. (3).

1 teaspoonful of salt, 1 of vinegar, and 1 tablespoonful of water, is said to act like a charm.

Diarrhœa. (4).

Keep perfectly quiet; eat nothing but common rice, parched like coffee, and then boiled and taken with a little salt and butter, or milk porridge. Do not drink liquid of any kind; bits of ice will answer the same purpose, and will do no harm. Bind a stout piece of flannel tightly around the abdomen, so as to be doubled in front.

Diarrhœa or Dysentery. (5).

Roast yellow corn as you would coffee, not letting it burn, but browning it evenly. Grind or pound a cupful of it, and pour a quart of boiling water over it, letting it boil 20 mins. While boiling, add 1 teacupful of cream or milk, sweetened with white sugar. When the case is a bad one, give ½ teacupful every ½ hr., but, as the patient improves, change it to 1 teacupful every hr. It must always be given warm.

Diarrhœa. (6).

Take 1 gr. of sulphate of morphia, ½ oz. of Glauber salts, and 2 ozs. of water. Give 1 teaspoonful twice a day, unless very severe, when it should be taken every 2 hrs.

Diarrhœa. (7).

Take 2 qts. of blackberries, 1 lb. of loaf-sugar, ¼ oz. of nutmeg, ½ oz. of ground cinnamon, ¼ oz. of pulverized cloves, and ½ oz. of pulverized allspice. Boil together, and when cold add 1 pt. of fourth proof brandy. Give from 1 teaspoonful to a wineglassful, according to the patient's age. This has often cured cholera.

Diarrhœa, Injection for.

Mix 1 pt. of thick mucilage of slippery elm with 1 pt. of new milk; add laudanum, 1 dr., salt, 1 oz., molasses, ½ pt., sweet-oil, 1 gill. Inject as much as the bowels will retain.

Diarrhœa, To Check.

One of the best things to check this disease and prevent it reaching the inflammatory stage, is the use of flour, prepared as follows: Boil 1 pt. of flour, tied up tightly in a cloth, 3 hrs. Untie it, and remove the gluten, which will be found upon the outside of the ball. What remains is a very dry, astringent powder. Grate it, and wet a portion in cold milk. Into 1 pt. of milk, just at the boiling point, stir in as much of wet mixture as will thicken it to a palatable porridge. Add a little salt, and use this as food until relief is obtained.

Diftheria.

Keep bits of ice in the mouth constantly for several hrs. This is said to be a good remedy; or burn sulphur and let the patient inhale all of it that is possible, at the same time gargling the throat with the sulphur in water. This is excellent.

Diftheria. (2).

1. Place a live coal in the bowl of a common tobacco pipe; drop a little tar upon it. Draw the smoke into the mouth and discharge it through the nostrils.
2. Gargle the throat freely with lemon-juice, swallowing a small portion, so as to reach all the affected parts. This is a pleasant and successful remedy.

Diftheria. (3).

An unfailing cure for diftheria is said to be 1 dr. of hydrate of chloral dissolved in 5 drs. of glycerine, then apply it to the false membranes, 3 or 4 times a day by means of a camel's-hair brush. Also, take 1 oz. of chlorate of potash per day for an adult, and from 2½ to 4 drs. for children.

Drinking in Summer.

Many of the sudden deaths in summer are from paralysis of the stomach, caused by drenching it suddenly with iced water. When very thirsty sip slowly, especially if taking iced water, as, in this way, thirst

is more thoroughly quenched, and less water required. At all seasons the quantity of ice-water taken is nearly as important as the temperature. Drink little and slowly. It is better not to drink water above 100° F.

Distress from Over-Use of Ice-Water.

Put ½ oz. of spirits camphor into 1 gill of brandy. Divide into 3 portions, and give 1 each min. until relief is obtained.

Dropsy.

Steep horseradish root in cider and drink as hot as can be borne, and in as large quantities as possible. Take at night only, covering up warmly afterward. Continue this a few weeks. It causes a free flow of urine, as well as perspiration.

Dropsy. (2).

Mix 5 ozs. of water, 60 grs. of nitrate of potash and 1 oz. of acetate of squills. Take 1 tablespoonful every 2 hrs.

Drunkenness, Remedy for.

2 ozs. of gentian root, 1 dr. of valerian root, 2 drs. of best rhubarb root, 3 drs. of bitter orange peel, ½ oz. of cardamon seeds and 1 dr. of cinnamon bark. Bruise the above all together in a mortar, pour 1½ pts. of boiling water upon it and cover up close. When cold strain, bottle, and cork securely and keep in a dark place. 2 tablespoonfuls may be taken 1 hr. before each meal, and ½ the quantity whenever it is needed.

Drunkenness. (2).

1. Mix 8 grs. of tartar emetic and 4 ozs. of rose-water. 1 tablespoonful of this should be put into the whole quantity that the man drinks during the day, and let him take it as usual; do not exceed this quantity.
2. Give the patient nothing but strong spirits to drink for a week.
3. Some think it is better to give nothing but milk and water, equal parts, iced.

Drunkenness. (3).

Tartar emetic, given in alterative and slightly nauseating doses, is recommended for the cure of habitual drunkenness. Though it does not possess any positive taste itself, it communicates a disgusting quality to those fluids in which it is dissolved. The addition of a very small quantity of tartar emetic increases the loathing of food, and produces in the patient a repugnance to the vehicle of its administration. The amount given should vary according to the age, constitution, and habits of the patient. In ordinary cases dissolve 8 grs. of tartar emetic in 4 ozs. of boiling water; put ½ oz. of the solution into ½ pt., 1 pt., or 1 qt. of the patient's favorite liquor, according to what he is in the habit of using, and administer it daily in divided portions. If vomiting and purging ensue, give a little laudanum to allay the irritation, and

diminish the dose. Sometimes the sudden change produced in the patient's habits occasions lassitude and debility, but they are of short duration. Generally there is no other effect than slight nausea, some diarrhœa, and a uniform distaste to the solution.

Dysentery.

Add ½ lb. of the best loaf sugar to 1 pt. of the best wine vinegar; simmer them together in a pewter vessel with a pewter top, and let the patient drink a small quantity of this several times during the day.

Dysentery. (2).

In a teacupful of scalded milk put a teaspoonful of mutton tallow and a little salt.

Dysentery. (3).

Mix equal parts of the tinctures of rhubarb, capsicum, camphor, essence of ginger and laudanum, shake well and give from 10 to 20 drops every ½ hr. until relief is obtained. Half that quantity is a dose for a child.

Dysentery. (4).

1. An almost infallible cure is a decoction of blackberry roots and leaves, well boiled down in hot water, a gill of which is taken before each meal and at bed time.
2. Beat 1 egg in a teacup; mix with it ½ a teaspoonful of ground spice and 1 tablespoonful of loaf sugar and fill the cup with sweet milk. Dose: 1 tablespoonful every 10 mins. until the patient is better.

Dysentery. (5).

Immediately after churning take some butter off the churn, just as it is, without washing or salting it, and clarify over the fire. When melted, skim off the milky particles, and let the patient take 2 tablespoonfuls of the remainder 2 or 3 times a day. This remedy will not fail, and takes effect in some cases immediately.

Dyspepsia.

Mix the following ingredients and make into 12 powders, to be taken morning and evening: 60 grs. of powdered rhubarb, ½ oz. of bicarbonate of soda, 60 grs. of powdered ginger, and 20 drops of oil of aniseed.

Dyspepsia. (2).

If possible, remove the cause. To remove costiveness, take a preparation of rhubarb and bicarbonate of potassa. The food should be taken in small quantities and well masticated, and nothing exciting must be taken into the stomach. Prepared charcoal, in teaspoonful doses, may be used for acidity. Equal parts of pulverized guaiacum, rhubarb and

prepared charcoal, in teaspoonful doses, is a good remedy. Another remedy is to soak a piece of rennet the size of a dollar in a cup of water, and take 1 tablespoonful 3 times a day. Take plenty of exercise in the open air, avoid overtasking the brain, and laugh as much as possible, for nothing is better than laughter for digestion.

Emetic, Prompt.

Take in a wineglassful of sweetened water 1 grain of tartar emetic and 20 of powdered ipecac.

Epilepsy.

During the fit but little can be done except to prevent the patient from injuring himself. A piece of leather or cork placed between the teeth will prevent the tongue from being bitten. Remove all tight clothing, and if there is constipation give an injection. During the intervals consider the cause and treat the patient accordingly. If it be difficult breathing, lance the gums; if worms, expel them; if indigestion, pay attention to diet and the general health. Keep the bowels regular by the proper kind of food if possible, if not, by mild laxatives. Give tonics and rub some strengthening liniment upon the spine daily.

Erysipelas.

Keep the patient in bed, on a low diet, bread and water, the less the better. The inflamed parts must be covered with soft linen cloths wrung out of cold water and changed every ½ hr. An excellent remedy is a poultice made of cranberries, pounded fine and applied in a raw state.

Fever and Ague.

Give a gentle physic to open the bowels. Use hot and stimulating drinks, footbaths, hot bottles, and every means of promoting warmth during the cold stage. Give cooling drinks and the following quinine mixture in the hot stage: 1 sc. of quinine, 4 ozs. of alcohol, 5 drops of sulphuric acid. During the fever give a teaspoonful of the mixture every ½ hr., and 5 drop doses of veratrum viride every hour. When sweating begins stop the veratrum, and rub the patient with dry towels. Give quinine in the intermission. The right kind of nursing, bathing, sweating and rubbing are of great importance. Ague patients should avoid the hot sun and evening air.

Fever, Hay (or Asthma).

Change of air is the best remedy. Antispasmodics, as sal volatile, ether, or an emetic, inhalations of hot steam from medicated creosote, carbolic acid, or turpentine are of benefit. After the attack the general health must be improved by tonics.

Fever Sores.

Put the following articles into an earthen dish and pour 1 qt. of soft water upon them, boiling hot: 1 teaspoonful of white vitriol, 3 teaspoon-

fuls of copperas, 5 teaspoonfuls of gunpowder. Stir till cool, let it settle and bottle the clear liquid for use. It will be black while stirring, but settles very clear. Wash the sores with it 3 or 4 times daily. It is equally good for fresh sores, cuts, etc.

Gathering in the Head, Cure for.

For gatherings in the head take 1 oz. of olive oil, ½ oz. of sassafras oil, camphor gum the size of a quail's egg; put all in a bottle, mix; clean the ear, and drop in a few drops 3 times a day. It is also good for the earache.

Headache, from Acid Stomach.

When sick headache is caused by acid in the stomach, it can be cured in 15 mins., by drinking ½ tumblerful of water containing about 2 teaspoonfuls of finely powdered charcoal.

Relief for Headache.

1 oz. of spirits of camphor, 1 of ammonia, ½ of oil of Rosemary, and 8 of alcohol. Bathe the head and inhale. Relief can be obtained quicker by at the same time soaking the feet in warm water, in which a spoonful of powdered mustard has been stirred. Soak as long as possible, or till the water gets cool; it draws the blood from the head.

Headache. (2).

Put into 1 qt. of water a handful of salt, 1 oz. of ammonia, and ½ oz. of camphorated spirits of wine. Pour quickly into a bottle and cork tightly. Place a rag, wet with the mixture, on the head; as soon as the rag is heated wet it again.

Rheumatic Headache.

A new remedy is a mixture of ice and salt in proportion of 1 to ½, as a cold mixture, applied by means of a little purse of silk gauze, with a rim of gutta percha, to limited spots on the head, when rheumatic headaches are felt. Instant relief is experienced. The skin is subjected to the process from ½ to 1½ mins., and is rendered hard and white by the application.

Nervous Headache. (Excellent).

Put 20 grs. each of hydrate chloral and bromide of potassa into 3 fluid ozs. of water. Take 1 teaspoonful every hour until relieved. This is also good to cure sleeplessness. If nervous and wakeful, take a teaspoonful once an hour until the required effect is produced.

Heartburn and Dyspepsia.

For heartburn and dyspepsia, the aromatic spirits of ammonia are especially prepared, 10 drops of which, taken in a wineglass of water, will give relief.

Heart, Palpitation of.

This often is caused by derangement of the stomach. In such cases an emetic will give relief when other remedies fail. Tea, especially green, is apt to make the action of the heart irregular. Many people suffer from slight derangement of the heart on account of the frequent use of tea. Irregularity and palpitation are frequently caused by the use of tobacco.

Hemorrhage, Uterine, To Prevent.

10 grs. of sugar of lead, ergot, 10 grs., 3 grs. of opium, 1 gr. of ipecac, all pulverized and mixed well. Give 10 or 12 grs. in a little sirup or honey. In very bad cases after child-birth, repeat the dose in 30 mins., or increase it to 15 or 18 grs. In case of rather profuse wasting, repeat it once at the end of 3 hrs., or as the case may require.

Hives.

Bathe the whole surface of the body with a mixture of equal parts of spirits of camphor and soft water, rubbing the affected parts thoroughly with it. Give a cathartic to operate freely. Use every hour a tea made by steeping together saffron and spearmint, equal parts. The latter is to keep the disease upon the surface.

Hoarseness.

Place in a close vessel for 2 hrs. 1 dr. of scraped fresh horseradish in 4 ozs. of water. Put this into twice its weight of sugar and boil down into a sirup. Use a teaspoonful for a dose.

Hydrophobia Cure after Spasms Commence.

1 gr. of morphia should be injected under the skin every 4 hrs., and ½ dr. of powdered castor given internally in sirup at the same time. Chloroform should be administered in small quantities. Excessive prostration may follow the convulsions, but this can be counteracted by wrapping the patient in a blanket wet in a warm solution of 20 grs. of muriate of ammonia to the oz.

Hydrophobia.

Wash the wound immediately with warm vinegar and tepid water, dry it, and apply a few drops of muriatic acid, which will destroy or neutralize the poison.

Hydrophobia. (2).

In ½ pt. of water put 2 tablespoonfuls of fresh chloride of lime, powdered, and bathe the wound constantly, frequently renewing the wash.

Soothing Injection.

Dissolve in 1½ pts. of sweet milk 1½ tablespoonfuls each of molasses and lard, and ½ teaspoonful each of salt and saleratus. This must be used warm, and in a sufficient quantity to produce the desired result. Slippery elm or mucilage may be used instead of milk. In case of diarrhœa, ½ teaspoonful of laudanum may be added to each injection, which may be given 3 or 4 times a day.

Liver Complaint.

Make a tea of a handful of liverwort, put into ½ gal. of boiling water. Simmer gently for 1½ hrs., and drink whenever thirsty. The leaves must remain in the tea.

Liver, Pills for.

Take of podophylin ½ dr., ex. of leptandra 1 dr., ex. of hyosciamus ½ dr., ex. rhubarb ½ dr., cayenne, pulverized, ½ dr. Mix thoroughly, using a little gum mucilage, as needed, and divide into 60 pills. The dose will be from 1 to 3 pills at bed time, to be repeated the next night if they have not operated. In chronic constipation or liver derangement, take 1 pill at night, continued until the bowels have become regular.

Lungs, How to Ascertain State of.

Draw in as much breath as you can: then count as far as you can in a slow, audible voice, without taking more breath. The number of seconds you can continue counting must be carefully observed. In a consumptive the time is not more than 10 and often less than 6 secs.; in pneumonia and pleurisy from 9 to 14 secs. If the lungs are in a sound condition it will be from 20 to 35 secs.

Nervousness, Pills for.

For people with weak nerves, the following is excellent: Mix together 1 dr. each of iodide of iron, and ex. of gentian, and 2 sc. of powdered ignatius bean and powdered savin leaves. This will make 30 pills. Take 1 pill ½ hr. before each meal. Sponge the back and limbs with strong camphor, or with alcohol and quinia, 10 grs. to the pt., then rub thoroughly.

Sore Nipples. (Wash for).

Dissolve ½ oz. of powdered borax in 1 oz. of rose water, add, well mixed, 1 oz. of powdered gum-arabic in 1 oz. of rose water. When all are well incorporated together, put in ½ oz. of tincture of myrrh.

Piles.

Take 2 tablespoonfuls of tar and 8 of lard, not heaped. Wash the parts affected with Castile soap and water, and then apply the ointment. Use it 2 or 3 times a day.

Pills for Ague. (Excellent).

Take 20 grs. each of quinia, pulverized rhubarb, and capsicum. Make into 40 pills and take 3 every day.

Quinsy.

This disease begins with a slight feverish attack, considerable pain and swelling of the tonsils, which occasions some difficulty in swallowing. In a short time these symptoms are more severe, accompanied with thirst, headache, a painful sense of tension, and acute darting pains in the ears. It is usually caused by exposure to cold and continues from 5 to 7 days, then it subsides gradually, or an abscess may form in the tonsil and burst. Sometimes the tonsil remains enlarged after the inflammation has subsided. Keep the patient in a warm room, the diet being chiefly milk and nourishing broths, some cooling laxative and diaphoretic medicine may also be given. The frequent inhalation of the steam of hot water through an inhaler will afford great relief. The following treatment will also be beneficial: Peel 3 or 4 large roasted onions and beat them flat with a rolling-pin. Place them in a thin muslin bag about 3 ins. deep and long enough to reach from ear to ear. This should be applied to the throat as warm as possible and kept on day and night, applying fresh onions as often as the strength seems to be exhausted. After the poultice is removed, a flannel should be worn around the neck.

Rheumatism, Chronic.

Make a liniment of sweet oil, 1 oz., ammonia, 1 oz., mix and rub on with flannel; or, mix soap liniment, 2 ozs., chloroform, 1 dr. As an internal remedy tincture of black cohosh is useful. Dose: 40 drops. To keep up a perspiration, wear a piece of oiled silk over the joint. Keep the bowels regular. It is a good plan to rub sweet oil on before the fire on going to bed. The electro-magnetic treatment is generally perfectly successful.

Rheumatism. (2).

Take of flour of sulphur, flour of mustard, each ½ oz., honey or molasses, a sufficient quantity to form an electuary. The size of a nutmeg to be taken several times a day, drinking after it ½ pt. of the decoction of lovage root.

Rheumatism, Potato Remedy For.

It is asserted by some, that a raw potato, carried habitually in the pocket, is an effectual preventive of rheumatism. It can do no harm to try it.

Ringworm.

1. Put a copper penny in a tablespoonful of vinegar, and let it remain until it turns green. Wash the affected part 3 times a day.
2. Simmer yellow dock root, cut in small pieces, in vinegar, and when the strength is extracted, strain off the vinegar, and apply 3 times

a day to the part affected. Make a tea of the same root, or take some extract of yellow dock root.

3. Wash the head twice a day with soft soap and warm water. When dried, rub the places with a piece of linen rag dipped in ammonia from gas tar.

4. Rub the back of a silver watch or any smooth piece of silver on and around the piece a few minutes 4 or 6 times; it will soon cure it.

Ringworm on the Head.

Wash the spot thoroughly with Castile soap and hot water, rub it well with New England rum, and then put on a thick compress of linen, kept constantly wet with the rum.

Salt Rheum, To Cure.

The part affected should be washed with Castile soap and water and dried thoroughly with a soft cloth, wet with tincture of iodine and dried, and lastly, a little citrine ointment should be applied. A wash of 1 dr. of corrosive sublimate, 2 sc. of white vitriol (sulphate of zinc), 3 drs. of sal-ammoniac, 2 drs. of salt, and 3 ozs. of sugar of lead, mixed with 1 pt. of soft water may be used alternately with the tincture of iodine if the eruption is on an exposed part.

Salt Rheum. (2.)

Wash the part affected with the following: Take 1 or 2 ozs. each of yellow dock root and blood root, mash or bruise, and put to them 1 pt. of alcohol and as much good vinegar; let stand a week or 2 to digest; this should be applied once or twice a day, and the following ointment applied as often: Take fresh butter, 4 ozs., Venice turpentine, 1 oz., and red precipitate, 3 drs.; mix the whole together well, and apply a little to the part affected once or twice a day, after washing with the tincture named. This ointment will cure any tetter or salt rheum without the use of anything else. It will also cure ringworm or any kind of itch.

Seven Years' Itch, To Cure.

After using plenty of Castile soap and water, apply iodide of sulphur ointment freely. Instead of this you can take some simple sulphur ointment, color it light brown with the sub-carbonate of iron, and perfume it. This should be applied freely and in severe cases mild alteratives administered while using the outward application.

Scalding of the Throat from Swallowing Boiling Water.

This accident occurs not uncommonly among children left by themselves, and is very dangerous, as the throat swells, and the sufferer is in danger of being suffocated. Send for the medical man immediately. Meanwhile, if it can be procured, let the patient suck ice constantly, and apply a strong mustard poultice to the outside of the front of the throat.

Sciatica.

It sometimes attacks the leg, beginning at the upper part of the back of the thigh, and extending downwards to the foot. The pain of this form of rheumatism is very acute, and it is by far the most troublesome to treat.

Treatment—The application of strong stimulating liniments over the seat of the pain.

Sick Rooms, How to Keep Cool.

It consists in opening the windows wide, and covering the openings with cloths steeped in water. It is well known how largely water, in passing from the liquid to the gaseous state, absorbs caloric. This absorption lowers the temperature of the room from 5 to 6 degrees in a few minutes, and the humidity diffused in the air causes the heat to be more readily endured. By this system patients, even in the hottest time of the summer, find themselves in a perfectly fresh atmosphere.

Cure for Sleeplessness.

Eat 2 or 3 small onions. If a person cannot sleep, it is because blood is in the brain; the remedy, therefore, is obviously to call the blood down from the head. This can be done by eating 1 or 2 small onions, or a biscuit, a hard-boiled egg, a piece of bread and butter, or something. Follow this up with a glass of milk, or even water, and you will fall asleep. Onions are also excellent things to eat when much exposed to the cold.

Small-Pox, Treatment of.

The eruption is often the only symptom that is understood, but as soon as any symptoms, however slight, appear, medical aid should, if possible, be obtained. When this is impossible, the milder forms of small-pox not attended by much eruption, require little treatment, except keeping the patient in bed, administering at first a dose of aperient medicine, as effervescing magnesia or castor oil, and, until the eruption appears, a few doses of mindererus spirit to promote perspiration. Severe cases develop individual symptoms, which must be appropriately treated. A low form of fever usually accompanies the imperfect filling of the pustules, and renders the use of stimulants, wine or brandy, necessary, but they must be used with a great deal of care. Stimulants are needed in all stages if the pulse be feeble and the patient present a sunken look, but only just enough should be given to keep up the vital powers.

To Prevent Pitting in Small-Pox.

When the eruption has become fully developed, paint the surface of the skin where exposed, with a solution of India-rubber in chloroform, which can be applied with a camel-hair pencil. The chloroform soon evaporates, leaving a thin elastic film of India-rubber over the face. As this removes the itching and all irritation, it is rather comfortable, and if properly applied, entirely prevents pitting. The solution is made

by cutting the India-rubber into small pieces and chloroform added until it is entirely dissolved. On account of its non-elasticity gutta-percha does not answer the purpose. If a part of the solution is torn off, a second application should be made. Another method is to cover the whole body from the beginning of the disease with calamine, shaking it carefully through a common pepper-box, so that it does not remain in masses. By this means the inflammation on each pustule is much lessened. Every 2 or 3 nights sprinkle about 1 oz. of powdered camphor between the under sheet and blanket, the whole length of the body, putting more about the neck and shoulders. If hardened incrustations form in advanced stages of the disease, they may be removed, and if the calamine is applied, the cuticle will form again in a few days, without a blemish. Calamine consists of carbonate of zinc, heated to redness, pulverized, and then reduced to an impalpable powder. Old pock-marks may be removed by using simple oil, pomade or ointment medicated with croton-oil, and just strong enough to raise a very slight pustular eruption. This should be applied at intervals extending over several weeks, as often as is convenient and expedient.

Spasms, Remedy for.

Mix 1 gr. of acetate of morphia, 1 fluid oz. of spirit of sal volatile, 1 fluid oz. of sulphuric ether, 4 fluid ozs. of camphor julep. Keep closely corked, in a cool place, and shake well before using. Take 1 teaspoonful in a glassful of cold water or wine whenever needed.

Stomach, Acid.

An excellent remedy for this complaint and the distressing headache and sickness to which it gives rise, is prepared chalk. Though one form of dyspepsia, it is often relieved by this simple remedy.

Sick Stomach.

Mix together 6 ozs. of water, ½ oz. of powdered loaf-sugar, ½ oz. of powdered gum-arabic, 6 drops of oil of mint, and 30 grs. of salts of tartar. Dose: 1 tablespoonful.

Stomach, Pain in.

Mix 2 sc. of charcoal, pulverized, with 2 drs. of sub-nitrate of bismuth. Make 24 powders, and take 4 per day.

Sweating, Profuse.

Boil a large teaspoonful of chopped sage leaves in 6 ozs. of water for 2 or 3 minutes. Let the tea stand and cool, then strain and sweeten to the taste.

Swellings, Treatment of.

Steaming with boiling herbs is often very effective in cases of felons, boils, ulcerations, or swellings of any kind.

Rhubarb Sirup.

Put into 1 pt. of water ½ oz. of sliced rhubarb, ½ each of mace and nutmeg, 1 tablespoonful of anise-seed, and a little saffron. Stew until the rhubarb is quite soft, and add 1 lb. of loaf-sugar. Stew a little longer and put in 2 tablespoonfuls of gin. Give a teaspoonful every ½ hr., or every hr., according to symptoms. This is excellent for children in vomiting or severe bowel complaints.

Tetter.

Lay the woolly side of strawberry leaves thickly on the parts affected. Change them occasionally. They will draw out the inflammation.

Sore Throat.

½ oz. of bicarbonate of soda, ½ oz. of chlorate of potash, mixed in 6 ozs. of water. Take 1 tablespoonful for a dose.

Sore Throat, Gargle for.

Mix ½ oz. of alum, ½ oz. of borax, 1 gill of water, 1 tablespoonful of honey, and ½ oz. of tincture of myrrh.

Toothache.

Take 1 dr. each of chloroform, spirits of camphor and laudanum. Mix thoroughly and apply on a little cotton wool.

Toothache, General Remedies for.

1. To cure a toothache so that it will never ache again, take a crumb of opium as large as a small pea, dissolve in ½ teaspoonful of spirits of turpentine, and put in the hollow of the tooth. It will not stop the pain at once, but, if well applied, will soon cause it never to trouble again.
2. Turkish myrrh diluted in water—at first a teaspoonful to a tumbler and gradually strengthened—and used as a wash 4 or 5 times a day, will generally give relief.
3. A solution of bicarbonate of soda, in the proportion of ½ dr. to 1 oz. of water, held in the mouth, is said to be an instant cure for toothache.
4. Nervous toothache may be cured at once by the application of saltpeter made very fine and applied on cotton batting to the affected tooth.
5. Mix equal portions of salt and alum; after grinding it fine, fill a small bit of wet cotton with the powder and place it in your tooth.
6. Wet a bit of cotton with a strong solution of ammonia and place it at once in the affected tooth. The relief experienced will be almost instantaneous.

Typhoid Fever, New Remedy for.

A physician in the French Navy has used with remarkable success the following in cases of this fever: Give to an adult 2 or 3 tablespoonfuls

of strong black coffee every 2 hrs., alternated with 1 or 2 teaspoonfuls of claret or Burgundy wine. A little lemonade or citrate of magnesia should be taken daily, and after a while quinia. This treatment is founded upon the idea that typhoid fever is a nervous disease, from the fact that the cerebral symptoms appear first, and the coffee acts upon the nerves. It should be used in the early stages.

BATHS.

Diaphoretics are those medicines which are employed to increase the action of the skin. The perspiratory glands have a double function to perform, that of elimination, and that of keeping down the temperature during exposure to heat. When a man takes a Turkish bath, the temperature of which is, perhaps, 160° F., or when he works in the sun on a very hot day, there is, if he be used to such exposure, little or no rise in the temperature of the body, because the surface glands secrete sweat so actively as to expose a great amount for evaporation, and by the conversion of so much water into vapor, such an amount of heat is absorbed, *i. e.*, converted into repulsive force, that the body is cooler. The reason that even a moderate degree of heat in a moist atmosphere is intolerable, is because evaporation can not take place.

From what has already been stated, it is obvious that the use of dry external heat, or rather exposure to a hot atmosphere, is a powerful means of producing perspiration; it is, indeed, in healthy people, the most powerful method at our command. It may be employed either in the form of the *Turkish bath*, in which the air of the hot air chamber is very dry, or in the *Russian* or *vapor bath*, in which the atmosphere is surcharged with hot vapor. Very wonderful therapeutic properties have been ascribed to the direct action of heat when applied by the Turkish bath; but the remedy appears only to act as a powerful sudorific, perhaps also doing good in some cases of acute internal congestion, by attracting the blood to the surface, thereby depleting the interior.

Whenever a properly provided bath can not be commanded, a very efficient and readily applied substitute consists of a large tin funnel, furnished with a long bent beak or tube, a stool with a hole in the center of its seat, or a few bricks, and a large spirit lamp. The patient being closely wrapped up in bed, care being taken that the neck and shoulders are well "tucked in," the funnel is placed upon the stool or the bricks in such a manner that the beak of it enters well under the clothes, coming close to but not in contact with the patient. The spirit lamp, being then placed immediately under and close to the funnel, must, when lighted, send a column of hot air and vaporized water through the beak into the space around the body of the patient. When the lamp is sufficiently large, and a little care is taken to see that the nozzle of the funnel is not obstructed by the bed clothes, the process just detailed affords a very efficient method of giving a vapor bath.

Hot water baths offer another very successful method of inducing profuse perspiration. The patient should be placed in a bath of about 98° or 100° F., and remain there 15 or 20 mins., during which time, by the addition of very hot water, the temperature should be raised to 110° F., or to such a point as the patient can endure. Warmed blankets having been provided, the patient should be lifted from the bath into

them, be closely wrapped up and so left for 3 or 4 hrs. before being transferred to the usual bed. Profuse sweating is always more or less weakening, but is not nearly as much so as purging, and therefore may be practiced in dropsical patients too feeble to allow of purgatives. The hot baths are not, however, altogether free from danger or objection. Sometimes in the Turkish or Russian baths the patient fails to sweat freely, and a feeling of distress, a bounding, rapid pulse, and perhaps severe headache, develop themselves. Under these circumstances the bodily temperature rises, and a fever develops, which may go on to the production of a true "thermic fever," and perhaps terminate in sudden death. This is an exceedingly rare result, and one that never can occur if a little watchfulness be practiced and the patient removed from the hot chamber so soon as any unpleasant symptoms are manifested. Sudden death took place once from "sunstroke" in a patient whilst taking the Turkish bath. The use of hot baths of any kind is, of course, contra-indicated by the existence of fever; but, according to some authorities, the hot water baths are pre-eminently contra-indicated by the existence of congestion of the lungs, or of a tendency towards these disorders, since under such circumstances the bath greatly increases the disease or precipitates a perhaps fatal attack. Under the conditions mentioned, the most frightful difficulty of breathing may result from the use of the hot water bath, a difficulty which can apparently be prevented from terminating fatally only by the removal of the patient from the bathtub. If disturbance of the respiration comes on during the bath, the patient should be immediately taken out, and if the symptoms be urgent, cold water should be freely dashed over the head, neck and chest.

Diaphoretics are employed in the practice of medicine to fulfill the following indications:

1*st.* *To arrest forming diseases* of not very severe type, probably by causing a flow of blood to the surface, and thereby relieving slight internal congestions, and possibly by eliminating principles which have been retained in the blood instead of being excreted as they ought to have been. In general colds, in muscular rheumatism and other results of exposure to cold and of checked perspiration, the diaphoretics afford the most efficient means at our command for restoring the normal functions.

2*d.* *To favor absorption.* In dropsy the diaphoretics are of very great value, often aiding diuretics and purgatives in effecting a cure, and sometimes, when these fail, or when circumstances forbid their use, rescuing the patient from impending death. None of the medicinal diaphorites are of sufficient power to be relied upon in dropsy. In order to reduce an effusion, the Turkish, the Russian, or the hot water bath must be vigorously employed, the medical diaphoretics being used merely to aid in their operation.

3rd. *To aid in the subsidence of diseases* which naturally pass off in a sweat. The chief use of diaphoretics for this purpose is in *miasmatic fevers*, especially in the *remittent* form of the affection, when the sweating stage fails to develop itself thoroughly and the paroxysms run into one another. Even in the single paroxysm of *intermittent fever*, by hastening the closing stage, diaphoretics will often shorten the paroxysm.

4th. *To eliminate noxious materials* from the blood. The old idea of the ground work of such diseases as fevers, the belief in a distinct *materies morbi* which could be eliminated from the blood, has had no sufficient demonstration to be accepted, and, although diaphoretics

do good in *fevers*, yet it can not be granted it is in this manner. The very great power of increased diaphoresis in cooling the body through surface evaporation, has already been dwelt upon; and much of the good effected by diaphoretics in diseases of high temperature, probably has its origin in this power. Modern science seems, however, clearly to point out that this class of remedies may aid in separating from the blood retained secretions, and may, to some extent, replace the action of the kidneys when these organs are disabled by disease.

There is a form of secretion from some surfaces which is distinctly poralytic in its mechanism. The same assertion may be made in regard to the skin, the so-called "night sweats" of consumption of the lungs, or those found in other debilitating diseases, affording a familiar example, occurring at such time as there is the greatest relaxation of the system, namely, during sleep. The profuse sweating of a collapse after some great injury, or long continued disease, may be so like that which accompanies relief from pain, that it may be misunderstood. There is this difference, however, between the two classes, one of which should be stopped, and the other encouraged, when indicated, namely, the diseased type is associated with a cold surface and a heated internal condition, whilst the medicinal form results in an active circulation of the capillary vessels, and a reduced internal heat. The chief objects in bathing are to secure a rapid action in the glandular structure of the surface, and to also secure immunity from any bad after-effects by properly stopping the sweating, or eliminating process, without too great a shock to the system.

1st. *No chill* is to be allowed to reach the invalid under any circumstances, and sometimes we must bathe only a small portion of the body or limb at a time, and dry the same.

2d. Never exhaust your patient by too long continued bathing.

3d. Always be sure to get a free reaction, and, if necessary, give a stimulant to aid it.

4th. Never bathe too often, lest the action of the surface glands become exhausted.

5th. Always bathe often enough, lest these same glands become *discouraged* in trying to do their best.

A dry rubbing along the spine and over the chest is oftentimes the best treatment for the convalescent, either with a linen towel, a piece of white flannel, or of red, as most agreeable to the patient; but in all the above, the skill and care of the attendant will add to or extract from the good results, but rarely is any treatment more gratefully received if properly conducted.

General Rules for Bathers.

Do not bathe within 2 hrs. after a meal, nor when exhausted by fatigue or from any other cause, or when the body is cooling after perspiration; but take a bath when the body is warm, provided no time is lost in getting into the water. Do not chill the body sitting or standing on the bank or in boats after having been in the water. Do not stay too long in the water. Leave the water as soon as there is the slightest feeling of chilliness. Do not bathe in the open air, if, after being in the water a short time, there is a sense of chilliness with numbness of the hands and feet. Strong and vigorous people may bathe early in the morning on an empty stomach. The young and

delicate should bathe 3 hrs. after a meal. The best time is 2 or 3 hrs. after breakfast. Persons subject to attacks of giddiness and faintness, and those who have palpitation and other sense of discomfort at the heart, should consult their physician before bathing. After being in the water, a considerable friction ought always to be used, enough to bring the blood to the surface of the body. If any chill is felt, take immediately a warm sling, glass of wine, or 2 or 3 grs. of quinia, regulating the dose according to the frequency with which the individual has been in the habit of taking it.

Sponge Bath.

The daily sponge bath contributes greatly to the preservation of health, by the promotion of cleanliness and by the exhilarating influence in stimulating the circulation of the blood on the surface of the body. The warmth of reaction is more sure to follow if the bath be used on rising, while the body is still warm, and before the surface is chilled by exposure in dressing. In using this, a due regard to the feelings should be observed. Some persons are extremely sensitive to cold, while others enjoy its reaction and bracing influence. The temperature of the water should, therefore, be regulated by the climate, weather, and individual susceptibility. After sponging, the whole body should be briskly dried with a rough towel, and a glow of warmth will follow.

Cold Bath.

Temperature 50° to 60°. A cold bath will vary in its effects according as it is taken in a small bath, or in a river, the sea, or a quantity of water large enough for swimming, and according to the temperature of the air. The benefit to be derived from a cold bath is governed also pretty much by the state of health of the bather. Persons in impaired state of health should take little more than a single immersion, and this should be followed by friction of the surface with towels or dry flannels. Such persons should avoid bathing on an empty stomach; it is better not to take a cold bath immediately after a meal. The answer to questions on the advisability of cold bathing, whether in the sea or otherwise, is to be found in the state of the pulse and of the skin. With a feeble pulse and a disposition to palpitation of the heart, the flow of blood through the skin is sure to be tardy, as compared with that of health, and reaction will consequently be slowly established at the risk of congestion of internal organs. Hence in persons disposed towards head, or heart, or lung affections, great caution should be exercised. Persons who are subject to palpitation of the heart, giddiness, etc., had better avoid the cold bath. Generally, it may be laid down as a rule that if cold bathing be not followed by a glow of warmth on the skin, it should not be repeated. About 2 or 3 hrs. after a meal is the best time for cold bathing.

The Tepid Bath.

Temperature 70° to 80°. It is suitable for those whose health, or sensitiveness to cold, forbids the use of the cold bath. The same rules, however, apply, especially as regards the delicate in health.

The Hot Bath.

Temperature 98° to 110°. It differs from the cold or tepid baths, inasmuch as they are preservative of health, while this is curative of disease. It opens the pores of the skin, relaxes the muscles, soothes the nervous system and is a valuable agent in reducing fevers and inflammation. To avoid risk, have the bath begin with about 95° and gradually raise the temperature to 100° or 105°. The bath may be continued from 10 to 20 mins., according to the feelings of the bather. Wipe the body quickly and briskly upon coming out.

The Vapor Bath.

100° to 120°. It is of great use in exciting perspiration in catarrh, in simple fever, and in rheumatism. It may be extemporized by sitting on a chair enclosed in a blanket, and having a pan of hot water placed under the chair, adding to the water some red-hot stones, or brick, or iron chain. If a long pipe can be connected with the spout of a large kettle, and made to pass within the blanket, it affords a ready means of making a vapor bath.

Hot Air Bath.

Temperature 100° to 120°. It acts in the same way as a vapor bath. It is readily made by burning some spirits of wine under the canopy of blanket. A convenient mode is, after the patient is seated and covered up to the throat with a blanket, to place 1 oz. of spirits of wine in a cup, the cup standing in a basin with some water, then light the spirit and let it burn out.

The Turkish Bath Upon a Small Scale.

Place the patient upon a large cane-bottomed chair, and tie a large blanket around his neck, so as to completely envelop the chair and his body; underneath the chair place a saucer full of alcohol (spirits of wine) and set a light to it. The space within the blanket will soon be filled with hot air, and a profuse perspiration will be produced.

Sulphur Bath.

Leprosy has been entirely cured by the following, which is a successful remedy in every description of skin disease: To every 15 gals. of water add 1 oz. of sulphuret of calcium, or 1 oz. of sulphuret of potassium to every 10 or 12 gals. of water. 1 or 2 applications will eradicate common itch, and it soon cures all scurfy and moist skin affections.

SURGICAL.

Sprained Ankle.

Bathe the ankle frequently in cold salt and water, and the greater the tendency to inflammation the oftener. Sit with it elevated upon a cush-

ion. Live on a low diet, and take a cooling medicine every day. When first beginning to use it, and until it is strong, rub it often with a mixture of 10 grs. of quinia put in 1 pt. of alcohol.

Sprained Ankle. (2).

If used immediately after the sprain, the following is, probably, the best preliminary treatment, and usually the only one needed:

Plunge the foot into water as hot as can be borne, and allow it to remain 20 or 30 mins. Bandage with flannel or cotton batting, or sheet wadding. Keep the foot elevated until relieved.

Back, Sprain in.

Rest is more essential than anything else. Apply cloths saturated with cold water if the part is inflamed. Take 15 or 20 drops of the balsam of copaiba night and morning. Keep the bowels open by the use of aperients. As soon as the inflammation is gone, rub the part with stimulating liniment.

Back, Sprains of the Muscles.

Mix 1 dr. of laudanum, 6 ozs. of soap liniment, and ½ oz. of Canada turpentine. Rub the part affected well with this before a hot fire.

Back, Lame or Weak.

Into 1 pt. of alcohol pour a beef's gall, and bathe the back frequently. Let it be rubbed the whole length of the spine every night and morning, and oftener if the patient can bear it. Relief is almost certain.

Bed-Sores, Treatment of.

Press the part gently with a bit of cotton wadding to remove the excessive discharge; take a camel-hair brush and paint the sore over with collodion. Repeat the application daily, and when it has well dried the part should be protected by covering it with a bit of soft lint or cotton wadding.

Bleeding at the Nose, To Stop.

1. Find the artery on both sides of the face where it crosses the jaw, some 2 or 3 ins. above the point of the chin; press it closely against the bone with the thumb and forefinger; observe which nostril bleeds most freely, and press harder on that side.
2. Make the patient raise both arms above his head, and keep them there some time. Sponging the forehead and face with cold water, or placing a towel wet with cold water between the shoulders, will generally effect a cure. If this is not sufficient, apply a strong solution of alum or iron-alum to the inside of the nostrils, or plug the nostrils with lint or cotton wool soaked in the solution.
3. Press a small roll of paper under the upper lip, or blow a little gum-arabic or powdered alum up the nostril through a quill. The bleed-

ing can be stopped at once by pressing with the finger over the small artery near the ala (wing) of the nose, on the side where the blood is flowing.

Chronic Bleeding at the Nose.

Dip moistened linen cloths in dry powdered tannic acid, and press them into the nostrils, as high up as possible. Or it may be made into an ointment and used with the cloths as before.

Bleeding, To Stop.

When a person has been wounded, if the blood flows regularly, a vein has been wounded, and a string should be bound tightly around below the wounded part, that is, beyond it from the heart. When the blood comes out by leaps and jets, an artery has been severed, and the person may bleed to death in a few mins.; in this case the cord must be applied above the wound, that is, between the wound and heart. If you have no string or cord at hand, the two opposite corners of a handkerchief may be tied around the limb, a stick put between and turned round until the handkerchief is twisted tight enough to stop the bleeding, in which position it must be kept until a physician arrives.

Bleeding or Hemorrhage.

Another thing recommended where the blood flows in any considerable quantities, from cuts, bruises, or nose bleed, is to take dust from the tea-canister, or finely pulverized tea if considerable is needed, with the dust, or the scrapings of the inside of sole leather, and bind closely upon the wound.

Blisters.

A great diversity of opinion exists as to the value of this remedy, which has been used from time immemorial. The best authorities have taught that morbid processes in deep seated or superficial organs, may be modified by irritations artificially induced in distant parts. Of late the value of these remedies has been more generally questioned, and their use greatly limited. This is largely due to the fact that actual demonstration is becoming more general in testing all medicines, and all written laws are becoming modified by modern experience, and medicine is gradually approaching the place of an exact science.

At the present time it may be held as a safe practice, that we have power to influence morbid processes by creating external irritation, although it is difficult in many cases to explain its rationale. It is a well recognized fact also, that the remedies which act favorably upon some constitutions, may be very illy adapted to others. This is true whether of climate, diet, exercise, or labor, and still blisters act so favorably and promptly that their use cannot be disregarded. They should, however, be used rarely in cases of very delicate constitution.

They are especially useful in pleurisy — either acute or chronic — and have been strongly recommended by high authorities in pneumonia at certain stages, also in cases of chronic dropsy of a local type. In chronic inflammation of the joints, repeated blistering is very often of service. There are various substances which are capable of producing vesication,

but the one chiefly in use is some preparation of *cantharides*. In cases of emergency a blister may be raised in a very few moments by the use of *strong water of ammonia*, a little of which is to be kept in contact with the skin by an inverted watch glass; great precaution, however, must be used to remove this substance as soon as the vesication occurs, lest the parts be burned too deeply. The preparation of cantharides mostly used is what is known as a *cantharides cerate*, which is spread upon adhesive plaster so as to leave a margin of about 1 in. in width, which shall adhere to the skin and hold the plaster in its place. That a blister may draw thoroughly, it must usually be left on for about 8 hrs., but in most cases we can alleviate the inconvenience to the patient by leaving it on about 6 hrs., or until a decided redness appears, and then by applying a flax-seed poultice.

A preparation called *Cantharidal Collodion* may be used, applying it with a camel's-hair brush. Some cases of poisoning, however, are reported from too excessive use of this convenient remedy. In any case of ill results the flax-seed meal poultice should be applied at once.

The art of properly dressing a blister is a very important consideration in their use, and perhaps the least objectionable method after evacuating the contents of the sore, is to apply a piece of soft old linen or patent lint freely covered with vaseline, or a preparation of pure mutton tallow, or what is better, equal parts of both.

Blisters, To Heal.

Make an ointment of 12 ozs. of lard, 2½ ozs. of white wax, and 2½ ozs. of extract of lead.

Blood-Spitting or Vomiting.

Take 3 teaspoonfuls of sage-juice in a little honey, or 20 grs. of alum in water every 2 hrs.

Incipient Boils.

An incipient boil may be stopped by touching it with lunar caustic. It is well to poultice a boil for 2 or 3 days after it opens, and after that use a stimulating salve.

Boils.

Lack of alkali or iron in the blood causes boils, and a permanent cure can only be obtained by constitutional treatment. When very painful. apply a flax-seed poultice with a few drops of laudanum upon it. It will be well to apply this for 2 or 3 days after the boil opens, and then some healing salve. Another cure, said to be very effectual, is the skin of a boiled egg. Peal it carefully, wet and apply it to the part affected. It will draw off the matter, and relieve the soreness in a few hrs.

Bowels, Prolapsus or Falling of.

In infancy and in old age the feeble state of the muscular fibres of the intestines often allows them to protrude after an action of the bowels. and so the same consequence sometimes occurs in diarrhœa, and in cases of obstinate piles or other disease of the rectum, or in persons whc

habitually neglect the calls of nature and allow the bowels to get into a constipated state. When it occurs in infants, the bowel is usually returnable by washing with cold water and smearing it with sweet oil or fresh lard, and gently grasping it between the ends of the thumb and 3 or 4 fingers and pressing it upwards. In grown-up persons some astringent injection, such as alum and water, or alum and decoction of oak bark (1 dr. of alum to 1 pt. of the fluid), may be required. To prevent its return, avoid costive state of bowels.

Bruises.

Make an ointment by dissolving 3 parts of Castile soap in 16 parts of spirits of rosemary, and then add 1 part of camphor. Keep in bottles closely corked.

Bunions.

When not inflamed bind the joint firmly with adhesive plaster. Poultice an inflamed bunion, and then apply 3 or 4 times a day an ointment made by putting 12 grs. of iodine into ½ oz. of lard or spermaceti ointment.

Bunions and Corns.

One of the simplest remedies, and at the same time most effectual, is to apply the corn plaster. If these cannot be obtained use any adhesive plaster, building it up cob-pen fashion until the surrounding wall is higher than the uncovered corn or bunion in the center. Change every 2 or 3 days until cured.

Burns.

1. Make a solution of equal parts of soda and water. Soak a bandage in this and cover the whole surface, changing before it becomes dry. This is excellent.
2. Apply immediately white lead and linseed oil mixed to the consistence of thick paint. This may be used where the skin is broken or unbroken. Where the skin is unbroken, an excellent remedy is to cover it with cotton batting.
3. Take equal parts of carbolic acid and sweet oil. Apply to the bare burn upon a linen rag, and it will give instant and permanent relief. It should be kept in a bottle tightly corked ready for instant use.

Burns and Ulcers, Oakum Dressing for.

It has been known for some time that oakum made a good dressing for burns and ulcers, healing sores very rapidly, and inducing a healing action in indolent ulcers, preventing all offensive smell. It is cheap, saves time and trouble in dressing, and the scars do not contract as they usually do in burns.

Burns and Discolorations by Gunpowder, Treatment of.

The scorched surface should first be smeared with glycerine by means of a feather, cotton wadding applied, and then covered with oil silk. If the above treatment is continued, the result will be satisfactory.

Carbuncle.

Make an incision the whole length of the carbuncle, and stuff it with cotton that is saturated with pure carbolic acid. Paint the whole surface of the carbuncle with the acid. Repeat the insertion of the acid daily until a cure is effected.

Chafing.

Bathe the chafed parts before retiring with a soft linen rag, wet in a lotion made of a piece of alum, large as a hazel nut, dissolved in ½ pt. of water. This is also good for tender feet and soft corns. Another excellent remedy for chafing is to sprinkle the affected parts with oxide of zinc. The use of finely powdered starch, by means of a puff or a small bag of muslin, 2 or 3 times a day, will usually prove a preventive as well as cure. Violet powder may be used instead of starch.

Chilblains.

Take a piece of lime the size of your double fist, put it in warm water and soak the feet in it, as warm as you can bear it, for ½ hr.

Chilblains. (2).

Baste soft linen inside the heels and toes of the stockings, and rub the linen well with a piece of common chalk.

Chilblains. (3).

Put 2 white turnips, thinly sliced without paring, into a tin cup with 3 tablespoonfuls of good lard. Simmer very slowly for 2 hrs., and mash through a sieve. Spread cold upon a soft linen cloth and apply at night to the chilblain. It is said to be a certain cure.

Chilblains, (Unbroken). (4).

Apply an ointment made by melting together 1 oz. of resin, 1½ ozs. of beeswax, 3 ozs. of sweet oil. Stir in gradually ½ oz. of carbonate of lead. Let it settle and reject sediment.

Chilblains, (Broken). (5).

Dissolve 1 oz. of sulphate of copper in 1 pt. of rosemary water and use as a wash.

Chloroform, To Prevent Death from.

Inferior animals have been restored from apparent death from chloroform by the continuous galvanic current, the negative pole being put in the mouth, and the positive pole in the rectum.

Corns, To Cure.

1. The strongest acetic acid applied night and morning with a camel's-hair brush. In most cases the corn will disappear in 1 week.

2. Soak the feet ½ hr., 2 or 3 successive nights, in a solution of 2 tablespoonfuls of soda in a small foot tub of hot water. The alkali dissolves the indurated cuticle, and the corn falls out.

3. Rub well together equal parts of common brown soap, tallow and the best quality of pulverized indigo. Spread this ointment on a piece of soft kid, and apply it to the corn, keeping it on till the soreness is out.

Soft Corns, To Cure.

1. Soak an ivy leaf in strong vinegar, and apply to the corn, changing the piece every morning, and the corn will soon be easily removed. A slice of fresh wild-turnip placed on the corn is also very good.

2. To cure soft corns, take a piece of cotton large enough to fit between the toes, sprinkle prepared chalk over it, roll it up and place it between the toes. The cotton and chalk absorb the moisture, and by keeping the corn dry, soon cure it.

Cuts, To Cure.

Accidental cuts from knives, cutting tools, scythes, etc., are more likely to occur on the face and limbs than on the body. All that is requisite in general, is to bring the parts together as accurately as possible, and to bind them up—this is usually done by adhesive plaster when the cut ceases to bleed. Nothing is so good for this purpose as paper previously washed over on one side with thick gum water, and then dried; when used it is only to be wetted with the tongue. When the cut bleeds but little it is well to soak the part in warm water for a few minutes, or keep a wet cloth on it. This removes inflammation and pain, and also a tendency to fainting, which a cut gives some persons. If the bleeding be too copious, dab the part with a rag wetted with creosote.

Deafness.

Deafness in infancy and childhood is accompanied by dumbness, as it is then impossible for the child to obtain a knowledge of sounds which he must imitate in learning to speak. The imperfection or obstruction of the passage leading to the membrane of the tympanum or drum of the ear, frequently causes deafness. ¼ of the deafness in youth is the sequel of scarlatina, and is avoidable by proper treatment at the time. If there is a deficient secretion of wax or dryness of the aural passage, a little olive or almond oil with a few drops of oil of turpentine, oil of juniper or camphor liniment, may be used with benefit. If, with the deafness there is acute pain, or the discharge of purulent matter, medical aid should be sought at once.

Remedies for deafness: 1. Take 1 lb. of oil of almonds, 2 ozs. of bruised garlic, ½ oz. of alkanet root; infuse and strain and pour a little into the ear.

2. Mix ½ oz. of shark's oil, 10 drops of laudanum, and 5 drops of turpentine. Put 3 drops in each ear every morning, inserting soft cotton to keep out the cold.

Deafness in Old Persons.

In cases where confused sounds are heard upon the inside of the ear, insert a piece of cotton wool which has been dipped in equal parts of aromatic spirit of ammonia and tincture of lavender.

Dislocations.

The difference between dislocations and fractures is, that in fracture the bone is broken, while in dislocation it is, as a consequence of some violence, forced from its connection with the neighboring bones. As we speak of compound fractures, or those which are accompanied by a wound, simple fractures, or those in which there is no wound of the skin, so in dislocations, these may be either simple or compound. It is not always an easy matter to distinguish between a fracture and a dislocation. In certain forms of fracture, there is no crepitation or grating of the ends of the bones to be detected, as the same violence which breaks the bone drives the fragments forcibly together, and causes them to become impacted, or fixed together. In fractures about the region of a joint, the crepitation would be a main symptom by which to distinguish this injury from dislocation. Where it is absent, it is almost impossible for a non-professional person to come to a decision as to the real nature of the accident. Should, however, surgical assistance not be obtainable, the best plan to pursue will be to pull steadily at the injured limb until it resumes its shape and length. By this means, if the bone be dislocated, it may be possible to reduce the dislocation, and if fractured, it may, by loosening the bones, cause the distinctive sound of crepitation, and other signs of fracture to be distinguished.

Dislocation of the Jaw.

This may readily be detected by the imbecile appearance it gives a patient. The mouth is fixed wide open, and the saliva runs out at the corners. It is impossible to close the mouth, the patient making ineffectual efforts to articulate.

Treatment.—The patient should be seated in a high-backed chair, or against a wall, in such a manner that his head may lean against the back of the chair, or the wall. The operator should then wrap a couple of napkins around his thumbs, one on each, and when by this means they are well protected, he should place them as far back along the jaw inside the mouth as he can reach. He should then press with his thumbs downward and backwards, and at the same time raise the chin with his fingers. The bone will return to its place with a snap. The advantage of having wrapped the thumbs well round with the napkins will then be experienced; for the teeth come together very sharply, and were the thumbs not well protected, bites of a severe character might be suffered. Another method pursued for the reduction of this dislocation is to place a couple of corks between the back teeth, raising the chin, and making the corks act as a fulcrum between the jaws.

Earache.

Put boiling water with a little soda or laudanum in it into a teapot and hold the spout as near the ear as it can be endured. Cover the head and teapot so as to confine the steam.

Earache. (2).

Take the heart from a roasted onion, cool it and dip it into sweet oil and laudanum. Press the onion into the ear, and tie a handkerchief around the head.

Earache. (3).

A physician who had made the ear a special study, gives the following directions for its treatment when there is pain: Use first warm water turned into the ear from a spoon as often as the water cools. If this does not relieve, dissolve a little morphine in the water, and, as a last resort, saturate a sponge in chloroform, put it into the bowl of a pipe, insert the stem in the ear, and then blow upon the sponge. This has never been known to fail. Be sure and not have the chloroform near the ear.

Earache. (4).

Drop equal parts of sweet oil and laudanum warm into the ear, and apply hot salt in flannel bags, so as to keep the part constantly warm. Hen's oil will do equally well, and is not as likely to form a skin, in drying, as sweet oil. Shake as used. 3 or 4 drops at a time will be sufficient.

Earache, Indian Cure.

Burn a piece of raw, fresh mutton, the size of a walnut, upon a red-hot iron plate until it is reduced almost to a cinder. Put it into a clean rag and squeeze out the moisture into a silver spoon which has first been heated in boiling water, and dried thoroughly, and drop the juice as hot as can be borne into the ear. This has been known to cure after laudanum has failed.

Earache, General Remedies for.

1. Heat is the best remedy. A warm poultice or warm oil should be applied to the ear, or the back of the ear rubbed with warm laudanum. If there is a discharge, syringe the ear carefully with warm milk and water. Rubbing the back of the ear with ammonia and water sometimes is beneficial. Be sure in all cases that the ear is thoroughly cleansed.
2. Drop warm glycerine into the ear and then fill the ear with cotton or wool picked from a blanket. The latter is preferable, as the fibres are elastic, and it does not form a hard ball as cotton often does.

Eye-Sight, To Preserve.

1. Avoid passing quickly from one extreme to the other, either of light or darkness, and never sit long in absolute gloom, or exposed to a very bright light.
2. Do not read fine print or strain the eyes by looking at minute objects.
3. Never read at dusk, or, if the eyes are weak, by candle-light.
4. Avoid looking long at glaring objects, especially on waking in the morning; the sun should be excluded from the room at that time. For

the same reason the furniture and walls of the bedroom should not be white or glaring, and it would benefit those who have weak eyes to have green the prevailing color in a bedroom. Nearsighted people should read with the book as far off as possible, while those that are far-sighted should hold the book as near the eye as they can. This will improve and strengthen the sight, while a contrary course will increase the natural defects. In reading or sewing the light should be above or behind instead of in front of the face.

Eyes, To Decide when Spectacles are Needed.

1. If it is necessary to remove objects from the eye to see them distinctly.
2. When we are obliged to have more light than formerly; if we are inclined to put the candle between the eye and the object.
3. If looking for some time at a near object, the eye becomes fatigued and there is a dimness or mist before it.
4. If small printed letters run into each other, and appear double or treble when looked at for any length of time.
5. When, by a little exertion, the eyes are so fatigued that we have to shut them or relieve them by looking at different objects.

Any or all of these show that it is necessary to seek aid from glasses, as they will ease the eyes and prevent their becoming worse; for if not assisted in time, the weakness will be increased and the eyes impaired for life.

Eye, (Black), How to Cure.

Apply at once a cloth wet in water just as hot as you can bear it. Continue the applications for 15 or 20 mins., and although the eye may be a little swollen, the blackness will disappear.

Eye, (Sty in), To Cure.

Put a teaspoonful of soda in a small bag, pour on just enough boiling water to moisten it. Place it on the eye pretty warm, keeping it there all night. In the morning the sty will have disappeared; if not, a second application will surely remove it.

Eye, (Weak and Sore), Remedies for.

1. Apply 3 or 4 times a day a wash made of 3 grs. of sulphate of zinc, 10 drops of tincture of opium, and 2 ozs. of water.
2. Remove the shell from a roasted egg, cut it in two, take out the yolk and fill the cavities left in the whites with finely pulverized alum. Put in a thin cloth and press out all the juice. The liquid thus obtained should be bottled and used to bathe the eyes whenever needed.
3. After bathing the eyes night and morning with tepid water, use a lotion made of 1 dr. of oxide of zinc and 8 ozs. of rose water. If in the morning the eyelids stick together, apply a little weak citrine ointment to the edges of the lids at bedtime.
4. Mix the whites of 2 eggs, 1 oz. of sulphate of zinc, ½ oz. of sugar of lead, ¼ oz. of precipitated carbonate of iron, 1 tablespoonful of salt, and 1 of sugar; then add 32 ozs. of water.

5. For inflammation use the following: Boil a handful of hops in water and put in from ¼ to 1 dr. of opium while boiling. While warm, lay the hops over the eyes and keep them wet with the water in which they were boiled.

6. Salve. Rub 1 teaspoonful of white precipitate into a salve with 3 teaspoonfuls of fresh lard. This salve applied upon the outside of the lid will cure the worst chronic sore eyes.

Eye-Water.

1 gr. of white vitriol, ¼ gr. of dry opium, and 1 oz. of rain water, the whole filtered through blotting paper.

Eye-Water. (2).

Boil a freshly laid egg and take from it the shell, removing also the yolk. Mix 2 grs. each of sulphate of zinc, table salt, and white sugar, with the white, placing them in a bit of muslin, pressing and squeezing out all of the oily liquid you can, working it sufficiently to dissolve all of the salts. Put into a phial with 1 gr. of morphine dissolved in 1 oz. of soft water and keep for use. Use 3 to 5 times a day.

Eye-Wash.

Mix 16 grs. of white vitriol, 16 grs. of sugar of lead, and 1 pt. of water.

Feet, Care of.

Ill health is often caused by carelessness about the feet. The largest pores in the system are in the bottom of the feet, and the most offensive matter is discharged through the pores. The feet and armpits should be washed every day with pure water only, as from them an offensive odor is emitted unless daily bathing is practiced. The pores, instead of being repellants, are absorbents, and the fœted matter is taken back into the system, unless quickly removed from the surface. Stockings should not be worn more than 1 or 2 days at a time.

Burning Feet, Relief for.

To relieve burning feet, first discard tight boots; then take 1 pt. of bran and 1 oz. of bicarbonate of soda, put in a pail, and add 1 gal. of hot water; when cool enough soak your feet in this mixture for 15 mins. The relief is instantaneous. This must be repeated every night for a week, or perhaps more. The bran and bicarbonate should be made fresh after a week's use. Bicarbonate of soda can be purchased for about 10 cts. a lb. from wholesale druggists. The burning sensation is produced by the pores of the skin being closed, so that the feet do not perspire.

Cold Feet.

1. A simple, but most excellent remedy, is to plunge them, before retiring, into a bath of salt and water, in the proportions of 8 tablespoon-

fuls of the former, and 1 gal. of the latter. This must be used cold. Allow them to remain from 3 to 5 mins., then rub them briskly until in a warm glow. Sometimes a more complete reaction can be obtained by bathing first in castile soap and hot water, then treat as above directed.

2. Apply a current of electricity before retiring, pressing one electrode against the calf of the leg and the other to the bottom of the foot, continuing it for 10 or 15 mins. Another simple remedy that may be tried is to wear all wool red hose, always rubbing the feet well before retiring.

3. Wear 2 pairs of stockings, 1 of silk or cotton and the other of wool, and you will not be troubled with cold feet, as this will keep in the natural heat of the body.

4. Just before undressing, take off the stockings and rub the ankles and feet with the hand as hard as you can for 5 or 10 mins. If you do this you will never have cold feet in bed. Washing frequently and rubbing them perfectly dry with flannel, is important.

Frosted Feet.

1. Apply the following solution morning and night: 1 oz. of turpentine and ½ oz. of oil of sassafras.

2. Dissolve some alum in a little water and bathe the part affected with it, warming it before the fire. 1 or 2 applications will surely relieve the itching of frosted feet.

Swelled Feet and Ankles, How to Cure.

Take plaintain leaves (which can be found in almost any grass spot, and in our public parks); wilt them by putting separately between the hands, cover the swollen parts with them, and keep in place by wrapping the limb with rags or a towel on going to bed at night, or keep them on during the day if not obliged to be upon the feet. A cure will be speedily effected.

Feet, Tender.

Woolen stockings should be worn and changed frequently. The feet and lower limbs should be bathed in a solution of 1 lb. of salt to 1 gal. of water.

Felon, or Whitlow.

There are 2 forms of felons; the mild form, which generally yields to fomentation with hot water cloths or poultices, and when matter forms, if lanced, speedily heals, and the more severe form, in which the deep textures of the finger are involved, accompanied by severe pain, throbbing, and much redness, heat and swelling. The only relief for the second form is the free and early use of the lancet, and if this be neglected, the bones will become affected, and perhaps destroyed. If the use of fomentations or a poultice does not give relief very soon, a surgeon should be consulted without delay. When a felon is coming the home treatment should be as follows: The whole hand should be steamed with bitter herbs for 30 or 40 mins.; then bathe it frequently in strong hot lye water. Instead of this you may immerse the diseased

finger in strong lye as long and hot as you can bear it, several times a day. A poultice of linseed and slippery elm, with a little salt and brandy, should then be applied. A small white spot in the center of the swelling will indicate the formation of matter. Open this with the point of a large needle, or probe so that the matter may escape. If necessary, repeat the operation, and if proud flesh appears, apply chloride of potassium, diluted. To relieve pain, a poultice of powdered hops may be used, some healing salve should then be applied, and the general health improved by giving aperients, tonics, and nutritious cooling diet. Another cure for a felon is to wrap the part affected with a cloth saturated thoroughly with tincture of lobelia. This, if applied in season, will kill the felon without fail. Another remedy is to stir ½ teaspoonful of water into 1 oz. of Venice turpentine until the mixture appears like granulated honey. A good coating of this must be wrapped round the finger with a cloth. The pain will be removed in 6 hrs. if the felon is only recent.

The general cures recommended are the following:

1. Wet a cloth in tincture of lobelia, and bind it upon the part affected as soon as the pain begins. The cloth must not be allowed to dry.
2. A felon may be cured by applying a poultice of onions morning, noon and night, for 3 or 4 days.
3. Make a paste of equal parts of gum camphor, opium, castile soap, and brown sugar, mixed with a little turpentine.
4. When a felon begins to pain you, put a teaspoonful of saleratus and a wineglassful of vinegar in a pint tin of boiling water. Heat this every ½ hr. or hr., and hold your finger in it till the pain ceases. Repeat this until the matter collects in one place, then have it opened, and it will get well.

Bone Felon.

Put a blister of Spanish fly about the size of the thumb nail, directly over the felon, as soon as the pain is felt, and let it remain for 6 hrs. At the end of this time the felon may be seen directly under the surface of the blister, and can be instantly taken out with the point of a needle or a lancet.

Proud Flesh, To Remove.

A new and easy remedy is to apply loaf-sugar pulverized very fine to the part affected. This will remove it entirely without pain.

Hiccough, Cure for.

Lemon-juice has been found superior to any known remedy for hiccough, which is a spasmodic breathing, or an attempt to breathe, but which is largely prevented by a spasmodic closing of the glottis, or valve-like cover which stands guard at the top of the wind-pipe, or trachea, to carry the food, drink, etc., over it to the gullet, or esophagus, on their way to the stomach. Chloroform will allay it temporarily, but not so permanently as the lemon-juice. It may be taken freely and may be mixed with sugar to make it palatable.

Inflamed Glands.

Use the chloral-camphor mixture, the same as given for neuralgia (external remedy). This remedy is much preferred by the best medical authorities to tincture of iodine.

Inflammation, To Reduce.

In acute attacks of pleurisy, rheumatism, inflammation of the lungs, etc., the pain is often subdued by applying bags of dry bran as hot as can be borne. They must be changed frequently in order to keep up the heat, as evil results are apt to follow a cooling off, particularly if any wet application is used.

Any Inflamed Joint.

Steep 1 oz. of wormwood in 1 pt. of vinegar. Soak a piece of flannel or cotton and bandage firmly. This should be changed as soon as dry. Keep the limb elevated.

Inflamed Joint. (2).

Envelop it in sheet rubber and bandage firmly and evenly. Change twice daily, bathing the surface each time with a mixture made of 2 even tablespoonfuls of soda in a pt. of water.

Stiff Joints, Remedy for.

Take strong salt brine and beef gall, 1 gill each, the yolk of 4 eggs, beaten up; mix and shake well together. Apply 3 times a day. Discutient ointments are also good.

Frozen Limbs.

Rub with snow or very cold water until the frozen part becomes red. Wipe dry, rub briskly with the hand and cover with flannel.

Liver-Spots, To Remove.

These brownish blotches on the skin, which generally appear on the forehead, do not always proceed from the liver alone, but from an unhealthy state of the internal organs. The general health must first be cared for, or all external applications will be useless. Then apply to the spot at night a pomade consisting of 20 grs. of sulphate of zinc, and 1 oz. of elder flower ointment. Care must be taken not to put any of the ointment on the skin surrounding the spots. Wash the ointment off in the morning, with white Castile soap and water, and bathe it repeatedly during the day with a lotion made of ½ pt. of infusion of roses, and 30 grs. of citric acid. In about 2 weeks the spots will yield to this treatment, and after that they can be prevented by a regular use of glycerine and borax lotion, made by putting 1 oz. of glycerine, and 3 drs. of borax into 1 pt. of soft water.

Neuralgia. (External Remedy).

Take from 1 to 4 drs. each of chloral hydrate and gum camphor, mix thoroughly in a mortar till it becomes of the consistence of glycerine. Apply this hourly with a camel's-hair brush or the finger tip until the surface becomes reddened, and quite sensitive to the touch.

Neuralgia, Remedy for.

Take white cedar bark, shave it up and smoke it in a clean clay pipe, 1 or more pipefuls, or until relieved.

Nightmare, To Prevent.

Persons subject to nightmare should not sleep alone, but have some person near them to arouse them when they have an attack. As nightmare rarely occurs except when a person is sleeping on his back, those who are subject to it should avoid this position. The pillow should not be too thick, and the bed should be level and not too soft. A little cayenne in scullcap tea will generally prevent an attack. Another preventive is a mixture of 10 grs. of carbonate of soda, 3 drs. of compound tincture of cardamons, 1 dr. of simple sirup and 1 oz. of peppermint water. This should be used several nights in succession; then use some strengthening tonic for a few weeks.

Hot Nights, To Keep Cool During.

Bathe the body with cool water just before retiring, and lie down without drying it off. The water absorbs the heat, and in evaporating throws the heat off with it. It will be more effectual if the bed is also sprinkled slightly with water. This proves very effectual in hot countries, and those who have tried it say there is absolutely no danger of taking cold.

Mustard Plaster, To Make.

For a mustard plaster the size of your hand, take a large teaspoonful of Graham meal, and make with warm water a stiff paste, to be spread smooth upon a piece of cotton cloth. Leave 1 in. of border unspread. Sprinkle fine mustard over it, just enough to cover it, then lay a thin muslin over. When the skin is torpid and hard to act upon, wet the meal with hot vinegar. Some say it is better in making a mustard plaster to use no water whatever, but mix the mustard with the white of an egg, and the result will be a plaster that will draw perfectly, but will not produce a blister, even upon the skin of an infant, no matter how long it is allowed to remain on the part.

Poultices.

These should be applied in the early stages of superficial inflammation, for the purpose of checking the morbid action. Their influence in such cases is simply that of a sedative, and may consist oftentimes of nothing better than a simple cold water dressing. The following applications,

however, are especially useful in the more advanced stages of inflammation, where supperation has already commenced, or is about to set in. Further, a poultice in the latter stages of superficial phlegmon, or inflammation of the cellular tissue, not only hastens the formation of pus in the inflammatory focus, but lessens irritation in the surrounding parts by its sedative action, and thus softens the tissues, and aids in the passage outward and the discharge of products of inflammation. But poulticing, however, may be persisted in too long, and all the vital actions be reduced below a normal point, when the only relief is the knife. Thus far their use has been spoken of in reference to external inflammation alone, but wide experience has demonstrated their value in internal inflammations, even when deep-seated organs, such as the lungs or kidneys, are involved. When it is borne in mind that in all these cases the poultice is applied to a very large surface, it can be readily perceived that this counter irritation is a powerful one. In such cases they act as a gentle but deep-reaching counter-irritant, which, in all likelihood, affects not merely the surface circulation, but indirectly that of the deeper parts. Thus in pleurisy or pneumonia the whole anterior, or posterior surface of the chest is covered, or, indeed, the whole chest may be enveloped by the jacket-poultice. In peritonitis the poultice should be as large as the abdomen of the patient. In the lung diseases of children, whose chest walls are very thin, the value of poultices seems to be much greater than in corresponding affections of adults.

Different Kinds.

Flax-seed meal is the most frequently used substance for making poultices, of which the large amount of oily and mucilaginous substances seem to be especially fitting.

Ground slippery elm makes a very elegant demulcent material also.

Ordinary mush from Indian meal affords a very convenient substance, as also the compound of bread and milk.

Whenever a poultice is to be applied to affect the internal organs, and consequently has to be large and capable of holding heat for a long time, the choice of material lies between flax-seed and Indian meal, the former of which is the more adhesive and the more easily managed, but to the latter is attributed a greater capacity for retaining heat. In either case the poultice should be applied as hot as it can be borne and should be covered with a piece of oiled silk or thin rubber cloth, to aid in retaining not only moisture, but heat. By this appliance also, the material composing the poultice may be spread thinner, and thus be less clumsy for both patient and attendant.

Dry warmth, which we obtain by applying heated folds of flannel or the fibre of cotton batting, surrounded by the oiled silk or rubber cloth, is sometimes more efficient, and gratefully received by the patient. This is especially adapted to rheumatic affections wherein the joints are involved.

A hop poultice has a pleasant anodyne effect, and may be made by simply moistening the hops, contained in a gauze bag of required size and shape, with hot water.

Mustard affords the most excellent material for a mild revulsive and counter-irritant, in fact all grades, from the mildest impress up to severe blistering, can be had at will. It should be remembered, however, that the blister produced by this material, discharges but very

little and is exceedingly painful and for this purpose solely, we have better remedies at our command. Black mustard is much stronger than the white, and must usually be diluted at least ½ by the addition of flour or flax-seed meal. The white variety may sometimes be employed pure, but generally it also is reduced in strength. A half and half poultice of black mustard and meal may generally be left on 20 or 30 mins. without danger of blistering. Weaker preparations, of course, may be used longer.

A very convenient method to make a mustard appliance is to take a newspaper (or better, paper without ink on), folded to a little larger than the desired size, and cut open the front piece, so that it can be folded back like a flap. Next spread upon the other portion mustard paste, leaving a marginal edge, then close the flap upon it, and fold the edges back to the desired shape. When done with this, the paste can be thrown away, and no cloth is wasted, besides the mustard acts as well through the single layer of paper, and is less apt to leave troublesome sores than when employed in the usual manner.

A preparation has recently been introduced and placed on sale by druggists called *mustard paper*. It consists of black mustard mixed with a solution of gutta-percha, and spread upon stiff paper of about 4 by 6 ins. in size. Such papers are convenient for persons traveling, but experience has taught that they do not act as well as the home-made mustard plaster, their effect being often too violent, and of a too transitory a character.

Red pepper is sometimes used instead of mustard. It acts very promptly, but is not so reliable. Wheat or rye bran, heated in a dry state, confined in a cloth or paper bag, is a very neat and effective application in cases of acute pleurisy, as also in muscular rheumatism.

Poultice, To Ease Pain.

Scald hops and lay them upon a cloth and sprinkle laudanum over it. Make the application as hot as it can be borne.

Scalded Mouth, Remedy for.

If the mouth has been scalded with hot liquids, use as a gargle a solution of borax, and afterward hold in the mouth a mucilage of slippery elm, a portion of which may be swallowed slowly, if the throat also has been scalded. Olive oil may be mixed with the slippery elm. Soap liniment may be used, but that must not be swallowed.

Scratches, Treatment of.

Scratches should not be neglected. First wash them in cold water, close them as nearly as possible, and cover them with diachylon plaster. When inflammation occurs, a bread poultice, or one of slippery elm, should be applied.

Fits of Sneezing, To Cure.

A very simple but efficacious remedy is to plug the nostrils with cotton wool. Make the plugs firm enough not to tickle, and yet loose enough to breathe through.

Camphor Spirits.

Put 2 ozs. of camphor-gum into 1 pt. of alcohol. It is excellent to rub on bruises, sprains, etc., or to wet a cloth in it and lay upon them. In case of pimples or swellings, which it is desirable to scatter, a continued application is excellent.

Splinters, To Extract.

If you cannot extract the splinter or thorn readily by using a needle or any sharp pointed instrument, bind linen dipped in hot water around the place, or bathe the part in hot water. If there is inflammation, apply the steam of hot water, and after that a bread and milk poultice.

Sprain.

Wet a calico bandage, 1 or 2 yds. long, and 2 or 2½ ins. wide, in cold water, and bandage the injured part firmly with it. The limb should be kept at rest, continually damp with cold water, and exposed to the air. If the bandage is applied at once, the swelling and pain will be lessened, but care should be taken to loosen the bandage if the pain is very great.

Sun-Stroke, To Avoid.

A great preventive of sunstroke is sobriety. Those who abstain from the use of spirituous drinks during hot weather, and have regular hours for sleeping and eating, need have little fear of sun-stroke. Bathing, washing, or sponging the skin all over in the morning, is a wholesome precaution. Light, easy-fitting, broad-brimmed hats should be worn by those who work out doors. Those who have to work in the sun for any length of time, should have a shed or shade of some kind handy, where they can rest a few minutes at a time occasionally. Those who have to go about the streets, should keep on the shady side, wear light and porous hats, and, if possible, carry sun umbrellas.

Ulcerated Tooth.

Use the chloral-camphor mixture the same as given for neuralgia. (External remedy).

Toe-Nails, In-Growing.

Scrape the center of the nail with a knife or piece of glass, until it becomes almost as thin as paper; then cut it in the form of a crescent, the convex side being inward. The sides of the nail will then grow outward in the proper way.

Ulcers, Treatment of.

An injury done to the flesh from which issues matter, with more or less pain and inflammation, is called an ulcer. All ulcers should be kept clean and cool and protected from the air. They should be washed frequently with warm soap-water; then covered with a little lint wet

occasionally with salt and water, and a little healing salve of some kind should be used. You can also use poultices made of oak bark or sumach bark. Severe ulcers are sometimes very tender, irritable and painful, discharging also a thin acrid fluid. Such ulcers should be steamed with a bitter decoction every night, and frequently washed with a strong decoction of wild cherry bark with a little spirit, or an infusion of chamomile flowers. A poultice of slippery elm, mixed with a strong decoction of poplar bark, and a very little salt should then be applied and the treatment repeated as often as required. When ulcers become inflamed they assume a livid color, and are covered with small vesicles or blisters, as in mortification. Wash them with tincture of myrrh, and use a poultice composed of yeast, slippery elm, ginger, charcoal, and a little of the tincture of cayenne pepper. Keep this on as long as possible and then apply some soothing salve. Another remedy for ulcers is to take a handful of sweet clover tops and stalks, 1 of parsley, and 1 of burdock leaves; extract the strength by boiling, strain, add 1 lb. of resin, ¼ lb. of fresh butter, and let it simmer until thick enough. Another method of treatment is to cover the ulcer with a little cerate, and then constantly apply cloths wet in cold water. The general health should be improved by cleansing the stomach and bowels and then giving tonics.

Foul Ulcers, To Disinfect.

A lotion or injection of permanganate of potassa, 2 sc. to 8 ozs. of water, will rapidly disinfect the most fetid ulcers. Cover the wound with lint soaked with the substance, over which place a layer of raw cotton, as this will filter the air, and retain the germs which determine putrid fermentation. If injections are used they should be repeated several times a day.

Vermifuge, Simple and Safe.

A good vermifuge is powdered iron rust, as it expels the worms and also strengthens the constitution. From 10 to 40 grs. may be given to a child 6 yrs. old, and an adult may take ½ oz. or more, either in molasses or beer. An aperient should always be taken after the powder.

Seed Warts, Cure for.

Pare off the hard part, or soak in strong soap suds (either one will do), then put 1 drop of spirits of turpentine on each wart. If the warts are very large it will require about 3 applications.

Warts, To Cure.

1. Make a ball of dry cobwebs large enough to a little more than cover the wart, but not touch the flesh around it. Place it on the wart, ignite it and let it be until it is all burnt up. This will turn the wart white, and in a few days it will come out.

2. Dissolve as much washing soda as you can in a little water. Wash the warts with this for a few mins. and let them dry without wiping. Keep the solution in a bottle and repeat the washing often and it will cause the largest warts to disappear.

3. Put a little bullock's gall in a bottle, and rub a little on the warts 2 or 3 times a day.

Wens, To Cure.

Cut the wen in a dozen places, just enough to make it bleed, or prick it with a pin or needle; once a day wet it thoroughly with strong copperas water.

LINIMENTS, OINTMENTS AND SALVES.

Alum Curd.

Put the white of an egg in a plate, and with a lump of alum rub the egg till a thick curd is formed: the curd is sometimes used as a poultice for an inflammation of the eyes.

Ammonia Liniment.

To 1 fluid oz. of the solution of ammonia, add 2 fluid ozs. of olive oil, and shake together. Used in sore throat, externally; also in chronic rheumatism, with friction.

Arnica Liniment.

Dissolve 1 part of camphor and 4 parts of Castile soap, by heat, in 10 parts of rectified spirit. To this add 5 parts of arnica.

Belladonna Liniment.

1. 4 drs. of extract of belladonna, 1 oz. of glycerine, 6 ozs. of soap liniment.
2. 1 dr. of extract of belladonna, 2 ozs. of oil of almonds, 4 fluid ozs. of lime water.

Camphor Liniment.

Take ½ oz. of laudanum, 2 ozs. of spirits of camphor, 1 oz. of spirits of turpentine, powdered castile soap, ½ oz., 3 ozs. of alcohol. Heat it to dissolve the soap and then strain it.

Camphor Liniment. (Compound).

Dissolve 2½ ozs. of camphor, and 1 dr. of oil of lavender in 17 fluid ozs. of rectified spirits of wine; then add 3 fluid ozs. of the strong solution of ammonia, and shake well together. Therapeutical effects: stimulant. Used with friction in rheumatism.

Camphorated Oil Liniment.

Mix thoroughly 1 oz. each of laudanum, and aqua ammonia, and 2 ozs. each of spirits of turpentine, and camphorated oil. Always shake well before using. This is especially good in chronic pains of long standing.

Chloroform Liniment.

1. Mix 1 part of chloroform, and 1 part of camphor.
2. 1 fluid dr. of chloroform, 7 fluid drs. of almond oil; mix in a phial and shake till the two are united.
3. 1 fluid dr. of chloroform, 2 fluid ozs. of soap liniment. Used as an application in neuralgic pains, and rheumatism.

Glycerine Liniment.

Mix 3 ozs. of soap liniment, 1 oz. of glycerine, 1 oz. of extract of belladonna. A little viratrine is sometimes added. This is excellent for gouty, rheumatic, and neuralgic pains.

Iodine Liniment.

1. Dissolve 5 parts of iodine, 2 of iodide of potassium, 1 part of camphor, 40 parts of rectified spirits.
2. 1 dr. of iodide of potassium, 1 fluid dr. of water; dissolve and add to it white soap, (in shavings), and oil of almonds of each 10 drs., that have been previously melted together. You may add some perfume. This is excellent for scrofula, rheumatism, and glandular enlargements.

Lead Liniment.

Mix 40 grs. of acetate of lead, 12 fluid ozs. of soft water, 6 ozs. of olive oil; shake the mixture well. This liniment is astringent and refrigerative, and useful in excoriations, especially if accompanied by inflammation.

Morphia, Liniment of.

Put 3 grs. of pure morphia into a warm mortar, add very gradually 1 fluid oz. of oil of almonds, and triturate until the morphia is dissolved, then add 1 oz. of camphor liniment. This is an excellent topical anodyne and antispasmodic, which often allays pain when other means have failed.

Nux Vomica, Liniment of.

Mix 1 fluid oz. of tincture of nux vomica, 2 fluid drs. of liquor of ammonia. This is a very stimulating application for paralyzed limbs. An excellent liniment for chronic rheumatism and neuralgia is made by the addition of ½ fluid dr. each of glycerine and salad oil.

Phosphorus, Liniment of.

6 grs. of phosphorus, 12 grs. of camphor, 1 oz. of oil of almonds; dissolve by heat, and when cold, decant the clear portion and add 10 drops of the strongest liquor of ammonia. In gout, chronic rheumatism, and certain obstinate cutaneous affections, this liniment is very useful.

Liniment for Rheumatism.

Equal parts of sweet oil, turpentine and laudanum. Shake well before using. Another, the effect of which is said to be magical, is equal parts of laudanum, alcohol, and oil of wormwood.

Rheumatism or Sprains.

Mix well 1 oz. of peppermint and 1 of strong spirits of ammonia, and add 1 oz. of spirits of turpentine, 1 of olive oil, 1 of alcohol, ½ oz. of strong spirits of camphor, and 1 dr. of cayenne pepper. Apply after shaking well with a piece of soft flannel. Keep it closely corked.

Soap Liniments.

1. Dissolve 4 ozs. of Castile soap in a mixture of 4 ozs. of water and 1 qt. of alcohol. Then add 2 ozs. of camphor and ½ oz. of oil of rosemary.

2. Mix 2 ozs. of sweet oil, 1 oz. of ammonia, ½ oz. of spirits of turpentine, ½ oz. of spirits of camphor. This makes a white, creamy-like soap, soft enough to be shaken out of the bottle into the hand, and yet hard enough not to run, so you can carry it to the place desired and rub it in freely. Cover with flannel until a little irritation as from mustard plaster takes place. This is excellent for rheumatism, or any swelling or tumor.

Strychnia, Liniment of.

Mix 30 grs. of strychnia, and ½ fluid oz. of olive oil. 10 drops should be rubbed over the temples in amaurosis.

Vermifuge Liniment.

Mix 1 oz. of castor oil, ½ oz. each of essential oils of wormwood and tansy, 20 drops of essence of pennyroyal. This is an excellent medicine, employed in friction on the abdomen in cases of worms in children It is improved by the addition of a little garlic juice.

Tetter Lotion.

Mix 20 grs. of ammonated copper, 40 of milk of sulphur, 40 of sugar of lead, and 6 of corrosive sublimate, in 1 pt. of water.

Alum Ointment.

1 dr. of alum, very finely powdered, 1½ ozs. of lard. This remedy for piles is very good; to it may be added 7 grs. of powdered opium, if there is much pain.

Camphor Ointment.

1 to 2 drs. of camphor, 1 oz. of lard; dissolve by gentle heat, and stir till the mass is nearly cold. A stimulant and anodyne, used in the two diseases of the skin, prurigo and psoriasis.

Cantharides, Ointment of.

8 grs. of alcoholic extract of cantharides, 1 dr. of oil of roses, 2 ozs. of beef marrow, 40 minims of oil of lemon. This will certainly promote the growth of the hair.

Cancer Ointment.

Take of red oxide of iron, animal charcoal, each 1 oz., digitalis and sulphur, each ½ oz., Canada balsam sufficient to form a thin ointment of the whole. Apply it to the whole surface of the ulcer, and cover it with a common tar plaster. Repeat daily, until the cancer is destroyed—no pain follows its use.

Chapped Hands, Ointment for.

Mix ½ oz. of glycerine and 2 sc. of borax in ½ pt. of boiling water. Use morning and evening.

Chilblain Ointment.

2 parts of made mustard, (very thick), 1 part each of almond oil and glycerine. These should be triturated together. Apply the ointment night and morning.

Glycerine Ointment.

4 fluid ozs. of glycerine, 8 fluid ozs. of oil of almonds, ½ oz. each of wax and spermaceti.

Hemlock Ointment.

Boil hemlock leaves and lard together of each 1 lb. until the leaves become crisp, then strain through linen with pressure. Used as an anodyne in neuralgic and rheumatic pains.

Itch Ointment.

Mix ½ oz. of red precipitate, ½ oz. of white precipitate, ½ oz. of calomel, 1½ ozs. of powdered white hellebore, 6 of suet, 12 of lard and ½ oz. of oil of lemon.

Mercurial Ointment.

Mix 16 parts of mercury, 16 parts of prepared lard, 1 part of prepared suet. Rub together until metallic globules cease to be visible.

Salt Rheum Ointment.

1 pt. of sour wine, 1 plug of twist tobacco, 1 tablespoonful of pulverized gun powder, resin the size of a hickory-nut, 1 teacupful of lard. Break up the tobacco and steep it in the wine; then strain and add the other articles and simmer them to an ointment. While this ointment is being used upon any skin eruption, sulphur and cream of tartar, or salts, or some other gentle cathartic should be taken internally to carry

off what may be thrown in upon the blood. In cases of nursing children being troubled with salt rheum, the ointment will be applied to them, but the mother or nurse may take the cathartic. This ointment will be found valuable in any eruption of the skin.

Small-Pox Ointment.

1½ ozs. of mercurial ointment, ½ oz. each of beeswax and black pitch, 2 drs. of expressed oil of mace; mix together by very gentle heat.

Sulphur Ointment. (Compound).

Made of sulphur, white hellebore, and ointment of potass equal parts, with soft soap and lard. Used in itch.

Tobacco Ointment.

Mix 1 dr. of extract of tobacco and 1 oz. of lard. Used as a friction in neuralgia.

Zinc Ointment.

Mix 1 dr. of oxide of zinc with 6 drs. of lard. Used as a cooling, astringent, and drying ointment.

Spice Plaster.

Mix thoroughly 2 tablespoonfuls of flour, 2 of powdered ginger, 2 teaspoonfuls of ground allspice and 2 of cloves. Wet it with hot brandy or whisky, and spread smoothly upon a cloth. Then cover with thin gauze, and use it as warm as can be borne.

Burns, Salve for.

Take 6 drops of creosote, and 1 oz. of simple cerate made as follows: Mix 8 ozs. of lard vasaline, 4 of white wax, and 1½ of spermaceti. Use the salve twice a day.

Burn Salve.

Melt 1 lb. of lard and 3 ozs. of bees-wax together, and stir in 1 oz. of precipitated chalk, and 2 ozs. of turpentine, and strain through coarse cloth. Beat the whites of five eggs to a froth, and when the salve is cool enough, so that it will not cook the eggs, stir in the froth. Apply by spreading on old linen. Do not let the air come to the burned surface any more than can be avoided.

Corn Salve.

The following will cure corns and any kinds of sores or wounds: Take ¼ lb. of Castile soap, and put into a skillet or pan, and roast till brown; then add ¼ lb. of beeswax; stir together, then put in 3 ozs. of sweet oil, and boil till smooth; remove from the fire and add 1 oz. of camphor-

gum, mix well, and put into tight boxes for use. For corns, spread the salve on a cloth and tie on the affected place. Change every 24 hrs. until the corn becomes soft and you can lift it out. This never fails to cure a corn if you have patience enough to wait.

Eye Salve.

Mix white vitriol and table-salt, of each 5 grs., morphine, 2 grs., nice unsalted lard, or freshly churned and unsalted butter, 1 oz. Apply by rubbing a little between and upon the lids.

Felon Salve.

Stew in hog's lard a handful each of Indian turnip and blue flag. When done, strain and press out and add 4 tablepoonfuls of tar and ½ as much Castile soap; simmer together and apply this until the felon breaks. After it has broken add to this mixture enough resin, beeswax and tallow, equal parts, to make a dressing salve. If the felon has made much progress, begin with the salve at once.

Lip Salve.

3 ozs. of finest spermaceti ointment or cerate, 1 oz. of finely powdered white sugar, 10 or 12 drops of neroli or essence de petit grain. A small quantity of finely powdered borax may be added.

Glycerine Varnish for Cutaneous Affections.

A varnish which, when applied to the skin, entirely excludes the air and prevents its irritating effects, is composed of yolk of egg, 4 parts by weight and 5 parts of glycerine, rubbed together in a mortar. It is quickly removed by water, and will keep for any length of time. It is an excellent remedy for erysipelas and cutaneous affections, of which it allays the action, and is also used to soothe the irritation occasioned by burns.

DISEASE IN CHILDREN.

Its Signs.

When a baby has colic, it cries long, loud and passionately, sheds tears; stops for a moment and then begins again. When it gives one sharp cry, stopping at once, as if crying hurt it, the chest is affected. When the disease is in the head there are sharp, piercing shrieks, with low moans and wails between; or quiet dozing and occasional startings as if frightened. When a child is attacked by disease, one or more of the following symptoms will be noticed: it will be stupidly sleepy, or fretful and crying; its skin will be dry and hot, its appetite gone; it will be thirsty, or pale and languid. If a child vomits, has diarrhœa, or is costive and feverish, the system is out of order and needs prompt attention, although it may be a day or two before the true nature of the disease can be determined. At such a time a warm bath and warm drinks can do no harm. If it is a skin disease that has commenced, the rash will

begin to appear on coming out of the bath, and by its appearance the nature of the disease can be found out. Measles come out first about the face in dark-red patches. In scarlet fever the skin will be deep pink all over the body, but particularly about the neck and face. Chicken-pox begins with fever, but not so much of a cough, or appearance of cold as in measles; the spots are smaller, do not run much together, but enlarge in a day or two into little blisters and are distributed over the whole surface of the body.

Proper care would prevent a great deal of sickness among children. Their sleeping rooms should be well ventilated, and they should be allowed to run and play in the open air all that they possibly can. They should be warmly clothed, wearing flannel next to their skin, woolen stockings and worsted drawers in winter. During all seasons they should wear thick shoes and long sleeves. Children should take frequent baths, as the skin must be kept healthy and active. Care must be taken to avoid exposure to the air after bathing. Plenty of simple nourishing food is necessary and should be given at regular times. Let children go to bed early and sleep in the morning as long as they will. Do not give them tea, coffee, or liquors; treat them kindly and firmly, and do not let them tease or fret.

Brain, Enlargement of.

Do not allow the child to go to school. Repress all exercise of mind; but put it to the most active and muscular exercise in the open air. Apply cold water, ice, or cold, evaporating lotions the moment there is any heat in the top of the head. A very simple diet must be used, bread and milk only, if the signs of the disease increase.

Croup, To Prevent, When Threatened.

Wring a linen cloth — cotton will do, but linen is preferable — out of cold water, place it upon the child's throat and chest, then fold a dry flannel and wrap carefully over it. Warm the child's feet with hot stones if necessary — and cover with plenty of bed clothes, and let it go to sleep; you cannot perceive when it wakes that it has even a cold. It acts like a charm in cases of croup.

Croup, Treatment for.

Some consider water treatment the best. Immediately put cold wet cloths upon the throat and upper part of the chest, covered warmly by flannel, over the cloths. Change them often. Keep them on until the inflammation is subdued. Great care should be taken to keep the patient warm, especially the feet.

Another mode of treatment is to place the feet in warm water and give an emetic. Or, put the patient into a warm bath, then rub the legs and feet well with flannel. Afterwards get up as thorough a perspiration as possible by applying to the feet and each side hot bricks wrapped in flannel, saturated with vinegar and water. It is necessary to produce a free action of the bowels.

An application should be made to the throat to relieve the congestion there. For this purpose, turpentine is recommended. Saturate a piece of flannel with it and place it on the throat and chest. Or put ½ tea-

spoonful of cayenne pepper in ½ teacupful of vinegar, simmer 10 mins, and steam. Dilute with warm water if the patient be very weak, rub the throat well for several mins., and then saturate a flannel with it, and apply it to the throat. Repeat this as often as necessary.

Croup, Cures for.

1. ½ teaspoonful of pulverized alum in a little molasses. A single dose seldom fails to give relief, but if it should not, repeat in an hr. Children that are subject to croup should be watched carefully, so that they shall not be exposed to a draft. The body, especially the feet, should be kept warm, and light food should be eaten, no meat, hot bread, or berries.
2. If a healthy person will fill his lungs with pure air, then slowly breath on the child's throat and chest, beginning at the chin and from thence downward to the bottom of the wind-pipe, repeating the operation several times, it will give relief where other remedies have failed.
3. Make a sirup by sprinkling brown sugar between sliced onions, and letting it dissolve. The first teaspoonful taken will relieve the tightness.

Infant Deformities, Cause of.

An English physician gives some information of great importance to mothers, in regard to the cause of the common deformities known as bow-legs and knock-knees. He attributes the first mentioned distortion to a habit some youngsters delight in, of rubbing the sole of one foot against that of the other—some, as is well known, will go to sleep with the soles pressed together; they appear to enjoy the contact only when the feet are naked, not attempting to make it when they are socked or slippered. The remedy, therefore, is simply to keep the child's soles covered. Knock-knees, the doctor ascribes to a different childish habit, namely, that of sleeping on the side, with one knee tucked into the hollow behind the other—a custom familiar to the observation of most parents. Here the preventive prescribed is to pad the inside of the knees, so as to keep them apart, and let the limbs grow freely their own way.

Measles.

Nothing is required, in a mild form, but a light diet, flax-seed or slippery elm tea and slightly acid drinks. To allay the fever, use frequent sponge baths with tepid water, and warm herb teas. The greatest care must be taken to prevent taking cold.

Mumps.

Wear a piece of flannel around the throat. Use a mild diet, gentle laxatives, and hot fomentations.

Pox, Chicken.

Adopt a light vegetable diet, and give mild aperients and cooling drinks.

Scarlet Fever.

This terrible disease causes such havoc among the little ones of our country, and is so universally dreaded, that the American editor of this book has added the following essay upon the way to prevent the spread of the fever. The writer, Wm. Budd, M. D., Honorary and Consulting Physician to the Royal Infirmary of England, is a man of varied and extensive, as well as thoroughly practical knowledge, and is considered by the best physicians as of the highest authority:

The Prevention of Scarlet Fever.

Much more can be done to limit the spread of this malignant fever than the public are aware of, or than the common practice of medical men generally would seem to indicate. There is good reason to believe that not only the eruption on the skin, but everything that is shed by the body of the infected, is heavily laden with the germs or seeds by which (alone, no doubt) the disease is propagated. The discharges from the throat and nose are especially virulent. It is more than suspected, that those from the bowels are scarcely less so. As the kidney is known to be affected in a very special, and often in a very severe way, by the poison, this organ probably furnishes another outlet for it. All analogy tends to indicate, indeed, that in this case the renal epithalium, which is cast off so plentifully, performs the same eliminative function as that which is also cast off in still greater profusion by the outer surface of the body. As the bulk of all these excreta soon finds its way to the cesspool or sewer, the large part which sewers and cesspools are known to play in the dissemination of the fever, and which, quite lately even, has been so strangely misinterpreted, is easily understood.

I could enlarge much on this topic, if I had the time to do so. It must suffice to say, that all that has been shown to hold of typhoid fever in regard to these relations, contamination of drinking water included, may be applied to scarlet fever also. Taking these things as data, the one thing to aim at, therefore, in seeking to prevent the spread of this fever, is to annihilate the germs proceeding from these various sources on their very issue from the body, and before the patient leaves the sick room. In accordance with this view, the following precautions shoud be enforced:

1. The room in which the patient is detained, is dismantled of all needless woolen or other draperies which might possibly serve to harbor the poison.

2. A basin, charged with chloride or carbonate of lime, or some other convenient disinfectant, is kept constantly near the bed for the patient to spit into.

3. A large vessel, containing water impregnated with chlorides or Condy's fluid stands in the room, for the reception of all bed and body linen, immediately on its removal from the person of the patient.

4. Pocket-handkerchiefs are prescribed, and pieces of rag are used instead, for wiping the mouth and nose. Each piece, after being once used, is immediately burned.

5. As the hands of nurses and of the medical attendant of necessity become frequently soiled by the specific excreta, a good supply of towels and two basins, one containing water with Condy's fluid or chlorides,

and another plain soap and water, have always at hand, for the immediate removal of the taint.

6. All glasses, cups, or other vessels used by or about the patient should be scrupulously cleaned before being used by others.

7. The discharges from the bowels and kidneys to be received on their very issue from the body, into vessels charged with disinfectants.

By these measures, the greater part of the germs which are thrown off by internal surfaces are robbed of their power to propagate the fever. Those which are thrown off by the skin require somewhat different management. It is in dealing with these that the practice of medical men generally is defective. For the first part either nothing is done, or what is done, is done imperfectly or too late. And yet, to destroy from the first, as far as possible, the infectious power of what emanates from the skin, is, for obvious reasons, the most important object of all in the way of prevention.

In the first place, as the skin is at once the most extensive surface of the body, and is, par excellence, the seat of what, by a very just figure, is called the eruption, the crop of new poison which escapes by the skin probably far exceeds in amount that which escapes by the other surfaces. It is impossible to speak in exact figures here. We cannot count these things as we count peas, or beans, or grains of wheat. But the care of small-pox furnishes us a standard which can not far mislead us. And, as we know that, in a case of confluent small-pox, enough new poison is thrown off actually to inoculate with small-pox myriads of others, so there is every reason to believe that the skin crop in a severe case of scarlet fever is little, if at all, less prolific.

In the next place, as the process of desquamation, by which this crop is finally cast loose, is a very slow one, lasting, for the most part, over many weeks, the infection from this source is much more abiding than from the internal sources. But what renders it still more so, is the all-important fact that the poison, which is liberated by the skin, is liberated in the dried state. It is well known, and indeed the circumstance has been taken advantage of in the practice of inoculation by cow-pox and other poisons, that animal poisons, when dried at a gentle heat, retain their powers for quite indefinite periods of time. But to be dried at a gentle heat, a heat lower in fact than that which attended its own generation, is precisely the case of the scarlet fever poison, as cast off by the skin.

Another danger is created by the minute and impalpable form in which the particles armed with the poison are set free. The skin peels off in part, no doubt in flakes of palpable size, but in still greater part, under the guise of dust, which floats in the air, impalpable like motes in the sunbeam. Each of these little atoms is, potentially the scarlet fever. While they settle to the body, they may be readily disarmed; but once afloat, they are in a great degree beyond our power.

It is to these various circumstances, to the countless profusion of the new seed, if I may speak so, which is generated and sown broadcast by every fresh case to the length of time during which it hangs about the sick, capable every moment of being transferred, with all its deadly power, to thing or person — to the impalpable minuteness of the organic particles in which this seed is imbedded — and, lastly, to the long retention of their properties, in virtue of being in the dried state, that we must look mainly for the true explanation of the well known subtleness and tenacity of this particular infection. These circumstances are the

source of the peculiar embarrassment and perplexity, which, in scarlet fever, hang over the disposal of the convalescent, and the period, so much debated, and at present confessedly undetermined, at which he may be safely restored to society. According to my own experience, these difficulties and perplexities may be entirely averted by the employment of the simplest precautions. To be successful, these precautions must be put in force early, and must be thoroughly carried out. The first thing to aim at, is to prevent the minute particles, which are the carriers of the poison, from taking wing, until they can be disinfected *in situ*. This can be done effectually by simply anointing the surface of the body, scalp included, twice a day with olive oil, the oil slightly impregnated with camphor. As far as the main object is concerned, the addition is perhaps unimportant, but it is agreeable to the patient, and probably has some part in the relief, which almost always follows the anointing, from the troublesome itching, which is a well-known incident of some stages of the disorder. Current views would, perhaps, indicate carbolic acid as a fitter adjunct; but, having found the camphorated oil to answer perfectly, I have thought it wisdom to make no change. The process, so far from being trying is very soothing to the sick; and, if it exert an influence at all on the evolution of the disorder, this influence appears to be beneficial rather than otherwise. The precise period at which it should be begun varies somewhat, no doubt in different cases. As early as the fourth day of the eruption, a white efflorescence may often be observed on the skin of the neck and arms which marks the first liberation of the new death-giving brood. This efflorescence should be made the signal for the first employment of the oil.

From this time the oiling is continued until the patient is well enough to take a warm bath, in which the whole person, scalp again included, is well scrubbed, disinfecting soap being abundantly used during the process. These baths are repeated every other day, until 4 have been taken, when, as far as the skin is concerned, the disinfection may be regarded as complete. If the health is quite recovered, if, in particular there be no disease of the kidney, and no discharge from throat or nostril, the patient (in a new or perfectly untainted suit), may generally be restored without risk to the family. A week or 10 days additional quarantine is seldom objected to, and is perhaps more prudent.

To complete the preventive code, immediately after the illness is over, whether ending in death or recovery, the dresses worn by the nurses, (which, where possible, should be of linen or some smooth thing), are washed or destroyed, and the bed and room that have been occupied by the sick, are thoroughly disinfected. With these measures, when thoroughly done, the taint is finally extinguished.

The success of this method in my hands has been very remarkable. For a period of nearly 20 years, during which I have employed it in a very wide field, I have never known the disease to spread in a single instance beyond the sick room, and in very few instances within it. Time after time I have treated this fever in houses crowded from attic to basement with children and others, who have, nevertheless, escaped infection. The two elements in the method are, separation on the one hand, and disinfection on the other.

The Health Board of New York enforces the following sanitary regulations against scarlatina and measles:

Every case must be reported to the city sanitary inspector upon its first recognized appearance.

Care of patients—The patient should be placed in a separate room, and no person except the physician, nurse or mother, allowed to enter the room, or to touch the bedding or clothing used in the sick room, until they have been thoroughly disinfected.

Infected articles—All clothing, bedding, or other articles not absolutely necessary for the use of the patient, should be removed from the sick room. Articles used about the patient, such as sheets, pillow cases, blankets, or clothes, must not be removed from the sick room until they have been disinfected, by placing them in a tub with the following disinfecting fluid:

8 ozs. of sulphate of zinc, 1 oz. of carbolic acid, 3 gals. of water.

They should be soaked in this fluid for at least 1 hr., and then placed in boiling water for washing.

A piece of muslin 1 ft. square should be dipped in the same solution and suspended in the sick room constantly, and the same should be done in the hall-way adjoining the sick room.

Feather beds and pillows, hair pillows and mattresses, and flannels, or woolen goods, require fumigation, and should not be removed from the sick room until after this has been done. Whenever the patient is removed from the sick room, notify the Bureau of Sanitary Inspection, when the disinfecting corps will, as soon as possible thereafter, perform the work of fumigation.

All vessels used for receiving the discharges of patients, should have some of the same disinfecting fluid constantly therein, and immediately after use by the patient, be emptied and cleansed with boiling water. Water closets and privies should also be disinfected daily with the same fluid, or a solution of chloride of iron, 1 lb. to 1 gal. of water, adding 1 or 2 ozs. of carbolic acid.

All straw beds should be burned, but not be removed from the sick room without a permit from this department. They will be removed by the disinfecting corps.

It is advised not to use handkerchiefs about the patient, but rather soft rags for cleansing the mouth and nostrils, which should be immediately thereafter burned.

The ceilings and side walls of the sick room, after removal of the patient, should be thoroughly cleansed and lime-washed, and the woodwork and floor thoroughly scrubbed with soap and water.

Scarlet Fever After Exposure, To Prevent.

Put 5 drops of carbolic acid in ½ pt. of water, and give a teaspoonful 4 or 5 times a day to those who have been exposed to the infection. This is something new, but said to be very efficacious, and is well worth trying.

Whooping Cough, Remedies for.

1. Break a freshly laid egg into ½ pt. of white vinegar; add ½ lb. of rock candy when the egg is dissolved. Give 3 or 4 tablespoonfuls per day.

2. Slice 1 gill of onions and 1 of garlic; stew them in 1 gill of sweet oil, in a covered dish; strain and add 1 gill of honey, ½ oz. of paregoric,

½ oz. of spirits of camphor: bottle for use. Give a teaspoonful or more 3 or 4 times a day if the child is 2 or 3 years old.

3. Dissolve 1 sc. of salts of tartar in 1 gill of water, adding 10 grs. of finely powdered cochineal; sweeten with white sugar. The fourth of a tablespoonful 4 times a day is sufficient for an infant. Over 4 years, a tablespoonful.

4. Mix ½ lb. of ground elecampane root, ½ pt. of strained honey, and ½ pt. of water. Put them in a glazed earthen pot, and place it in an oven, with ¼ the heat required to bake bread. Let it bake until about the consistence of strained honey, and take it out. Give a teaspoonful before each meal to a child, and double the dose for an adult.

Worms, Remedies for.

1. ½ oz. of spirits of turpentine, ½ oz. of oil of anise, 1 oz. of castor oil, 1 oz. of worm-seed oil. Mix the above ingredients together, and give from 10 to 20 drops every 2 or 3 hrs. At the end of 3 days give a brisk physic.

2. Bruise ½ oz. of Carolina pink-root, ½ oz. of senna leaf, ½ oz. of manna, and ½ oz. of American worm-seed. Pour on 1 pt. of boiling water, and steep without boiling. Add ½ as much milk and sweeten well. To a child 5 years old, give 1 gill 3 times a day, before meals.

Worm-Seed Mixture, Oil of.

Mix 1½ fluid drs. of oil of worm-seed, 3 ozs. of castor oil, and 10 drops of oil of anise together; to this mixture add 1 fluid oz. of aromatic sirup of rhubarb. Shake well before using. About 1 teaspoonful night and morning is the ordinary dose for a child 2 years old.

FOOD FOR INFANTS.

One-third of a pint of pure milk is allowed to stand until the cream has risen. The latter is removed, and to the blue milk thus obtained, about a square inch of rennet is to be added, and the milk vessel placed in warm water. In about 5 mins. the curd will have separated, and the rennet, which may again be repeatedly used, being removed, the whey is carefully poured off, and immediately heated to boiling, to prevent its becoming sour. A further quantity of curd separates, and must be removed by straining through a cloth. In ½ pt. of this hot whey is to be dissolved ⅝ oz. of milk sugar; and this solution, along with the cream removed from the ½ pt. of milk, must be added to ½ pt. of new milk. This will constitute the food for an infant from 5 to 8 months old for 12 hrs. It is absolutely necessary that a fresh quantity should be prepared every 12 hrs., and the strictest cleanliness in all the vessels used is absolutely indispensable.

The above method is Prof. Falkland's; Mr. Lobb advises the following: ½ pt. of new milk is set aside for the cream to rise, which is removed, and to the blue milk ½ teaspoonful of prepared rennet is added; this is placed over the fire and heated until the curd has separated, when it is

broken up with a spoon, and the whey poured off. In winter, 3 drs. of powdered sugar of milk are added to this warm whey, and the whole is mixed with ½ pt. of new milk. In summer, 3½ drs. of sugar of milk are added, and with the new milk are all boiled together. The objection to this latter process is the boiling which is thought to impair the quality of milk.

The above formulas are designed especially for infants who have not reached the age at which it is proper to give farinaceous food. They may also be employed for older infants who are in a state of feebleness, and whose digestive organs are capable of assimilating only the blandest preparations of food. Meigs recommends an article of diet which, he states, agrees better with the digestive system of the infant than any other kind of food which he has employed. The mode of preparation and the proportions, are as follows:

A piece of gelatine 2 inches square of the flat cake in which it is sold, is soaked for a short time in cold water, and then boiled in ½ pt. of water until it dissolves—about 10 or 15 mins. To this is added, with constant stirring, and just at the termination of the boiling, the milk and arrow-root, the latter being mixed into a paste with a little cold water. After the addition of the milk and arrow-root, and just before the removal from the fire, the cream is poured in, and a moderate quantity of loaf sugar added. The proportions of milk, cream and arrow-root must depend on the age and digestive powers of the child. For a healthy infant within the month from 3 to 4 ozs. of milk, ½ oz. to 1 oz. of cream and a teaspoonful of arrow-root to ½ pt. of water. For older children the quantity of milk and cream should be gradually increased to ½ or ¾ milk, and from 1 to 2 ozs. of cream. The quantity of gelatine or arrow-root is seldom increased.

Raw meat has been employed in the treatment of infantile diarrhœa, consequent on weaning. The lean of beef or mutton should be used, and the finely divided portions removed by scraping, given to an infant from 8 to 12 months old, in quantity varying from 1 to 2 teaspoonfuls, 3 or 4 times in 24 hrs. A larger amount may be given if the infant wishes it. Raw meat prepared in this way, or very finely cut, is not only very nutritious, but it sometimes agrees better with the digestive organs of the infant than any of the preparations of milk.

The use of the pulp of raw meat was introduced into the children's wards of the Philadelphia Hospital, in 1855, by Dr. Casper Lewis. It was seasoned with salt, and sometimes sugar was added, to render it more palatable. A teaspoonful was at first allowed 3 or 4 times daily, and the quantity was gradually increased. Infants who were suffering from mal-nutrition, were found to thrive with the use of this food as a part of their daily diet. The pulp of raw meat has been most frequently employed in private as well as in hospital practice, in the treatment of the indigestion and diarrhœa of infants. Many infants reduced to a state of feebleness and emaciation gradually recover flesh and strength with the use of this diet, which is more easily digested, while it is more nutritious than farinaceous substances or cow's milk. The only danger in the use of raw meat is that of producing trichinosis. With care, however, in selecting the meat, danger from this source is slight, as trichinosis is comparatively a rare disease. The late Prof. Elliott, of Bellevue Hospital Medical College, never failed to recommend, in his lectures, the use of raw meat for infants wasted with chronic diseases and whose digestive organs were enfeebled. Beef tea prepared in the

ordinary manner, by adding finely divided meat 3 or 4 times its bulk of cold water, allowing it to macerate ½ hr., and then boiling it 15 or 20 mins., is much used for its highly nutritive properties in infantile diseases, as well as food for healthy infants. Given in diarrhœal affections of infants it sometimes produces a laxative effect, so that it is necessary to discontinue its use. The same effect, though in less degree, sometimes occurs from the use of mutton or chicken tea in similar cases. Beef essence prepared from finely chopped beef placed dry in a loosely corked bottle, and standing 3 or 4 hrs. in boiling water, is a highly nutritive substance. It is the juice of the meat containing all those principles which heat can extract. It is often useful, given in small quantities, in exhausting diseases, especially in those in which the stomach is irritable, and more bulky food is rejected. Evidently the albumen of the meat is coagulated by the heat, and, therefore, lost.

As regards the use of farinaceous food for infants and young children, barley flour properly boiled in milk or water is as easily digested and as nutritious as rice, or wheat flour, or arrow-root, and in some instances it appears to agree better.

An article of food employed for the diarrhœa of infants is prepared as follows: 1 lb. of dry wheat flour, of the best quality, is packed snugly in a bag and boiled 3 or 4 hrs. When it is taken from the bag, it is hard, resembling a piece of chalk, with the exception of the exterior, which is wet and should be removed. The flour grated from the mass should be used the same as arrow-root or rice.

The diet of infants is chiefly important in large cities, where we have to resort to some artificial method to supplement the doubtful character of the supply of cow's milk. Statistics go to show that the digestive apparatus of infants up to the age of 2 years is best adapted, indeed almost wholly so, to the nourishment which nature has supplied—the mother's milk. All that chemistry can hope to do is to make some best compromise in those cases where the natural sources of food are not available, from some misfortune to the parent. In some countries camel's milk is regarded as the best substitute, in others, the goat's milk, but in this country, as we have almost none of the former, and but a limited supply of the latter, we have no method of proving their respective merits.

REMEDIAL AGENTS.

The influence of what Dr. O. W. Holmes calls the "imponderables" in nature, are really destined, when properly understood, to be recognized as the most important factors to the invalid—we refer to LIGHT, HEAT and ELECTRICITY. These resultants are co-partners in their official duties, and whilst they are termed correlative forces by the philosophers, in their intimate nature, they are so unlike that, medicinally, they are very diversei n action. It is the victory of modern scientists, that they are beginning to invest these abundant and free remedial agents with a proper estimate, and it is the greater victory that the public generally are becoming interested in these simple philosophic truths. A general condition of ignorance of the office of these "imponderables," is the ready explanation of these fearful "plagues," which overwhelmed the

older cities. They teach us by these terrible lessons that we cannot ignore the laws of nature, and from the days of the cave dwellers to the best constructed dwelling, we have advanced but a step in the field of science. We build houses to exclude health, provided it suits our taste for economy or protects the delicate fabrics which adorn our parlors and the drapery of our sleeping apartments. We surrender our independence and abbreviate our lives to the sentiment which teaches us to keep a spare room for our guests. It is a fact that most of the human species are too poor at the present to more than partially protect themselves from the exposures which climate and other conditions of the life struggle surrounds them, and they may be pardoned, but the more advanced grade of society have much to learn. We all have to be taught over and over again that happiness is a *resultant* of many elements combined, and among the prominent ones, are a good circulation, a good muscular development, and a clear, courageous intelligence. These depend much more than our teachers are apt to acknowledge upon the suitable appropriation of Light, Heat, and Electricity.

Light.

Light is the prime condition of all animated or vegetation development. "Let there be light," was one of the first commands of the first day of nature's history. The natural instincts of the lower animals guides them to observe the laws of nature, and we are destined to learn much from them, just as the early astronomers were taught by their nightly observations of the celestial bodies.

Beside the simple laws regarding light, chiefly discovered since the days of Descartes, namely, its velocity, intensity, its reflection and refraction, polarization, and the separation of the color rays with other startling phenomena, illustrated by the solar spectrum, we know but very little. Certain results, however, in case of many maladies appear to be attributed to the influence of direct rays of sunlight. In fact, it is admitted by many that the chief advantage in the case of patients sent to warm latitudes in winter, is the influence secured by being exposed to the sunlight, or what is termed insolation. We do know that in cases of typhoid fever and pneumonia, and in the treatment of wounds during the late war, those whose cots were on the southern exposure showed a record of recovery of a ratio bearing nearly the proportion of three to one over those on the shady side of the house, and hence our field hospitals were constructed chiefly with the view of securing the most light. Every one recognizes the stimulating influence of the early days of the spring sunlight, and every one who has ever been an invalid, and for a long time confined within the walls of a sick room, recalls the enthusiasm and almost inspiration of the first contact with the direct rays of the sun. Every sick room, therefore, should be so constructed that it can be at any time flooded with the direct rays of the sun. At the same time it should be so arranged that the sunlight can be entirely excluded, for an occasional malady requires the absence of light, or darkness, just as some systems of treatment require the absence of heat or cold. Owing also to the action of the chemical rays of the sun, we should be very careful about the character of the drapery in a sick room, for certain woolen fabrics, under the influence of the direct rays of the sun develop into life those poison spores which pertain to many infectious diseases. Therefore, all woolen goods, as a law, should be

excluded from the invalid room. In fact, all articles of furniture should be such as can be readily washed, and to which surface disinfectants can be applied, and yet a combination of colors and the other surroundings should be made as attractive as possible. Every well-built house should have an invalid room with a southern or eastern exposure, which can be so isolated that the balance of the household may be secured from infection, and the patient secured from intrusion. The future scientist will teach us a great deal more about the therapeutic value of light than we know of at this time.

Heat and Cold.

The terms heat and cold, as applied to the human body, refer to a condition of temperature either above or below that of the normal healthy subject, namely 98¼° F. The limit of heat compatible with life of the human species above that of the normal point, is greater than that of any other known animal, and is regarded by the best authorities to be not far from 114° F., while the limit of cold is about 80° F. We use cold and heat chiefly locally. When cold is applied to any part for a long continued interval it acts directly as a depressant to the circulation of the blood and the glandular system, varying in extent according to the length of time and the degree of temperature; it is therefore used logically to allay inflammation, especially if it be an acute or recent attack. In thus employing cold we must be very guarded not to carry its use too far and suspend all nutritive actions, or interfere with the laws of repair and returning vitality which always form a part of the natural history of inflammation. Cold is locally applied by irrigation with cold water or cold water compresses, or by pounded ice enclosed in a rubber bag. Sometimes a poultice is made by mixing pounded ice with Indian or flax-seed meal. Ether spray may also be employed, but it is not always desirable. The results of the application of cold are to be judged by the resulting temperature of the part. In diftheria and quinsy great advantage may be obtained by enveloping the throat over the region of the tonsils with powdered ice enclosed as above.

In the application of cold for the purpose of controlling inflammation, its use must be continued until the desired effect is produced. When employed intermittantly cold becomes itself a stimulant, and the reaction which results may be more active than the direct depressing effects, and therefore we use this method of cold treatment in order to hasten the action of slow and chronic ulcers. Almost every one has experienced the stimulus which in health follows a hasty cold water bath. The physiologists have taught us that the action of cold so applied to the surface improves the circulation and nutrition, and increases the temperature of the body a degree or more. We must always bear in mind, however, that a cold bath must not be long continued, lest we effect a depression in temperature and debility ensue. The cold bath, when not followed by healthy reaction, is *always* the reverse of a tonic.

Cold Compresses.

In internal inflammations, such as pneumonia and pleurisy, the application of cold, wet compresses over the diseased organ has been extensively employed in Germany. At Prague, in the hospital, all patients suffering from acute pulmonic inflammation, are said to be treated with

cold compresses, and it is said to be very rare that relief is not afforded. Niemeyer says he has employed this treatment in many cases of pneumonia with excellent effect, the pain, the dyspnœa, and the frequency of the pulse being usually reduced in a few hours. The evidence in favor of the local use of cold in pneumonia as well as in the croupous catarrhal pneumonia of children, is so strong that the dislike felt to such treatment in the United States can be attributed to nothing but unreasonable prejudice. In meningitis the good effect of the application of ice to the shaven scalp is undeniable, and in peritonitis the use of cold as recommended by Abercrombie, Niemeyer, and others, has afforded great relief. Sometimes excellent results have been produced by following an ice poultice with a warm poultice. It seems, however, to be a good rule to select the ice or warm poultice according to the feelings of the patient. When the fever is high the ice will generally be the most useful. The cold douche has been used as a means of reducing splenic enlargement. Dr. F. Moster's experiments led him to the following conclusions: Contact with cold water produces a very perceptible contraction in the spleen in direct proportion to the coldness of the water; the application of cold water to the abdomen influences similarly, but less efficiently, the normal spleen; the cold douche applied for two or three minutes and repeated at longer or shorter intervals, very perceptibly affects the enlarged spleen of typhoid and intermittent fevers. In chronic cases the application should usually be made twice a day. The use of cold in fever was employed by Galen, and not unfrequently used during the last century. It was first systematized by Currie, but cold bathing in fever was first brought before the world as a new method, by Brandt of Stettin, and received the seal of permanent usefulness from the scientific clinical labors of Jingensen at Kiel.

The argument in favor of local application of cold in case of all fevers and high temperatures, seems to be gaining ground with the advance of time. Our experiments, chiefly upon lower animals, teach us that local heat will produce fever, delirium, stupor and death, just as we find to be the case in an instance of a prolonged fever period, which is fatal. If we enclose a rabbit, or dog, or cat in a box in which heat is introduced artificially above the normal period, we find, at first, that as the heat is increased the pulse rate rises, the breathing becomes more rapid, the animal becomes restive, the expression and cries are those of pain and suffering. The more the temperature is increased, the greater is the nervous disturbance and the prostration. Finally convulsions and death follow the cessation of respiration. The temperature that is fatal to animals of this class is from 111° F. to 113½° F. The rabbit shows the greatest degree of tolerance. In the case of man we get similar conditions in an attack of sun-stroke, or from working in any extensively high artificial temperature, but owing to the greater facilities for evaporation in the nature of the skin of the human species, man will bear a much higher surrounding temperature, as is observed in the workings of deep mines. For instance, in some of the deepest mines of Nevada and California, we find the temperature as high as 125° F., and in the shaft of the Yellow Jacket, at a depth of a little over 3,000 feet, the temperature of the air and rock is 126° F., and a spring of water marks up to 170° F., yet men labor from one to three hours without being relieved.

Some very interesting experiments have been made recently which teach the logic of treatment in like cases as above referred to. By means of rubber caps fitted about the cranium of rabbits and dogs, a

current of water has been passed over the region of the brain alone, at first tepid, and next warmer, until the temperature of the brain is elevated to an abnormal degree, when we get the same results as when these animals are exposed bodily to intensely high temperature; namely, irritation, rapid circulation, prostration, convulsion, etc. Now, if we take these same animals, brought to the very margin of death, and reverse this process, we find a gradual return of consciousness, when we allow cold water to take the place of the hot, and after a time a gentle sleep is induced and recovery follows. This teaches us two things: first, that the nerve centers, and the center of intelligence is the seat of the disturbance; and, second, that the remedy is to be applied to that portion. Hence the logic of cold affusions to patients suffering from sunstroke, over the region of the brain and spinal cord, with the view of equalizing and lowering the temperature to its normal state. The use of cold, therefore, is logical and scientific, though not strictly homœpathically so.

The use of cold in fever which occasions a high temperature, has engaged the attention of the faculty in the great hospitals of Europe and this country for the past few years. Whilst the literature of the 4th century teaches us that it was then in favor, we have no knowledge of the methods of application, nor have we statistics of the results. Not until the experiments of Dr. Currie do we find any systematic application of this valuable remedy. Since his time the highest authorities in Paris, Vienna, Berlin, Kiel, St. Petersburg, London, Edinburgh, and cities of medicine in the United States, have been comparing results, chiefly as applied to the early stages of typhoid fever. Figures, covering several thousand cases, show that the percentage of deaths has been lowered, varying from 30 to 12 on the average. The same laws are being ordered in cases of typhus, scarletina, smallpox, diftheria, and others. Of course, such treatment can be systematized much more readily in hospitals than in private practice. Cold is applied locally in cases of headache, either frontal or posterior, to the glands of the throat, to any portion of the body wherever locally affected, with or without alternating with heat.

Electricity.

This agent has, of late, been adapted to relieve certain ills. The modern appliances have simplified the use of different currents, and brought them within the reach of the general public. There is no doubt that it stimulates the circulation, and is especially adapted to cases of paralysis of the motor nerves, when used at the proper time. The knowledge of its special field is so superficially explored at the present time, that it is best to use it only under instructions of an intelligent guide, and particularly avoid applying it to the head, or organs thereof.

One form of administering electricity, but with modified results, which has recently been introduced, and is now being quite widely practiced, is termed the Massage treatment. This term is taken from the French authors, and is equivalent to our word shampooing, or rubbing in that peculiar way. It is doubtless from the Arab word "mass," which means to "knead," or "mix." The "Masseur" (the male rubber), or "Masseuse" (the female rubber), begins, for instance, at the lower extremity, and gently takes up the skin between the thumb and fingers and rolls and presses it together, then reaches deeper and embraces the muscles and rolls and presses and kneads each one separately, and at the same time, or session, gently tapping and rubbing the surface of the skin, thus

stimulating the surface and deeper circulation. Even the muscles of the back and neck, by a little care and knowledge of anatomy, may be readily reached. This treatment, then, is extended over the whole surface of the body, with the exception of portions of the face. Each joint and articulation in the body, which are within reach, are in turn manipulated and gently put through all the motions which they are susceptible of.

The *percussion* treatment consists in adapting to various portions of the body a series of blows in rapid succession, but not with force sufficient to cause pain. In imitation of the ancients, who anointed with oil the bodies of their athletes, we not infrequently employ vaseline or lard, or other oily substance, for their restorative effects. This is in part absorbed and acts as food, and partially aids in avoiding any ill effects from friction. We find a general rise in temperature as we do in application of electricity, sometimes amounting to 1° F. The body increases in weight, and all the organs of assimilation seem to be stimulated, and strength and cheerfulness and courage are the natural results. Sometimes in a low grade of inflammation, especially about a joint, the parts may be very sensitive in the outset, but by cautiously gaining the confidence of the patient we may accustom these to this friction and "massage," and secure great relief and comfort. When there is a condition of circumscribed pain, it is quite wonderful how these acute symptoms will gradually subside, and the patient rests. Even severe paroxysms of neuralgia or ticdouloureux are often relieved in this way, by applying it to portions of the forehead, temples, scalp and neck. Obstinate wakefulness, which may in some cases become chronic, is perhaps best treated in this way. Infantile paralysis, where electricity cannot be readily secured, is best treated in this manner, after the acute symptoms of its early history have retired. In fact, most forms of paralysis which have their origin traceable to injury within the brain, and exhibit that symptom of lowered nutrition and temperature, namely, a wasting of the tissues and a blueness of the skin, come under this head, and we should expect prompt and favorable returns.

In joint affections of long standing due to inflammatory deposits, contractions, deformities, and adhesions, the greatest results have been obtained by this treatment, even in cases where the best surgical talent had been in attendance. In those instances generally termed female nervous exhaustion, due perhaps to spinal irritation, and which manifest themselves in disturbed circulation, digestion, and result sometimes in melancholy, this system gives the best effects of any. Such bodies suffer from nervous exhaustion, perhaps due to overwork, mentally or physically. In these the emotional symptoms predominate, and are generally termed hysterical, and formerly were classed among the unfortunate incurables, without hope themselves or sympathy from others. Every practicing physician recognizes the despairing look of these patients, loss of color and plumpness. They are constantly tired, bad sleepers, have no appetite, no enthusiasm, whether they read, write, sew or walk. They gradually grow paler and thinner, with an increasing tenderness along the spine, and finally prefer not to leave their bed at all. The Massage treatment in such cases, together with proper diet, exercise, and other hygenic surroundings, may restore them entirely, and the lasting impression of gratitude which the practitioner receives, is equally encouraging to his personal effort and to his art.

POULTRY.

INTRODUCTORY.

It is our aim in presenting this subject, to do it in such a manner, that the many hints herein contained will be found useful to all, but in so authoritative, comprehensive and literally practical way that, if it comes into the hands of one totally ignorant of the subject of poultry raising and management, he will not only be able to understand what we have to say about it, but if the instructions here given are followed, reasonable and satisfactory success will be obtained. Professional breeders of poultry, while they will find many useful hints within these pages, will, in a general way, be familiar with their contents. It is our aim more particularly to reach the amateur, or the novice, and furnish him with such rules and advice as will enable him or her to rear and care for poultry in the limited way usually attempted by the masses of people, so as to be successful.

Many books are written upon this subject, going into the origin and the ancient methods, and other interesting statistics and elaborate descriptions of the numerous varieties, but it will be our endeavor to confine our remarks to the more practical and every-day business of general management, feeding, and curing diseases prevalent among poultry, housing, etc., with a brief description of the leading varieties, which we believe will be sufficient to satisfy the amateur, if not the fancier.

The demand for good poultry is constantly on the increase, both for the fancy varieties and for general use, and *fresh eggs* are in such constant demand that their price much of the time places them among the luxuries of life. It is also a popular and every way respectable occupation. All over our country we find engaged in it our merchants, clergymen, bankers, lawyers, physicians, and thousands of mechanics, who occupy good social positions in life, many of whom are among our most enthusiastic breeders of poultry, through a sincere love of the business, and as the supply of good poultry increases, so will the demand become greater. Not many years since, and within the recollection of the last generation, it was deemed a luxury among the common classes, but it has been found by the most thorough experience that 100 lbs. of poultry can be produced at less cost than the same quantity of beef, pork, or mutton, and yet it will generally bring a greater price per pound in market than either of these staples

Nearly every family is beginning to keep a few fowls, and are demonstrating the fact that to have one from your own yard is a great convenience; to have fresh eggs, that you know are *new laid*, is a luxury.

A very important consideration for the person about to undertake the

care and attention of poultry, (it may be applied to almost any other business), is that he or she must like the work. Those who do not care for it will *never* succeed in it, no matter how tempting the prospective profit. If we love the stock we have about us, and feel a conviction within ourselves, that it requires a watchful attention to every want to make it valuable to us, we will so manage that it will not only be healthy and thrifty, but that it is housed and cared for with that judgment and regularity that will make it contented. Fowls are tender bipeds, and will not thrive under neglect and careless treatment, but will give generous returns for all the care we bestow upon their comfort and welfare. Therefore, if you cannot love the occupation and the poultry itself, you had better not be "bothered," for there is but one way to make it pay you, and that is the right way, and the right way will be very tedious to one when the heart is not in the business.

While the interest usually displayed in the poultry business is largely found among men, we have many examples where boys, girls and women have been among the foremost in their success in poultry raising. Give your boy a few fowls and let him have the management and care of them, and see if his desire to roam is not curtailed to a remarkable degree. With a little encouragement a boy or girl may become familiar with the points of excellence in high-class poultry, and learn their breeding and management. They will soon learn when to purchase the best supplies to the best advantage, and how to sell the surplus products, so as to gain the most profit, with the least expense—a pleasant self-reliance and good business habits may be thus fostered, and at the same time a love for nature, for refinement, and for humanity cultivated. Women, whenever they undertake it, undoubtedly excel in poultry-breeding. They become interested and seldom fall short of success, and their maternal instinct fits them specially for the rearing and care of young poultry.

In this Yankee country the question is very naturally asked, from far and wide, will poultry breeding *pay?* In other words, is it a *profitable* business, so much so as to warrant the investment of capital and expenditure of time? This is a difficult question to answer with regard to individual cases. We believe the matter may be summed up about as follows: If the person engaging in the business, has a taste for it, will display the same amount of care, judgment and energy, take the same amount of time to study and learn its details that ordinarily is displayed in other kinds of business, it is the opinion of the author that fewer failures will occur in this than in most pursuits of the present day. If the person entering upon the business commence right, and in a small way, gradually increasing it in volume as he increases in knowledge and experience, there is little doubt that to such management a larger per centage of profit will be given to the breeding and production of eggs and poultry than to any other kind of stock—the amount of capital invested, and running expenses considered. The amateur must not be misled by this glowing statement, but must duly consider that such success can only be attained by vigilant attention and the best of care, as there is perhaps no kind of stock that will wane quicker, sicken and die faster, or "eat their heads off," with more promptness than poultry, that are badly cared for, crowded into small space, where vermin will prey upon their bodies, irregular food—one day starved and the next day crammed—and which are permitted, in limited quarters, to suffer from thirst and lack of ventilation. Profits must be first earned by close

attention to their natural wants, not only as to being suitably housed at all seasons of the year, but in regular attention to their diet and cleanliness. With good treatment, your pets will amply repay you. The margin of profit will, as a matter of course, be considerably varied, according to the convenience for marketing the products, those located near large cities having a slight advantage over their more distant neighbors.

If the breeder is disposed to cultivate only the best fowls, with a view of competing at the various poultry exhibitions, and selling his choicer birds for "fancy" stock, he must begin with the best the country will afford, and carefully select the progeny of two or three out of a dozen, for which, at maturity, he will always find purchasers at first class prices. If, by judicious advertising, he places himself and his products before the people, *this* branch of the business is almost sure to pay. Many enterprising men in almost every State in the Union, have for years made this a profitable branch of the business, and some acquire wealth. In short, as before stated, the measure of success will depend principally upon the energy displayed, and the knowledge acquired, accompanied by a sincere taste for the business.

FEEDING AND GENERAL MANAGEMENT.

In managing animals of any kind we must follow nature, for it will neither follow us nor be driven. The domestication of animals was only possible by proceeding on a natural ground-work. To illustrate, naturalists agree that man domesticated dogs, which, when wild, follow one of their own number as a leader, by installing himself as leader instead—but the cat can seldom be domesticated in such a way as to follow her master when he changes his abode, because originally a solitary animal. Just so the domestication of hens was effected by building upon an original foundation. It is said that the parent stock of our fowls was from India, and to understand the nature and needs of domestic poultry, we must investigate the habits of their wild parents, for the nature of any species remains the same for long periods. The transfer of the birds from forest to farm, has affected their life and most important habits surprisingly little. The tame fowls have the same cry of warning to each other, and other language, which observers have found them to use in their native jungles. They still hide their nest in some corner, just as if they were selecting a nook in some thicket, and they are attached to the premises where they live, as they and all gallinaceous birds are to some small district when wild. In the attempt to successfully manage poultry, only a disregard for original nature will prevent failure. Then they have freedom, and in that word, we have the key-note to the whole management, viz.: needful exercise, sun, pure air, shade, and varied diet.

Small flocks at liberty on the farm are kept, as a general rule, successfully, because the owners in most cases unconsciously imitate the natural life of the jungle fowls. But while it has been found that a flock of twenty gave a handsome profit, when it has been increased to hundreds, with the idea of correspondingly increasing the gains, an unnatural mob has been formed, hereditary instincts violated, and laying checked. Sickness and death ensues. Those desiring to attempt

poultry raising on a large scale will do well to read an excellent work by Mr. H. H. Stoddard, entitled an "Egg Farm," to which book we are indebted for the foregoing hints.

Therefore, if you desire to breed poultry, the first, best, and simplest general rule is: Give them their liberty to the greatest extent consistent with surrounding circumstances; but as such a course is out of the question with many of our readers, the next best thing to be done is to imitate as nearly as possible their life when at liberty during their enforced confinement.

It is essentially necessary that a suitable house should be provided.

What it Should Be.

The house should, if possible, be so placed as to be protected from the north and west winds, and have the openings in the east and south sides; and for the accomplishment of this purpose, available space may frequently be had on the south side of a barn or other building. The size of the house should correspond with the number of fowls to be kept, and should not be too large, as the temptation may be strong to crowd too many fowls under one roof. For twenty fowls a house ten feet square on the ground is ample, and should not be more than eight or nine feet in height at the highest point. The perches should be of sufficient capacity to allow the fowls to roost without crowding each other. If for the largest breeds of fowls, like the Asiatics, the perches should not be placed more than eighteen inches above the ground, and ought to be three or four inches in diameter. A pole of this size as cut in the woods with the bark left on, makes an excellent perch. The fowls' claws cling to it better and the roughness of the bark is more grateful to their feet than a smooth perch of planed wood. When the perches are too high, the fowls, if heavy, are often injured by flying down, and when the perch is too small it frequently causes deformity of the breast bone.

It is very important that the roof does not leak, for under such circumstances the fowls are exposed to a damp, bad atmosphere, which is the most fruitful cause of sickness, barrenness, and death in the poultry yard.

The house should have in the south or east end (both if practicable,) a window of sufficient size to admit sunlight, without which, although fowls may be kept for a time in apparent good health, they will in time droop and stand around looking dejected, and their progeny will invariably be feeble and unprofitable. The best floor for a fowl house is, beyond a doubt, the bare ground, for here the fowls delight to scratch, and the droppings are thus mixed with the earth and the smell is prevented. It is indispensably necessary that the fowl house should be kept clean, and this is very easily accomplished, by daily with a hoe, or some other implement, scraping the droppings from the board under the perch, as seen in our description of a poultry house, and sprinkle afterwards with dry earth, and occasionally spade up the floor, thus not only thoroughly sweetening the atmosphere but softening the earth, that the fowls may scratch and wallow. By instinct all birds are taught the use of dust or water bath for their well-being. If reasonable opportuuity be given, domestic fowls bathe themselves by wallowing in dry earth, with which they fill their plumage, and thus prevent the ravages of vermin on the skin and in their feathers, and as we have our fowls in

confinement, it is necessary for us to provide some means for them to dust themselves, and every poultry house should contain a box filled with dry earth for this purpose, and placed, if possible, in a sunny spot in the house. Dry earth is easily obtained in the hot weather in the summer time, from off streets in the form of road dust, and should, of course, be obtained in dry weather; but if from inability or carelessness none has been provided, a very good substitute may be had in sifted coal ashes; to either may be added a sprinkling of flour of sulphur, with beneficial effect, and this bath should be renewed as often as it becomes damp or foul. In addition to the poultry house, where fowls are to be kept within an inclosure, it will be necessary to construct an outside run, which may be accomplished either by the use of pickets or tarred netting. As it is frequently asked how large must this run be, our answer would be, make it as large as possible. An ordinary range not only adds to their probable health, but saves both food and labor, as with sufficient liberty they will, to a considerable extent, forage for themselves. To those who cannot command large space, we say poultry *may* be kept within almost any limit, if this one important point is borne in mind, and properly attended to: that the smaller the space devoted to them, the more constant the attention necessary to the cleanliness of their quarters. The writer has kept 20 fowls in good health and condition with a run 10 ft. wide and 24 ft. long, by spading the ground inside once in 6 weeks, and replacing 6 inches of it with fresh earth once in 2 years. Fowls may be kept in still more limited quarters and good health and condition preserved, if greater attention is given to their cleanliness, and I doubt not a small number of fowls could be kept in good health without the run at all, if proper care were taken as to cleanliness, diet and exercise. Cleanliness and purity of atmosphere is an *absolute necessity* and *must* be provided, either by sufficient space, or additional care.

To those who desire to keep fowls on a small scale, we recommend the house mentioned under the heading of "Poultry Houses and Runs." To those who have more space and desire larger accommodations, a house constructed on the same plan, but larger, may be divided into copartments by means of partitions, the same partition extending across the runs, thus keeping those confined entirely apart from those in another. It is always better, where the space can be had, to keep one rooster in each compartment with as many hens as he can care for, and thus avoid the bickering and quarreling which is always the result of too many families occupying the same house. The scrambling after food and water usually results in over feeding the stronger and most quarrelsome and half feeding the weaker and more timid of the flock. It also prevents the crowding and fighting on the perch at night, and adds to their general health and comfort.

Kind of Food Necessary.

As has before been remarked, when fowls are kept in confinement we must, to secure good results, supply to them as nearly as possible, those things which they would seek themselves if allowed their liberty.

Graniverous fowls need the assistance of hard substances, such as stones, gravel, etc., to digest the food upon which they live; the crop of the fowls is the mill where its food is ground to aid digestion. If you hold a full grown fowl close to the ear after it has partaken of a meal

of grain, you can distinctly hear the grinding process which is going on within his gizzard. These substances they are able to obtain for themselves in most localities, except during forced confinement or during winter, and at such times they must be supplied with a liberal quantity of clean sharp gravel or coarse sand. They will eagerly devour anything of this character as occasion requires—bits of broken crockery, broken glass crushed, oyster shells, or old plaster. At all events something must be furnished to answer the demands of nature if we expect the fowls to be in a normal or healthy condition. This is especially true of young turkeys, for when they are confined where they cannot find the necessary requisites to digestion, constipation ensues and the results are fatal when remedies are not applied or they are not changed to proper quarters. Young fowls of all kinds should have fine gravel or coarse sand constantly within their reach, of a size adapted to the capacity of their throats. It is a well established fact that charcoal is one of the best and cheapest disinfectants and purifiers of animal substances. It is of service to fowls in roup or other putrid affections, by purifying the digestive organs when the fowl swallows offensive mucus, as is apt to occur in such cases. It also acts as a stimulus to digestion, thus increasing the egg-producing powers of healthy poultry; it does not need to be crushed into fine powder and thus presented to the fowls, nor be mixed with their food, thus compelling them to eat it, but should be broken into bits convenient for them to swallow, when the cravings of nature demand it.

Fowls are omniverous in their natural state and always require, to be in healthy condition, a reasonable amount of animal food, and when at liberty, except in the winter, will supply their wants themselves upon worms, bugs, and other insects, but in winter or when confined, it will be essentially necessary to supply this deficiency. In the care of a small establishment like that contemplated in our plan of a house the scraps of meat from the table of an ordinary family will be ample, but if the number kept be large and the confinement be closer or in cold weather in winter, it will be necessary to supply additional meat food, which can be done sufficiently by purchasing a few cents worth of liver, or other cheap meat which may be boiled and chopped fine and mixed with the food, using the broth for scalding their meal instead of water. These little tit-bits will be eagerly picked out and enjoyed. Too much attention, however, cannot be given to the fact that they can easily be over fed in this particular. It is common practice with some breeders to purchase a whole liver or a large piece of meat and hang it in the house, in such a way that the fowls have access to it at all times. The fowls are thus much over fed with this kind of food, and the quills of the feathers become more or less charged with blood, which, in time, the other birds perceive and most invariably peck at each other's plumage till they leave the skin quite bare, and once possessed of this foul habit of feather-eating they are rarely ever broken of it. Meat food should always be cooked and salted while cooking, the same as if prepared for the table.

Soft-Shelled Eggs.

Most poultry breeders have, at some period of their existence, been troubled with hens laying soft shelled eggs, or eggs with no shell. This defect is a sure sign that your hens are so situated that they cannot pro-

cure the amount of lime necessary for the production of eggs, and in some form or another it is as necessary as is any other food. The required amount of lime is readily acquired by fowls in a wild state, as but little is wanted, when 1 or 2 sittings of egg is the limit of their efforts, but when we, by domestication, increase the egg production from a score to 100 or 200 and sometimes more per annum, it is but natural that the fowls will not obtain the requisite amount of lime from their ordinary food. Consequently we must supply the deficiency, for soft shelled eggs, or eggs with no shells will be the positive result, and not only this, but the hen, by reason of the soft shell, frequently breaks the egg, and will eat it, and, having learned the habit, will not only eat those with a hard shell, but teach the trick to the balance of the flock. A supply of lime is cheaply furnished by keeping at hand where the fowls can have access to it at all times, crushed oyster or clam shells, or bone dust. A small piece of lime in their drinking water is advisable in most instances. It is the practice of many breeders of fowls to throw them the egg shells from the kitchen, but we consider it a bad practice, as it teaches the fowl that she can break the shell with her beak, and some portion of the contents, which may have adhered to the fresh shells, will give them a taste, which may not be the least incentive to break other eggs in the nest. If they are fed to the fowls they should be broken up fine and mixed with other feed, so as to avoid all semblance of egg eating.

Green Food.

Another attention that should never be omitted when fowls are in confinement, or during the frost bound period in the winter, is that of a regular supply of green food. During the summer time nothing is more acceptable to fowls than fresh grass, and many of those who live in the city and keep a few fowls in close confinement, could give them nothing that will be more acceptable than the short, tender grass taken from the lawn by the lawn-mower. Without vegetable food it is utterly impossible to keep fowls in health, and the supply must be of daily regularity. It is not extravagant to say that this is the proximate cause of nearly half the deaths when fowls are kept in confinement, while with it, and other directions having been observed, they *may* be kept in health in a small pen only a few feet square.

Any kind of fresh vegetable food will do, a change always being desirable. A good plan is to mince cabbage leaves, or other refuse vegetables, and mix freely with their soft food, or a few turnips or beets chopped fine and scattered like grain. When it can be obtained a piece of fresh turf thrown into them will be found a welcome relief, something they *must* have, every day, or nearly so, otherwise their bowels, sooner or later, become disordered, their feathers assume a dull, dirty appearance, and their combs and wattles loose that bright red color which always accompany good health and condition, and testifies pleasantly to abundance of eggs.

Supply of Water.

Fowls should have fresh water every day, and their drinking vessel should be so arranged that they do not scratch dirt into it, or get into it

with their feet, and otherwise defile it, a very common plan being to place over the drinking trough a board arranged with a leg on each corner, so as to raise it just enough so the fowl can drink without getting into it. Another excellent plan is to use the feed rack described further on, by putting the water into a shallow vessel and placing it inside the rack.

Fowls must never be left without water, and during freezing weather the drinking vessel must be emptied at night, so that ice may not accumulate. Care must always be taken that snow is not allowed to fall into the drinking vessel. The reason has puzzled old hands at the business, but it is a fact, nevertheless, that any considerable quantity of snow-water seems to reduce fowls to mere skeletons. It is well to add to the water a few drops of solution of sulphate of iron (green vitriol), just enough to give a slight mineral taste. This will, in many instances, guard against disease, and act as a bracing tonic generally. The rusty appearance the water will assume is quite immaterial. When fowls are moulting this will be found an excellent condiment, and should be administered daily. It will assist them greatly through this the most critical period of the whole year. A little hemp-seed should also be given daily at this season, and with these aids and a little pepper in their food there will rarely be a case of death.

Further Directions.

With hardy fowls and good shelter and care these precautions will seem unnecessary but they are few, and have a profitable effect on the early recommencement of laying. A judicious system of feeding is very essential to the well-being of poultry, and has, of course, more direct influence upon the profit and loss than any of the circumstances heretofore mentioned, and we shall now endeavor to give the subject of general breeding a full and practical consideration. The object is to give the quantity and quality of feed which will produce the greatest amount of flesh and eggs, and if it be attained, the domestic fowl is, unquestionably, the most profitable of all live stock. But the problem is rather a nice one. A *fat* hen is not only subject to many diseases, but ceases to lay, or nearly so, and becomes a mere drag in the concern, while a pampered male bird is lazy and useless at best, and not improbably when his services are most required, may be attacked with apoplexy and drop down dead. That fowls cannot be remunerative if starved need scarcely be proved, and the almost daily production of an article so rich in nitrogen as an egg—the very essence of animal nourishment—*must* demand an ample and regular supply of adequate food; and we need say no more upon this point, knowing that the common mistake of nearly all amateur poultry keepers is upon the other side—that of over-feeding. The usual plan, where fowls are regularly fed at all, appears to be to give the animals at each meal all the grain they will eat, and this being done, the owner plumes himself upon his liberality, and insists that his poultry are, at least, properly fed. Yet he is greatly mistaken, both as to quantity and quality. Grain *will* do for the regular meals of fowls which live on a farm, or have any other extensive range, where they can provide any other food for themselves, have plenty of exercise and their digestive organs are kept in vigorous action. But poultry kept in confinement on such a diet will not thrive. Their plumage, after a

time, begins to fall off, their bowels become affected, and they lose greatly in condition, and though in summer their eggs may possibly repay the food expense, it will be very improbable if any are obtained in winter when they are most valuable.

A friend of ours, a few years ago, purchased of us a pen of seven hens and a cock of Cochin fowls, which we had recommended highly to him, and after they had been in his possession for a period of three months he came with the complaint that although they had the best of care, variety of diet, meat, water, bone dust, oyster shells, cayenne, sulphate of iron, a good warm house, etc., etc., yet they had almost ceased to lay. We told him we did not know where the trouble lay, but there "was a screw loose some where." Later in the conversation he mentioned with some degree of pride that he had devised a beautiful and convenient method of feeding his fowls—he had arranged a hopper in such a manner that fowls could help themselves, and filling the hopper, holding a bushel or more with corn, it allowed only a little to escape at a time at the bottom, and as fast as that was taken away by the fowls it continued to drop down. By this means, he facetiously remarked, his fowls could eat until they were satisfied, and whenever they were hungry could help themselves. Our friend was somewhat disposed to be offended when we commenced laughing at him, and informed him that his new invention was the loose screw in his arrangement. A visit next day to his fowl house developed the fact that his Cochins were immensely fat and large, and that was the reason he had no eggs. He discarded his new invention, fed his fowls systematically for a few weeks, and has never since complained of a lack of eggs.

No rule of a fixed amount of food will apply to any case. Not only would the Cochins and Brahmas eat twice as much as many other sorts, but different fowls of the same breed often have very different measures of capacity, and the same hen will eat nearly twice as much when in active laying as when her egg organs are unproductive.

The one simple rule with adult fowls is to give them as much as they will eat eagerly, and no more. As soon as they begin to feed with apparent indifference, or cease to run when the feed is thrown to a little distance, the supply should be stopped. In a state of nature they have to seek far and wide for the scanty morsels which form their subsistence; and the Creator did not intend that they, any more than human beings, should eat till they could literally eat no more. It follows, from this rule, that food should never be left upon the ground. If such a slovenly practice be permitted, much of the food eaten will be wasted and a great deal will never be eaten at all, for fowls are dainty in their way, and unless at the point of starvation, will always refuse sour or sodden food.

The number of meals per day best consistent with real economy will vary from two to three, according to the size of the run they have through the day. If it be of moderate extent, so that they can in any degree forage for themselves, two are sufficient, at least in the summer, and should be given early in the morning and the last thing before the birds go to roost. In any case, these should be the principal meals, but when fowls are kept in confinement they will require a scanty feed at mid-day.

The first feeding should consist of *soft food* of some kind. The birds have passed the whole night since they were fed, and it is important, especially in cold weather, that a fresh supply should, as soon as possible,

be got into the *system*, and not merely into the crop. But if grain be given it must first be ground in the poor bird's gizzard before it can be digested, and on a cold winter morning the delay is anything but beneficial; and for the very same reason, at the *evening* meal grain forms the best food which can be supplied. It is digested slowly, and during the cold winter nights affords support and warmth to the fowls.

A great deal depends upon this system of feeding, which we are aware is opposed to the practice of many, who give grain for breakfast and meal, if any at all, at night. We believe such a system to be usually adopted from indolence; it is easier to throw down dry grain on a winter's morning than to properly prepare a feed of meal, which is accordingly given at night instead. Fowls so treated are much more subject to roup and other diseases caused by inclement weather, than those fed upon the system we commend—a theory not only in accord with our own experience, but with that of most successful breeders. Let the sceptical make one simple experiment. Give the fowls a feed of meal, say at five o'clock in the evening; at twelve visit the roosts and feel the crops of the fowls; all will be empty; the gizzard has nothing to act upon, and the food speedily disappears, having an empty stomach to cope with the long cold hours before dawn; but if the last feed has been grain, the crop will still be found partially full, and the birds will, by the heat thus constantly generated, be kept comfortable, and awake in the morning, strengthened and refreshed.

With respect to the morning meal of pultaceous food, when only a few fowls are kept, to supply eggs and meat for an ordinary family, they may be provided for almost nothing by boiling daily the potato peelings till soft, and mashing them up, with enough bran, slightly scalded, to make a tolerably stiff and dry paste. Soft food should be carefully prepared that is not too thin, about the consistence that will permit it to crumble when thrown upon the ground; if too thin it adheres to the birds' beak, much to its annoyance. As the peelings of the potatos cost nothing, and the bran very little, one-half the feed is provided at a mere nominal expense, while no better could be given. A little salt should always be added and frequently, especially in winter, a little pepper will tend to keep the fowls in health and laying. The food may be mixed boiling hot over night and covered tight or placed in an oven. In either case it will remain warm until morning, in which condition it should always be given in cold weather.

If a large stock of poultry is kept, small potatos culled from those taken to market, may be purchased at a nominal price, or a cart load of turnips or Mangel Wurtzel beets (such as are raised to feed cattle) may be purchased cheaply, and when boiled and mashed with meal, bran or midlings, we believe forms the very best soft food a fowl can have. An excellent combination for soft food is two parts of chop (corn and oats ground together) and one part of bran or middlings. A change of food, according to the season, will be beneficial. When the weather is warm and the production of eggs abundant, the food should abound with nitrogen or flesh forming material, and not containing too much starch or oil, both of which abound with carbon and have fattening properties. But when cold weather approaches, and the eggs even of the best winter layers are fewer than in summer, less nitrogenous and more carbonaceous food will be needed. As a guide to these properties contained in the more common articles of diet, we append the following table:

	Flesh-forming food.	Warmth-living food.		Bone-making food.	Husk or fibre.	Water
	Gluten, &c.	Fish or Oil.	Starch, &c.	Mineral Sub.		
Oats	15	6	47	2	20	10
Oat Meal	18	6	63	2	2	9
Bran or Middlings	18	6	53	5	4	14
Wheat	12	3	70	2	1	12
Barley	11	2	60	2	14	11
Corn	11	8	65	1	5	10
Rice	7	a trace.	80	a trace.	--	13
Beans or Peas	25	2	48	2	8	15
Milk	4¼	3	5	¾	--	86¾

To show the practical use of this table, it may be observed that while bran or middlings form its flesh forming material, it is one of the best summer ingredients. In winter it may be advantageous to change it to a portion of ground corn or wheat. It is, however, necessary to avoid giving too great a proportion of corn or wheat, or the effect will be a useless and prejudicial fattening from the huge proportions of oil and starch they contain. Potatos, also, from the large amount of starch they contain, are not good unmixed, as a regular diet for poultry; but mixed with bran or middlings will be found most beneficial to their condition and laying. If the weather is warm and dry, and the birds are fed on the hard ground, reasonably free from the droppings, it is just as well or better thrown on the ground. If they are fed in the house, however, it is best to put the feed in some receptacle, and a trough, such as we have used, and find to answer the purpose admirably, is made with the slats 2½ inches apart, and through these the fowls can get at the food without defiling it, and it also prevents to a considerable extent the crowding of the weaker ones, and, as stated before under this head, the introduction of a shallow drinking vessel, after they are through feeding, will furnish clean water all day and prevents them from scratching dirt into and otherwise defiling it. If the fowls have a reasonable amount of liberty, that they may forage for themselves, to some extent they will require no further feeding until evening, during any except seasons when the ground is frozen or covered with snow. The evening meal may be somewhat varied, and may consist for one evening of oats, next of barley or wheat, next of corn, etc.; an occasional feed of buckwheat is certainly beneficial to egg production, and should not be omitted when it can be obtained at reasonable rates. Wheat is generally too dear to be often employed, unless it is damaged, and if the damage be great it had better not be used at all. Sweepings sometimes contain poisonous substances, are invariably dearer weight for weight than sound grain, and should never be seen in the poultry-yard. The mid-day meal may consist of either soft food or grain; for fowls in confinement, soft food is preferable, in cold weather.

It is not feeding *well* to stint fowls (particularly when confined) and furnish them with only half rations. This is starvation, not economy. It is not feeding *well* to stuff domestic fowls, with oily scraps, stale raw

meat, corn meal and old offal—when with but a little more care, you can give them a moderate and systematic allowance of cooked meat and fresh scalded meal, and softened scraps or table offal free from mould or offensive acids. If you wish to sicken and disgust your penned-up fowls with their fare and with yourself alike, follow the former unwise course; but do not cajole yourself into the notion that you are feeding them *well*. Feeding *well* means that you afford your poultry sufficient for their daily wants of a quality and in quantity that will best appease a regular habitual (not a transient and vicious) appetite; all they can take up at a time comfortably, without gorging, is ample. Let the periods for feeding be twice or thrice per day, as circumstances require; give them plenty of fresh, clean water, alternate their cooked vegetable food with some grains, and never allow them to get desperately hungry through neglect. Thus, you may pride yourself upon your system of feeding *well*.

Nest Boxes.

Nest boxes may be of nearly any shape desired, but we have usually found it most convenient to place them on the ground. The manner of arranging them, as previously indicated, has proven good with us. The copartment may be subdivided with as many partitions as space or necessity may require. They should be partly filled with cut straw, and frequently sprinkled with flour of sulphur to drive away vermin, and the straw should be removed and replaced by fresh as often as it becomes foul or musty. If the nests are filled with vermin, or become offensive by lack of attention, the fowls will often drop their eggs upon the ground rather than resort to them.

Ventilation.

Ventilation can not be too carefully attended to, and while a free passage of pure air should be had, care must be taken that the fowls, while at roost, are not exposed to a direct draft, for a fowl will catch cold when at sleep as quickly as a human being.

Cleanliness.

Cleanliness in the poultry house is an *absolute necessity*, especially when they are closely confined. The floors must be cleaned almost daily during the warm weather, as the stench from the accumulated droppings of the fowls is very detrimental to the health of the poultry, and sooner or later disease in some form will be the result of carelessness in this particular. Every precaution should be taken against the ravages of chicken lice, which will not be slow in making their appearance as soon as warm weather approaches, and unless checked immediately, they will soon multiply till they are like the sands upon the sea shore. The building should be thoroughly whitewashed throughout on the inside. When we say thoroughly, we mean what we say. Do not mince matters, but ply the brush vigorously. Use plenty of whitewash and pay especial attention to the corners; do not leave a spot as large as a pin-head uncoated with the wash; plash the whitewash lively into every crack and crevice. An excellent preparation is to put into the pail when the water is prepared, while the lime-water is still hot, a teacupful of soft-boiled rice and mix this thoroughly through

the mass, then pour into a qt. of cold water, 10 or 12 drops of crude carbolic acid. Houses thoroughly cleaned twice yearly with this preparation, will be a poor harbor for hen lice. Do not let the good work stop here, but whitewash everything inside the house, and every 2 weeks paint the roost with kerosene oil, and give the fowls a good place to dust themselves and your trouble and expense will yield a profit twenty-fold. When the whitewash is intended for outside work, omit the boiled rice and carbolic acid and add to the mixture some rock salt dissolved.

The manure should be collected from the roost daily, and from the floor and runs once or twice a week, and should be put into some convenient place where it can be kept dry and either used in the garden, if there is one, or sold. It is most profitable, when used, and should always be composted with dry earth, as it is very strong. It is especially valuable in the culture of cabbage, cauliflower and lettuce, and equally good for all other plants if sufficiently diluted. It is a fair estimate, that the manure, if profitably handled, will be equal to about one-fifth of the profit of the fowls, and is, therefore, an item too valuable to be neglected. A well-known poultry journal recites a case of a man who carefully saves the manure from 200 fowls, by using plenty of dry earth and muck under the roosts and sells the compost when dry to the proprietors of large gardens near by, getting therefor nearly enough to pay for the food consumed by the fowls. Some vegetation requires a quick growth in order to be of best quality, hence the value of this compost, and the price paid for it as a garden fertilizer.

In concluding under this head, permit us to add one more important direction. Let the whole undertaking be conducted as a real matter of business. If more than 3 or 4 hens are kept, buy their food in large enough quantities to get the lowest price. Let a fair and strict account be kept of the whole concern. The scraps from the house may be thrown in, and the cost of the stock, the house and other appliances, may be kept separate and recovered as capital invested; but let everything afterwards for which *cash* is paid be rigorously set down, and on the other side, with equal strictness, let every egg or chicken eaten or sold be also valued and recorded. This is of much greater importance than at a glance it seems. The beginner may succeed well in rearing young chickens, but manage his laying stock badly (though not, we hope, if a reader of this book), or *vice versa;* and it is no small concern in poultry-keeping, as in any other business, to be able at the end of the year to look over the recorded facts, and see when have been the profits and when the loss, the discovery of which will lead to reflection, and the waste, neglect or other defective management being amended, the hitherto faulty department will also contribute its quota to the general weal.

Poultry Houses.

Poultry keeping, as remarked under the head of General Management, is attended with the necessity of many appliances. The first, and one entirely requisite, is a *good* poultry house, and in this connection let it be understood that by the word good we do not mean to infer that it shall be necessarily expensive, or elaborate, but on the contrary rather avoid unnecessary expense, and give the most earnest attention to convenience, ventilation, exposure, etc. If there are such as have surplus means, and a desire to make their poultry house an ornamentation to his grounds, he may add any amount of ornamentation, or extend the

architectual design to any limit that pleases his fancy. But in our experience, and as the results of our observation, the larger portion of those who engage in poultry breeding are not over-stocked with ready money, and it is our belief that many are deterred from keeping poultry by the impression that it would cost too much to furnish the necessary house. And, again, if you are to breed poultry with a view to profit, you must limit your investment in the item of buildings and appurtenances to the strict necessity of the case, that you may have a fair increase of profit. To those who have the bugbear of an enormous expense of a poultry house before them, we would say, that to keep a flock of 15 or 20 fowls successfully, a house ample for their comfortable housing may be built for $10, provided you use your own time and ingenuity in its construction, and few boys that have reached the age of 14 years that has not sufficient mechanical skill to put up such a house as is described below, with the aid of such hints as we give the amateur builder in perfecting it. The only important essentials for a sufficiently good poultry house is that it be properly ventilated, weather-proof, and well located. Ventilation is scarcely ever provided for, and if at all, is in an improper manner, which later may result in more injury than good. Fowls confined in a poorly ventilated house must become unhealthy, and result in loss to those keeping them.

To those who desire to keep a small number of fowls and limited space, the following plan, we believe, from practical experience, will supply all the necessities for a limited flock, and the hints it gives, judiciously enlarged upon, may be used to apply to a more extensive breeding:

This house is 10 ft. square on the ground, 8½ ft. high at the front, and 5½ ft. high at the back, with a window in the front 6 ft. long and 3 ft. wide, and a door. There is a broad shelf fixed at the back of the house, and a perch placed 4 or 5 ins. above it, and the nests are placed under the shelf and need no top, as the broad shelf is a perfect protection against defilement, and also serves as a practical shade, to the great delight of the hen. The shelf receives all the droppings from the fowls, and is cleaned by scraping with a hoe or other implement every morning, and afterwards sprinkled with sand or dry earth, and by this means the floor of the house is never polluted by the roosting birds. Another recommendation has this shelf—it is a perfect protection against upward draughts of air. A box 3 ft. square and 6 ins. deep, which, when well filled with dry earth, will become a favorite resort of the fowls, is placed in front of the window. They will frequently wallow in the dust, and an observer would hear them give forth many a chuckle of satisfaction. The ventilation, placed about 2 ft. below the peak of the roof, is a hole 6 ins. in diameter, so arranged with a trap as to be closed, or partly closed at the pleasure of those having charge. The cost of the materials to build such a house, as will be seen by the following estimate is about $9.60 at the present price of lumber—$10 per 1,000 ft.

280 feet, 14 ft. x 1 in. boards, culls	$2 80
132 " 12 ft. x 1 in. " "	1 32
30 " 10 ft. x 1 in. " "	30
10 pieces, 2x4 in. x 10 ft. scantling	68
Sash, glazed	2 00
Nails, lock, hinges, etc	2 50
Total	$9 60

The 14 foot boards sawed 5½ feet from one end, or 8½ from the other, gives a board each for front and back, and by scribing a board from the end at the highest part of the roof and sawing it at that angle, you get from what is left a board for the end at its lowest part, and thus economize time and material. The 12 foot boards are for the coop and batterings and the 10 foot boards for the broad shelf, nests, etc. The 2x4 scantling is for the frame around top and bottom and a strip for top and bottom of the windows.

To those who are so situated that it is impracticable to give the fowls their liberty during the day time, it will be a great benefit to construct something in the way of runs, which should be as large as the circumstances will permit. The usual material for the construction of such a run is pickets, or lath, and an excellent enclosure is made of tarred netting manufactured for the purpose at Hartford, Conn. A run fence is of such simple construction that it scarcely needs description here. Suffice to say that its height should be governed somewhat by the variety of fowls kept. The Asiatic fowls, such as the Cochins and Brahmas, do not require a fence over 5 feet in height, while the Plymouth Rocks, Creves, and Dorkings should have a fence at least 6 feet in height. The "high flyers," such as the Leghorns, Games, Hamburgs, and Polish, are seldom kept within an enclosure less than 10 feet in height. It is sometimes convenient to have this fence so constructed that it can be removed, and for the sake of such convenience we would recommend one constructed in sections 12 feet in length and 7 feet in height. If made of lath it would be necessary to have another rail on which to nail 2 feet from the base board. The writer has several thousand feet of fence constructed from slats procured at the planing mills, and which are the waste strips sawed from boards when ripping them to any desired width. Such material, if it can be obtained in the neighborhood, is not only cheap but being usually from 12 to 16 feet in length, can be sawed to any length desired. Material enough to construct a fence for a run 20 feet long and 10 ft. wide, can be bought here at the mills for one dollar. Where mills are not accessible, common lath are next cheapest and answer every purpose.

Hatching.

The natural place for a hen's nest is on the ground, and when other things are favorable to such an arrangement, it should always be made there, but when circumstances prohibit, we are obliged to imitate the natural method to get the greatest measure of success, and the best manner in which to construct a nest, is to place damp earth at the bottom, moulded into a concave shape. The dampness of the soil supplies a necessity (without which, unless artificially supplied, few chicks would be hatched), viz.: moisture to the eggs, which is lost by the process of incubation, and it is well, at frequent intervals, to slightly sprinkle the eggs during the absence of the hen at her daily feeding. This is but imitating nature, for we know in that state the nest is placed on the damp ground, and the hen in her morning ramble for food and exercise through the dewy grass and leaves, returns to her nest, and the moisture from her plumage is imparted to the eggs. Cover the artificial nest thus formed with bruised straw, broken short and fine. Long straws often entangle the hen's toes, and broken eggs result. Do not cut the straw in a machine, as it will prick and irritate the hen and harm the

tender chicks. The concavity of the nest must not be so great that the eggs will huddle together, one on the other, nor so flat as to allow them to roll out of the nest. A happy medium is the thing to be aimed at, and a little experience in the matter will soon enable even a new hand to form the nest just right. A very convenient nest is a tight wooden box open at the bottom, and also in front, except a strip 3 ins. high to hold the straw. This box may be placed directly upon the ground, and thus do away with the necessity of providing damp earth. The box or other receptacle containing the nest should be thoroughly white-washed with the wash described heretofore for the inside of the house, and some flour of sulphur sprinkled through the straw. The nest box should be placed in such a position as to be protected from cold winds and storm, and, if practicable, in sight of the balance of the flock, but where they cannot reach it to disturb the hen, as it will keep the sitter from becoming strange to her companions, and by this means prevent an otherwise inevitable fight on her restoration, to the possible damage of her brood.

Having observed carefully all these details the nest is now ready for the hen. Where opportunity is allowed the manager, he would usually choose a Cochin, Brahma or Plymouth Rock for a hen-mother. Their size and the large amount of fluff feathers they possess make their capacity greater than other varieties; but we have had the best success with hens which are half-breeds of one of these varieties; they are not quite so heavy, and the liability to break the eggs or trample the chicks while young and weak is greatly lessened. Having procured the hen, it is best to give her a day or two of trial on 2 or 3 china eggs before giving her eggs, as she will sometimes be that length of time in getting used to the change to new quarters, and if she is disposed to vacate the domicile provided with such care, shut her in in such a way as to darken the nest, and if she is thoroughly broody, she will, in 24 hours, settle down to business, when the china eggs may be removed and the eggs for hatching substituted. Much disappointment in the hatching and raising of young chicks would be prevented if more care were taken that the eggs selected for setting were of good quality—not only likely to be fertile, but the produce of strong and hardy progeny. In cases where 4 or 5 chicks only are obtained from a clutch of eggs, it will perhaps be found upon inquiry that the yard from which they were obtained, contained 20 or 25 hens and not more than 1 cock, in which case not more than 40 per cent. of the eggs would be fertilized. If possible, therefore, when the eggs are procured, see that they are obtained from a yard where there is 1 cock for every 8 or 10 hens, and that he is a strong and lively bird; and, next, that the fowls are not only of the kind desired, but that they are well fed and cared for. From scraggy, half-breed birds it is impossible to rear a large brood, as the greater number of them will die in infancy, if they have strength and activity enough to work their way out of the shell. It only remains to be sure the eggs are fresh, and a successful hatching may be anticipated.

It is true that eggs have been known to hatch when 2 months old, or even more when kept under favorable conditions, but we would never, ourselves, from choice, set any egg which has been laid over 10 days, or at farthest 2 weeks. It is also essential that the eggs shall all be nearly the same age. A perfectly fresh egg will usually hatch a few hours earlier than one a week old, and the stale ones always hatch last, sometimes requiring a day or two longer; in the latter case the chick is usually weak, frequently being unable to break the shell. When neces-

sity or other circumstances tempt you to take a portion of stale eggs to piece out enough for a setting, you will almost always observe that subsequent deaths have occurred in this portion of the brood; but if none of the eggs are more than 5 or 6 days old, they will not only nearly all hatch, but within an hour or two of each other. When the eggs are from our own yards, we feel that their quality is above suspicion, and to accomplish this it is our invariable practice during the hatching season, when the eggs are gathered, to mark legibly on each one with a pencil, the date, and where different varieties are kept, the name of the breed, or number of the yard.

Eggs intended for setting we place on a board, pierced with holes 1 in. in diameter prepared for that purpose and large end downward. This procedure prevents in a great measure the air penetrating the shell at that end which is quite porous. The hen should be given her eggs in the evening just after dark, for two reasons. First, the hen will have the whole of the night in which to forget being disturbed; and second, the chickens break the shell ordinarily at the end of the 21st day, and if the eggs were all fresh, the young chicks may be all or nearly all out of the shell before the morning, thus insuring them the quiet so essential to that precarious period of their existence. Before the eggs are placed in the nest each one should have a mark drawn entirely around it that it may be distinguished from eggs that may be laid by stray hens that may encroach upon the sitter, and the hen should be liberally rubbed with flour of sulphur under her wings and along the breast. It is the practice of some poultry-breeders to grease the hen under the wings, but we regard the practice as dangerous as the grease is thus brought in contact with the egg-shell, by which it is absorbed, stopping the pores and thus excluding the passage of air to the embryo chick within. These precautions taken, mark on the box the date when eggs were given the hen, or number the box and make a memorandum where it can be referred to for future use, and your hen is fairly settled for business. It is a common mistake to set too many eggs under one hen. The season of the year and the size of the hen should determine the operator. Thirteen is the usual number to set under a medium-sized hen in summer weather, but not over 11 should be set in early spring. A well-trained hen will usually leave her nest once a day to procure food, dust herself and take exercise, and appliances should be always at hand that she may have food and water, and an opportunity to thoroughly wallow in the dust bath, and if it be found that she vacate her nest more than once each day, suspicion may well be aroused that lice have drawn her hence, and a careful examination should be made, and if any are found, the nest should be thoroughly renovated before she return. Whole corn is the best food for setting hens as it contains much heating material and digests slowly.

A good sitter will usually remain away from her nest for about 20 mins. to ½ hr., and in cold weather, if she does not return by that time, she should be gently driven in the direction of the nest, when she will usually betake herself to it without further trouble. During the heat of the summer do not be alarmed if she remain away for an hr., for instinct teaches her that in such a time they will require more air. Hens have, in our experience, during the heat of summer, been absent from their nest for 4 hrs. at a time, and brought off an average sized brood of strong healthy chicks.

Should the hen, by accident, break one or more of her eggs, it should

be promptly removed, the nest cleansed, and the balance of the eggs washed clean of any substance that may have adhered to them. Two or three times during the term of sitting, let the nest be dusted with flour of sulphur, and especially a day or two before the chicks are expected, and the hen thoroughly rubbed with it under the wings and along the breast, and if any lice are observed about the nest, it should be *thoroughly* cleansed, that the young chicks may, when they make their appearance, have a fair chance.

It is generally worse than useless to attempt to assist a chick from the shell. If the eggs were fresh and proper care has been taken during incubation, assistance is rarely required, though it sometimes happens that one or two of the last to hatch are very weak. If so, they may be revived by giving brandy and cream; a drop or two is all that is necessary. It sometimes happens that a person pays 25 to 50 cents a-piece for eggs, and it will pay to save the chick if it can be done. Of course, one would not take much trouble with such a chick without it was valuable. In case the chick is unable to liberate himself from the shell after it has been a long time "chipped," and no further progress is made, it presents a painful case. If the eggs are sufficiently valuable to warrant the extra care, place the egg in warm water for 15 mins. (care being taken that no water enter the chipped shell) when usually sufficient moisture will penetrate the shell to soften the inside membrane and give the chick liberty to turn itself.

With a good hen, good eggs, and good management, all will go right and there will be in due time a goodly number of strong, healthy chickens, to the mutual delight of both the hen and her owner.

Rearing Young Chickens.

To have strong, healthy chicks, it is necessary, in the first place, to avoid in the main, breeding akin, and to keep the breeding stock as nearly to normal as possible, securing for them sun, air, and exercise, and avoiding a pampering diet. The greater the number of eggs produced by a fowl, the less vitality there will be in each; therefore, the first of the laying are best to set.

Moderately early chickens are most certain to live, because force is stored up in the parent before laying commences, sufficient to endow the first eggs or chickens with plenty of vigor, while later the abnormal or artificial prolificness impairs the eggs. In spite of the uncongenial weather, March-hatched chickens are stronger than those produced in April, and the latter in turn are reared with greater ease than those hatched in May. After attending to the above considerations, the chickens being hatched and assigned quarters, their lives and future usefulness chiefly depend upon their diet and the system of administering it. It is true, they must be kept clean, dry, free from vermin, and protected from other enemies—quadruped and biped—and be allowed space for exercise in the sun and open air, but all these things will not suffice, unless animal food is artificially provided, or sufficient opportunity given them to collect insects. And butcher's meat, such as calves' and sheeps' plucks, are even better than insects, provided they are fed plentifully, yet only a little at a time, and care is taken to alternate with grain and green vegetable food. There must be constant vigilance in supplying animal food regularly and systematically. Young birds in a wild state are given an animal diet, even in cases when, as

they reach maturity, they live upon seeds. The young of our domestic poultry cannot thrive upon grain and vegetables alone, no matter how nicely prepared, but such diet cannot be digested and assimilated fast enough by them to meet the great demands for nourishment caused by their rapid growth. Nature has provided that the young of all birds shall mature and become fledged with wonderful rapidity, in order that the period of their helplessness, when they are liable to be preyed upon by numerous enemies, shall be short.

The foundation of the coat of feathers which succeeds the downy covering with which they emerge from the shells, demands a quick and certain supply of nutritious materials, and in the case of domesticated species, the young are obliged at the same time to nourish the growth of bodies, which, owing to the artificial treatment man has subjected their parents to for many generations, tend to an abnormal size. The fledging period is a critical one, and the feeding from the time of incubation until the wing and tail feathers are nearly developed, should all be contrived with a view to assist the digestive organs, in changing just as much easily assimilated material as possible into an abundance of good, rich blood. It will not do to wait until the time of most rapid feathering, and then begin to allow a generous diet, but the systems of the young chicks must be prepared for this strain in advance, by being stored with nutriment in every cell and tissue. Just before the chick breaks from its narrow cell, the last of the yolk (upon which it nourished during incubation), is taken into its stomach, and gives it the strength to make its own grand effort for freedom. This food will certainly last 12 if not 24 hours after it is free. During that time no other food is needed; only rest is required for the little stranger after this exhausting labor. When it leaves its mother in quest of food it is quite soon enough to think of feeding it, and its first food should be as near the nature of the yolk as we can obtain, hence hard-boiled eggs chopped very fine, and mix with oatmeal moistened with milk, gives a very nutritious and acceptable diet, and this should be continued for 3 or 4 days, when it can be changed for some cheaper and more practicable food. From the first 12 to 24 hrs. after hatching, the hen and chicks should be undisturbed. We say undisturbed, because it is a very common practice to take those first hatched away from the hen and put them in a basket by the fire until the whole brood is out. When the eggs have varied much in age, this course must be adopted, for some chickens will be perhaps a whole day behind the others, and the hen, if she felt the little things move beneath her, or evince a disposition to go in search of food will not stay in the nest long enough to complete the hatching of the rest. But we have explained, under the head of "Hatching," that this should not be, and if the eggs were fresh, the chicks will appear within a few hours of each other. In that case they are much better left with their mother. The heat of her body appears to strengthen and nourish them in a far better manner than any other warmth, and they are happy and contented, instead of moving restlessly about as they always do whilst away from her.

Our own plan is to set the eggs in the evening, when the chicks will break the shells in the evening or perhaps in the afternoon. Then at night let the state of the brood be examined *once only*, all egg shells removed, and the hen, if she be sufficiently tame, given food and water. Let her afterwards be shut in so that she cannot leave the nest, when all may be left safely until morning. By that time the chicks will be

strong and lively and generally ready for their first meal. The first meal should be given on the nest, and of material as is described heretofore. Let the hen partake of this also, for she needs it, and give her besides as much grain as she will eat, and don't forget to offer her water which she will usually drink greedily. To satisfy the hen *at first*, saves much restlessness and trouble with her afterwards. The brood having been fed, the next step will depend upon circumstances. If, as we recommend, the chicks were hatched the night before, or be well upon their legs and the weather be fine, they may at once be moved out and the hen cooped where the little ones can get sun. If it be wintery or a settled wet day, she had better be confined on her nest this day also, and when removed, be cooped in a dry shed or out-house.

The coop in use in our yards we believe to answer the purpose as well as any we have seen. It is of very simple construction, should be 2 ft. wide by 2½ ft. to 3 ft. long. The trap-door serves as a very convenient place to feed the chicks during the day-time, while at night-time or during very stormy weather it may be closed and secured by means of the button. The center slat is made movable, and is useful as a place to put in or take out the hen; the holes afford ventilation front and back. The coop should be so placed that the front is not exposed to the bleak wind, and, if practicable, so as to catch the rays of the sun in the morning. The coop has no bottom; being open, it is much easier to white-wash and cleanse it, and it should be placed upon boards plentifully sprinkled with dry earth, and should be lifted off and the boards thoroughly cleansed and supplied with fresh, dry earth as often as may be necessary. It is the practice of many breeders to use the coop without a bottom, placing the hen with her chicks on the bare ground; but our experience has been that the hen is apt to scratch, to the detriment of the young chicks when weak, and rats and other vermin obtain access without difficulty by digging under, and soon carry off the brood one by one. Place the coop on boards and close the trap-door in front, and you have a coop that is practically weather and rat proof. After the chicks are ten days old it is a good plan to remove the boards during the day-time and let the hen scratch, removing the coop to a new spot daily for that purpose, but never omit the board bottom at night until the chicks are old enough to care for themselves.

Chickens should always, if possible be cooped near grass; no single circumstance is so conducive to health, size and vigor, supposing them to be decently well cared for. Absolute cleanliness is also essential, even more so than for grown fowls, and the reason why difficulty is often experienced in raising them in large numbers is that the ground becomes so tainted with their droppings. The coop should, therefore, be moved daily or supplied with clean, dry earth.

Feeding.

With regard to feeding, if the question be asked, "what is the *best* food for chickens, irrespective of price?" our answer would be, most decidedly, oat-meal. After the first meals of egg and oat-meal, no food is equal to it if it be *coarsely* ground, and only moistened so much as it will crumble. The price of this food is, however, so high as to forbid its use except for valuable broods; but we advise its use for the first week in order to lay a good foundation. It may be moistened with either water or milk; but if with the latter, only sufficient should be mixed for

immediate use, as it will turn sour in 1 hr., and in that condition it is very injurious to chickens. They should be fed sparingly but often; 6 or 8 times a day is not too much, but never give them quite enough to satisfy their appetite, except at the last feed at night. Care should be taken not to throw down more feed than will be eaten at once, for if permitted to remain but a short time it becomes sour, and is both unpalatable and unwholesome.

After the first week, the oat-meal can be changed for a diet of middlings and buckwheat-meal, or bran, corn-meal, or equal parts of bran, corn and oat-meal. Potatoes mashed with bran forms a good variety. After the chicks are a week old, a feed once a day should be given of grain suitable to the capacity of their throats, such as broken wheat, cracked corn or buckwheat; it should be fed last thing before night. As before remarked, green food is more necessary for young than adult fowls, and when quite small some grass may be cut into small particles with the shears, and they will eat it eagerly; after they are two days or one week old they will crop it for themselves, if accessible. It is best to keep the chicks shut up in the coop until the grass is dry in the morning, until after they are 10 days old; and it is advisable to have a small covert-run made, the width of the coop and say 6 ft. long, within which they will have partial liberty and kept from getting wet, which is very injurious.

Skimmed milk, when it is obtainable, should be the sole drink of the young chicks until they are two months old at least. There is nothing that will so much promote thrift. It contains just the elements that are needed, and in very available form. If you can feed it to the whole flock daily, so much the better.

Fattening.

At the age of 4 months the chickens should be grown enough for the table, and if they have been well fed, and come of good stock, they will be. For ourselves we say, let them be eaten as they are — they will be quite fat enough and fattening is a very delicate process, success in which it takes some experience to acquire. For market, however, a fattened fowl is more valuable on account of their appearance, and if properly attended to the 2 lbs. of extra weight they ought to acquire, will be a matter of profit. Although the manner of fattening poultry may seem plain, yet there is, nevertheless, a right and a wrong way, a long and a short mode of accomplishing the object desired. Never let poultry forage or shift for themselves for at least 10 days before killing, for they are apt to range in the barn-yards and other places, where they pick up filthy food, which permeates all through the bird, its flesh frequently becoming so tainted that it is unfit to be eaten. Various modes are in vogue for bringing fowls forward to the best killing condition. Forcing, cramming and stuffing, are a part of the process in different portions of the country, and will be described briefly hereafter, but we have always considered the legitimate method the better plan. In our experience, the least expensive and least troublesome way to fatten fowls, is from the beginning to feed them well, constantly, and care for their comforts and needs from the hour they leave the shell, onwards. A flock of chickens thus attended will at any time be in fine condition for the gridiron or the spit. And when the time comes about for killing the older birds, (in the fall or winter), it requires but little

extra feed and proper attention for a few days to render them as "fat" as is desirable ordinarily.

Without this prior appropriate preparation, no criterion is afforded as to how long it may take to put them in presentable condition, or how much feeding in a more costly way it may be necessary to effect this.

Fowls properly fed from the start, are not only always ready for the table with very little extra attention, but their flesh will be more juicy and richer in flavor than those fattened from a low, emaciated state, always commanding quick sale at the highest market price, a healthful, nourishing and restorative food.

We, therefore, confine our suggestions to what we deem the *legitimate* mode of fattening poultry that has always been well kept. Such as are designed for market should be separated from the rest. Place six or eight together in a close coop without a roost, and just sufficiently large to allow of their moving about without crowding each other. The front of the coop or box only needs to be lathed open work and should be arranged so as to make it nearly dark as soon as they are done feeding, since during the balance of their existence, the more quietly they can be kept the more they will improve. They need no exercise. It must be borne in mind that *fat* only is added by this process, the lean or flesh must be made before, and unless the fowl has attained the proper standard in this respect, it is almost useless to try to fatten it. Now give them plenty of fresh water and all they will eat for 2 or 3 weeks, in this kind of coop, and at the end of that period they will be better fit for the butcher than they will ever be after that period. The manner of feeding and the kind of food best adapted to fattening fowls in this confinement is a very simple affair, and we have found it efficacious as well as feasible. Cooked food, and all they will devour morning and night, with cracked corn and wheat at noon, will fatten healthy poultry in less time than any other feed that we have ever experimented with. The mash should be composed of good corn meal 2 parts and boiled potatos 1 part. Into a pailful of this meal and vegetable food, well mixed, while *hot*, drop 1 lb. of lard, tallow or pork scraps, and mix this fat substance through the mass. Feed this while warm and give only what the fowls will eat up clean at a meal. Be sure that whatever animal food you give them to eat is perfectly sweet, otherwise it had better be omitted entirely. A box of dry gravel should be at hand, which the birds will pick from constantly, for they need this to aid in the process of digesting their food precisely as at any other time. No green food is necessary at this time. All you are aiming for is to put additional fat upon the fowls, and to do this in the shortest possible time. So long as they eat well they will continue to increase in weight up to a certain period. Treated in this manner 2 or 3 weeks will bring them to their best. If they become cloyed, and lose their appetite at an earlier date, after being thus cooped up, kill them at once. They have reached the most profitable day of their existence, and will no longer improve in the desired direction. Every day thereafter is a dead loss, for they cannot be kept fat; once up to the mark, if not killed, they get feverish and waste away again. The mode thus briefly recommended being economical as well as expeditious, cleanly, and convenient.

We have not mentioned two pre-requisites towards fattening fowls successfully and speedily, but it will be taken for granted that your fowls when cooped up for this purpose shall be free from vermin, and during their confinement that they must be kept so. No greater draw-

back to the growth and improvement of domestic fowls exists, than the presence of these pests upon their bodies, or in the pens to which they are limited. We therefore suggest that once or twice a week, if the birds appear restless, some powdered sulphur be rubbed well into the roots of the feathers, which will give the required relief.

The cramming process spoken of before may be commenced after the fowl has been confined for 10 days, *never sooner*. The meal for this purpose is prepared by rolling to the size of the little finger, and then cut into pellets an inch long. Each morsel must be dipped in water before it is put into the bird's throat, when there will be no difficulty in swallowing. The quantity to be given can only be learned by experience.

Killing and Preparing for Market.

Poultry should not only be fat when killed, but should be properly dressed and prepared for market. Poor goods will not sell well simply because they are presented in an attractive form, but the best article will rarely bring the best price unless made attractive in appearance.

In killing fowls, three things are desirable, viz: To have them bled well, so as to render the flesh white, to avoid soiling the feathers with blood and dirt, and to avoid soiling the clothing. In case you chop the head off on the block, the fowl begins to flutter, you let go of it as quick as you can in order to avoid being spattered, but frequently, in spite of your pains, the chances are that you get more than one bloody spot upon your clothes. The fowl flops about on the ground until it is completely covered with blood and dirt, sticking up the feathers and matting them together, thus destroying their loveliness, (as the expression is,) and thus reducing their value about one-half. If you simply wring the neck, it does not bleed well and the quality of the flesh is deteriorated. The plan we recommend is as follows: Grasp the fowl at the base of the head with the right hand and the neck, near the body, with the other, then, with a quick jerk, you dislocate the neck, causing instant death; hold the fowl for a few minutes, until it ceases struggling, then hang it up by the legs, feel for the broken spot in the fowl's neck, and with a common pocket-knife cut off the head at that point; and then, with the thumb and forefinger, grasp the neck near the body and strip it down toward the end, and let it hang and bleed. In this way you neither soil the feathers nor your own clothes, and the flesh will be thoroughly bled.

To dress poultry there are two ways, both having their advocates, viz: dry plucked and scalded. To dry pluck, the fowl must be plucked while yet warm, carefully removing all the pin-feathers, and without breaking the skin; then plunge the fowl into a kettle of very hot water, holding it there only long enough for the bird to "plump," then hang up—turkies and chickens by the legs, and geese and ducks by the neck. In scalding, the use of hot water is, of course, essential, but do not have it any hotter than is absolutely necessary to start the feathers; pick out all the pin-feathers, using tweezers if it is necessary, but do not break the skin; singe the plucked fowl over a quick blaze, and hang up as above.

In some markets poultry is sent with crop and intestines undisturbed, probably because it is thought the fowls look fatter and plumper than for any hope of gain from extra weight. It is preferable on some accounts to "draw" the fowls. Poultry should be thoroughly dry and cold (not frozen) before it is packed for shipment. Pack in clean straw, breast down, keeping the wings and legs close to the body. See that there is

no discoloration of blood on the skin. If the heads are removed, pull the skin of the neck and tie it over the severed portion with a bit of strong cord or twine. When poultry is marketed without being drawn, some people "cram" them before killing to make it appear heavy. This is a most injudicious plan, as it shows at a glance the dishonest intention of the shipper to benefit himself and swindle others, in his poor effort to get the price of poultry for corn. The undigested food soon enters into fermentation, and putrifaction takes place, injuring their sale a great deal more than is gained by weight. Fowls should always be allowed to remain in their coops at least 24 hrs. previous to being killed without food; they will keep longer and present a better appearance. Old fowls in the market are an abomination, but at home it is sometimes necessary to use them. If so, let them be boiled; unless very aged, they will then be tolerable eating, but if roasted will be beyond most persons' power of mastication.

DISEASES OF POULTRY.

If fowls are kept clean, and well sheltered from wind and wet, and not over-fed, and have a due proportion of both soft and green food, and a never-failing supply of clean water, they will usually remain free from disease, unless infected by strangers.

When disease does occur among fowls it may usually be ascribed to our variable climate, to dampness and cold, to injudicious feeding, and to an ill-ventilated roosting-house. We would therefore recommend as a cure *in chief* for all the ills to which poultry is subject, the practice of the old saw: "an ounce of prevention is worth a pound of cure." And a good general rule for the cure of sickness is that it be killed without delay, for unless the bird or birds be valuable ones, it will never pay to attempt a cure, and rarely so if they are. A diseased fowl, as will be the result of general observation, is never kindly treated by its healthy companions, and, as most of the diseases to which they are liable are highly contagious, if not killed and thus summarily disposed of, it should be at once removed from the flock and confined by itself for treatment. The writer confesses to his ignorance of the diseases of fowls, and consequently to their proper treatment. But as the per centage of loss in poultry by sickness is about 30 per cent. annually, remedies are an interesting study, and we have therefore compiled them under their most common names, and give you recipes published by our most trustworthy works and periodicals.

Abortion.

Generally caused by fright. The remedy is to confine the bird in a rather dark pen, with a nest in one corner. Soft food only should be used, and given sparingly. The drinking water should be impregnated with a small amount of carbonate of soda. This disease must not be confounded with the ordinary laying of soft eggs.

Apoplexy or Paralysis

More generally arises from high feeding than from any other cause. An unsteady walk with drooping wings, as if the bird was giddy, is a

warning symptom. Fasting and a dose of 15 grains of jalap and 1 grain of calomel will be found very useful, with continued low diet for 2 or 3 days. In cases of sudden attacks, with loss of power and consciousness, it will be necessary to lance immediately the large vein under the wing, and to bleed freely until the bird recovers. Stop the flow of blood by means of burnt alum or other styptic, and take care that the fowl is not allowed to pick open the wound and cause death from hemorrhage. Cold water applied to the head is often of beneficent effect.

Black Rot

Is rarely met with and can only be cured in the earlier stages. Symptoms: blackening of the comb and swelling of the legs and feet, accompanied with general emaciation. Treatment: a dose of calomel or castor oil with warm and nourishing diet.

Bumble Foot.

A corn or abscess at the bottom of the foot, most frequently found in the larger breeds, is supposed to be caused by descent from high perches to a hard floor. Daily applications of lunar caustic or pigment of iodine painted over the spot with a brush, will often effect a cure. The tumor should afterwards be cut and the matter pressed out, the part thoroughly cleansed with warm water and in a day or two the caustic applied as before. 1 ounce of muriate of ammonia dissolved in a pint of vinegar is very useful in reducing the swelling. The bird should be compelled to sleep on straw during treatment.

Canker or Ulceration.

The disease bears a striking analogy to the roup, but is distinguished from the latter by the lack of a discharge from the nostrils. It frequently extends to the throat, covering the back of the tongue with ulcerous formation. In such cases remove the ulcers with a sharp, flat stick of hard wood, and apply with a camel's hair brush a wash of tincture of myrrh, borax and chlorate of potash, dissolved in water. Use powdered borax afterward on the sore. Give soft food and occasionally bread soaked in ale. As in case of roup, the diseased fowl should be removed to dry, warm quarters, and the feathers of the neck kept clean by washing in warm water. Another remedy is to dissolve some alum in water and wash out the mouth, throat and eyes with it, after which sprinkle burnt alum on the sores, to be repeated until cured.

Catarrh,

Or a common cold, is liable to terminate in roup if neglected. The bird should be immediately moved to a warm place. 3 drops of mother tincture of aconite, added to ½ pt. of the drinking water, will be found beneficial. The food should be soft, mixed warm, and seasoned with tonic No. 1, (for cholera) and pill of the following: ½ oz. each of camphor, valerian, cayenne pepper, lobelia-seed powder, and gum myrrh, made into 48 pills. If not better in a day or two, roup may be expected, and the treatment should be as prescribed for that disease.

Cholera.

If there is a disease among fowls resulting more particularly from carelessness or ignorance more than any other, it is the fatal disease known as cholera. All writers on the subject agree that it occurs from exposure to the sun, without sufficient shade, warm and stale drinking water, foul and offensive grass runs, occasioned by the droppings, and most of all by the absence of a regular supply of green food, which is the great preventive of diarrhœa in fowls. This disease is rarely ever known when a cool shade, clear runs, fresh cool water and green food are provided daily.

Symptoms: Sudden and violent thirst, diarrhœa, greenish droppings, afterwards thin and whitish, with extreme weakness and staggering or falling about, sometimes accompanied with cramps, and often with an anxious look about the face. Death results in from 12 to 36 hrs.

Treatment—Administer every 3 hrs. the following: Rhubarb, 5 grs.; cayenne pepper, 2 grs.; laudanum, 10 drops. Give midway between each dose a teaspoonful of brandy diluted with water, and containing 5 drops of either of the following:

1. Equal parts of the tincture of opium, red pepper, rhubarb, peppermint and camphor, well shaken, dose to be increased from 10 to 20 drops several times a day when not immediately relieved.

2. 2 ozs. each of alum, resin, copperas, lac-sulphur, and cayenne pepper; pulverize, then mix 3 tablespoonfuls of the powder with 1 qt. of cornmeal, and dampen for use. This is sufficient for 12 fowls, and may be effectively used either as a preventive or a cure for the former. Once or twice a week is sufficient. Rye or wheat soaked in high wines or whisky is also said to be a good thing.

3. Blue mass and cayenne pepper each 1 oz.; camphor gum ½ oz, and a teaspoonful of laudanum, well mixed and made into a pill of ordinary size. Give one pill every hour until the purging ceases; also a teaspoonful of brandy morning and evening.

4. Cayenne pepper and prepared chalk, each 2 parts; pulverized gentian and pulverized charcoal each 1 part (measurement, not weight). Mix well together and form a paste, with either lamb or sheep suet. Give a pill the size of a common marble once a day, and keep in a warm and dry place 48 hours.

5. Carbolic acid, 1 dr.; glycerine, 1 oz. Mix thoroughly, adding 1 qt. of water. Of this solution, use 2 tablespoonfuls to 1 gal. of water, allowing the fowls access to no other water.

The fountains and feed boxes should be disinfected with carbolate of lime, or carbolic acid. The water must be kept cool, plenty of shade provided, and the free use of green food indulged in for those not attacked. No food or water with the exception of soft or moistened wheat bread in warm milk is needed for the diseased birds.

Consumption.

Caused by cold or dampness, want of light, and constitutional debility. Most frequently observed in birds related. The symptoms are chronic cough, with wasting away and loss of strength. It is incurable when once fairly seated. When it is suspected cod-liver oil should be added to the meal.

Cramps.

Early chickens are most subject to this disease, caused by exposure to damp during cold weather. It may be known by a tendency to walk on the toes, and afterwards on the knuckles, or outside of the foot, also by squatting on the hock. Removal to a place provided with a dry boarded floor, well sanded and kept clean, is usually all that is necessary. In severe cases, where the toes are contracted, the legs and feet should be bathed in warm water several times daily, opening and closing the toes, also, afterwards drying them with a cloth. A little tonic should be added to the food. Opium in ¼ gr. doses 2 or 3 times daily will prove beneficial in the treatment of the disease.

Crop-Bound.

Occasioned by careless feeding with hard grain, or pieces of tough meat, bone, or other substance too large for the bird to swallow, and causing the crop to be so disturbed and swelled as to close the outlet to the stomach. Warm water should be poured down the throat, and the crop gently kneaded or worked for an hour, if necessary, until it becomes soft, holding the bill open and head down. Then give a tablespoonful of castor-oil, and feed sparingly for several days, to prevent a permanent distention. If this is not effective, an incision about 1 in. long should be made at the top of the crop, first removing some of the feathers, care being taken not to open any of the large blood vessels. The contents of the crop should then be removed, and the outlet examined, to see that it is not stopped up. The incision may be closed by making 3 or 4 stitches with silk or horse-hair in the inner skin, and the same in the outer. Be careful not to sew the two skins together, as it is almost certainly fatal. Feed on soft bread, and allow no water for 24 hrs. after the operation.

Crop Soft or Swelled.

Usually caused by excessive drinking, and the contents of the crop are of a soft fluid character. Confine the bird separately, and feed sparingly with soft food thoroughly cooked. The water should be slightly acidulated with nitric acid, of which the bird should be allowed to drink but moderately after each meal only. The food should be seasoned with tonic No. 4, heretofore given for cholera, and ½ teaspoonful of sal volatile given every morning in double the quantity of water. Chopped onions or garlic is the best green food during treatment, having themselves a strong medical effect. It is very much doubted whether the distended crop, resulting from negligence after treating for "crop bound," can ever be successfully removed. The two disfigurements being similar in appearance, are liable to be confounded. The one resulting from excessive drinking is properly a disease, not so fatal as the hard crop, but, nevertheless, sufficiently dangerous to excite apprehension, while the other, beyond being unsightly, causes little injury to the bird.

Dysentery.

This disease is really chronic diarrhœa, the droppings being mingled with blood. Rarely cured, and highly contagious. The bird diseased

should be removed to a cool place, and the cholera remedy applied. A teaspoonful of strong cinnamon tea should be given every hour instead of water. The carcass, in case of death, should be buried deeply, away from the yards, and the latter thoroughly disinfected.

Debility.

Sudden terror or prostration from a long journey, and excitement attendant upon exhibition, often occasions fowls to droop without any apparent positive disease. In such cases, nothing is better for restoring the strength than a raw, fresh-laid egg daily.

Diarrhœa

Is usually caused by too sudden change of food, and sometimes the weather. In its early stages it may be easily checked by feeding soft food cooked with milk and mixed with chalk, or seasoned with pulverized cinnamon, or by giving camphorated spirits every 4 or 6 hrs., in doses of 10 to 20 drops, according to severity, and feed nothing green, except it be fresh grass, in limited quantities. But if the case is one of severity, 1 teaspoonful of laudanum every 6 hrs. should be given until relieved. With proper and judicious feeding, plenty of fresh water, cleanliness, and a plentiful supply of lime, broken oyster shells, or bone dust, and a free use of some one of the tonics recommended for cholera, there need be but little fear of any serious results.

Egg Bound.

Inability to lay on account of the unusual size of the egg, may be shown by the hen coming off the nest and moping around in evident distress with wings on the ground. Sometimes she remains on the nest. A large dose of caster oil will generally give relief in a few hours. Failing in this, a free injection of olive oil into the oviduct may be used, care being taken not to break the egg. If no syringe is at hand, the oil may be passed up with a feather, having first bathed the vent with some warm water. In case the egg passage should protrude or become upturned, egg production should be totally arrested by giving the following: 1 gr. calomel, 1-12 of a gr. of tartar emetic, and ¼ of a gr. of opium made into a pill and administered every 4 hours. In the first pill the quantities of calomel and opium may be doubled.

Elephantiasis or Scaly Legs.

The whitish scurvy upon the fowls' shank, if permitted to remain will not only result in large unsightly scabs, but be communicated to the whole flock. It depends upon a parasite, and "grows with what it feeds upon."

If proper care is given to your poultry, this offensive and unsightly leg-scab will not appear among your flocks. But when it does show itself it should be properly attended to and destroyed in the incipient stages. To effect this, remove the diseased bird from the others in your pens and wash the limbs thoroughly in warm "whale oil soap" suds. Use a common stiff nail brush, in the process of cleansing, and then rub

dry with a coarse cloth. Bathe the shanks immediately afterwards with a mixture of lard, powdered sulphur, and spirits of turpentine, equal parts, and leave a coating of this greasy composition upon the limbs for 2 or 3 days. By this time the parasites will be destroyed, when the operation should be repeated. Two applications will cure the evil if not too far advanced.

If you have permitted the "scales" to grow into knots or warty bunches before you attend to this remedy you will find it will take longer to soften, kill, and remove the tenacious collections upon the birds' legs. But these are only masses of infinitesmal insects, and the sulphur and spirits of turpentine combined are "sure death" to them.

Three or four applications daily of kerosene oil is also recommended as a wash, and the scales, when slackened, can be removed with a blunt knife, after which anoint as above.

Eruptions.

A whitish scurf or efflorescence, causing the loss of feathers, as far as it extends, generally results from a lack of green food. This must be attended to and cleanliness also. The diseased parts should be dressed with tar and sulphur ointment, or a compound of cocoanut oil, 1 oz., and powdered tumeric, ½ of an oz. A dose of castor oil, followed by 1 teaspoonful of powdered sulphur, daily, or in their food, for 10 days should also be given. The affection is contagious and it is necessary to isolate the afflicted fowl.

Feather Eating

Is sometimes classed as a disease, and our recommendations with regard to the vicious habit, were given in previous pages.

Fledging.

When the weather is cold and damp and the chicks appear to be suffering much, the food may be seasoned with No. 3 Tonic (as recommended for cholera) and the addition of tincture of iron to their drink, which should be warmed milk.

Frost Bites.

Large combed varieties suffer from having combs and wattles affected by the frost. By oiling them with a sponge every morning this may be partially prevented. The best treatment for frost-bite is a vigorous application of snow or cold water, afterwards applying glycerine. Painting the frozen part with compound tincture of myrrh 3 times a day is said to be beneficial. Turpentine is recommended. The best prevention is, however, frost-proof roosting apartments. When the fowls are not kept for exhibition birds, and the houses are not proof against freezing, it is best to dub them. The operation consists of cutting the comb and wattles clean with a pair of shears, an ordeal which, in our opinion, is less painful to the bird than the suffering which results in the same disfigurement by frost-bite.

Gapes.

This disease is caused by the windpipe of chickens or young fowls being infested with worms, eventually causing suffocation. How the disease is propagated, is a question the most profound authorities disagree upon. The worm is usually found doubled, of a pale reddish color, and rather less than ¼ of an inch in length. The number in one chicken varies from two or three to a dozen. Dirt and damp undoubtedly have a predisposing effect, as it is well known that gapes rarely ever trouble a clean, dry yard. By many it is supposed that the worm is germinated in some manner by lice or a similar parasite which infests the heads of small chickens, and as a preventive the following ointment, applied very lightly on the back of the head, on the throat, and under the wings, in a melted or fluid state, at the time of taking chickens from the nest, is said to remedy the evil: mercurial ointment, 1 oz., pure lard, 1 oz., flour of sulphur, ½ oz., crude petroleum, 1 oz. It is stated on good authority that chicks anointed in this manner have never had gapes, while others of the same broods not anointed, have been affected. The disease may be checked after it has entered the yards, by using fluid carbonate, camphor, or lime, in the drinking water, and the affected bird made to inhale the fumes of carbolic acid by placing a few drops on a hot shovel, holding the bird in the fumes until nearly suffocated. This kills the worms and is an effectual cure.

The worms may be taken from the throat also in the following manner: Take a medium soft quill feather, pluck the web from both sides to within a short distance of the tip, and wet with a solution of 20 grs. of carbolic acid and 1 oz. of glycerine. Run the feather down the windpipe, give it 3 or 4 turns and withdraw. Repeat 2 or 3 times, with a new feather each time. The acid paralyzes the worms, and the glycerine sticks them to the feather, and they are thus withdrawn from the throat. The feathers and all matter drawn from the throat should be burned in order to prevent the exposure of the balance of the flock to the contagion.

Gout.

This is a disease that can easily be distinguished from leg weakness by the feverish condition of the legs, and is usually the result of overfeeding and lack of exercise. Remove the bird to a warm, dry place, give a dose of jalap or calomel to open the bowels, after which administer ½ gr. pill of extract of colchicum twice a day, and rub the legs and joints with sweet oil daily.

Giddiness.

Usually resulting in apoplexy, is caused by too high feeding. Hold the head under a stream of water for a minute, reduce the system with a dose of castor oil and feed sparingly.

Indigestion.

Loss of appetite, caused by feeding too highly with rich food. The diet should be restricted to soft, well-cooked food, twice a day, with fresh water in moderation, and a reasonable quantity of green food. If the

difficulty does not yield to this treatment, give daily 5 grs. of rhubarb, changed every 4th day for 1 of calomel.

Leg-Weakness.

Young, rapid-growing fowls of the larger breeds are not uncommonly thus affected, and in our judgment it is usually a hereditary affection. It occurs most frequently with stock that has bred *in and in* too closely and too long, (a subject that we shall speak of further along). The only remedy known is dry quarters and tonics in the feed.

Liver Complaint.

Most generally observed in cold and damp localities. Indigestion is frequently a forerunner of this disease, and the remedies recommended in such cases should be applied. If, however, the bird should take on a sickly, yellowish look about the head and comb, there is no doubt of a serious enlargement of the liver. Alternate doses of mercury and cod-liver oil may effect a cure when not deep seated; but success can not be expected when morbid structures are of any considerable size. Poultry keepers should never breed from fowls affected in this way.

Pip.

The symptoms are a short, quick, spasmodic chirrup, much like the name, repeated at short intervals. On examination, a dark-colored, dry, horny scale will be found on the end of the tongue. It is not a disease, and demands no treatment, being only analogous to a foul tongue in human beings. Cure the roup or bad digestion, or whatever be the real evil, and the pip and its symptoms will disappear with it.

Rheumatism.

Weakness of the legs, stiffness of the joints, contraction of the toes, are symptoms of this disease, which may be taken for cramps. The treatment is similar. The bird must be put in a warm, dry place, and be fed with warm and rather stimulating food. The legs should be bathed in rather hot water, containing some mustard, and quickly dried. ½ gr. of opium should be given internally twice a day. A little cooked meat every day is beneficial, and minute doses of oil of mustard have been of marked efficiency in some cases.

Roup.

Probably the amateur, and sometimes even the experienced breeder, turns more anxiously to the treatise on this disease than to any other, for it is at once the most annoying and destructive of the whole catalog, though less to be dreaded now than formerly. Roup is always caused by wet or very cold winds, or by confinement in damp and tainted quarters. It begins with a common cold and terminates in an offensive discharge from the nostrils and eyes, often hanging in froth about those organs. It is most highly contagious, the disease being, as we believe, communicated by the sickly fowls contaminating the drink-

ing water. Therefore, let all fowls affected by it be at once put by themselves and have a separate drinking vessel.

Treatment—In this disease nearly equal numbers recover under various modes of treatment, as regards internal remedies, but in *all* cases the bird should be at once isolated, the water vessels kept disinfected and warm, dry lodgings and stimulating, nutritious food given them. Wash the eyes and beak, night and morning, with a diluted solution of vinegar, using for this purpose a swab made by tying a rag around the end of a small stick; the nostrils will sometimes become entirely stopped up, and should be cleansed thoroughly. For internal treatment, a dose of castor oil, to be followed every morning and evening by a pill of balsam copaita, 1 oz.; licorice powder, ½ oz.; peperine, 1 dr., with enough magnesia added to make the mass into pills. A few drops of tincture of iron should be added to the drinking water. Roup runs its course rapidly, and in a week the bird will either be almost well or so nearly dead that it had better be killed at once. It is *the* disease of poultry, and to be dreaded accordingly; fortunately, the symptoms are specific, and the remedies equally so.

We also present the following remedies, each of which have been reported as efficient in many cases:

1. Powdered sulphate of iron, ½ dr.; capsicum powder, 1 dr.; extract licorice, ½ oz.; make into 30 pills, and give 1 pill 3 times a day for 3 days; then take ½ oz. of sulphate of iron and 1 oz. of cayenne pepper in fine powder, mix carefully 1 teaspoonful of this powder with butter, and divide into 10 parts; give 1 part twice a day; wash the head, eyes and inside of the mouth with vinegar twice daily.

2. 5 drops of tincture of iron in 1 teaspoonful of water twice a day. Feed the fowl with scalded food well seasoned with cayenne pepper.

Undoubtedly the seeds of this disease are laid in the sudden changes from warm to cold nights, when the summer changes to fall, and the chickens are allowed to occupy damp and draughty coops, or roost in the trees, and wander about hungry in the raw, cold morning. This would especially tend to roup if there should be a continued spell of damp weather, for roup is, after all, simply a chronic catarrh, or cold. Upon the first indication of a change of weather in the fall, the fowls should be provided with warm, dry quarters, and not allowed their liberty in the morning until fed. A plentiful supply of good, nutritious food, tincture of iron added to their water, and occasionally a little sulphur added to their soft food, will, as a preventive, be more valuable than all the cures enumerated above.

Rump-Ail.

This difficulty, occasioned by the badness and infection of the hen house, has for symptoms, constipation, slowness in walk, troubled sleep, sad, dejected manner, low head, drooping tail, and bristling feathers. The fowl does not scratch, and finally a tumor forms around the rump. It is necessary to cut this tumor and press with the finger to expel the pus; then wash the wound with diluted vinegar, or stale wine. Feed with agreeable diet, like barley, bran, or boiled rye, or lettuce. One of the first precautions to take, is to purify the hen house.

Soft Egg.

This ailment has been spoken of before in these pages, and a remedy recommended. The difficulty is, however, sometimes the result of over

feeding, in which case, reduce the food, and feed sparingly on mashed potatos.

Wry Tail.

Carrying the tail to one side, is strongly hereditary, and an evidence of a weakly constitution. The surest way to cause its disappearance and prevent its recurrence, is to get rid of the fowl, and change your breeding stock.

It should be noted that the first general symptoms of nearly all diseases is diarrhœa, which, we have observed, usually manifests itself, even in roup, before any discharge from the nostrils is perceptible. At this stage much evil may be warded off. Whenever a fowl hangs its wings, and looks drooping, let it be seen at once if it appears purged, and if so, give immediately, in a tablespooful of warm water, a teaspoonful of strong brandy, saturated with camphor. Repeat this next morning, and in most cases the disease, whatever it may be, will be checked, and nature will perfect the cure. Care must, of course, be taken to give the invalid warmth and good shelter. If the evacuation continues, administer the stronger prescription given for diarrhœa.

We could easily fill a long chapter with further prescriptions, but we believe the above are all that can be usefully given, and that few of them will ever be needed if our advice preceeding this subject be rigidly followed.

BREEDING.

The subject of in-breeding, that is breeding fowls who are akin, is one upon which there is much to be said on both sides. Against the practice it may be said that the tendency of close breeding is *always* to reduce vigor and stamina, and nothing but uncommon strength of constitution in the stock can withstand this tendency towards deterioration. In favor of the practice, all breeders are aware that characteristic marks or traits may be fixed more rapidly and surely by in-breeding than outbreeding, except such traits or qualities as great size or vigor, which are directly attached by close breeding. Close breeding has filled many a poultry yard with weakly, roupy fowls.

Our advice, therefore, is that in-breeding should be avoided by the amateur. Change the cock every year and see that he is a robust, lively bird. When the amateur has a flock of pure breeds, and desires to keep them so, and it is impracticable to get a cock of a different strain, we would advise that you breed the old cock to the young pullets, or the young cock to the old hens. Never, under any circumstances allow breeding where the relationship is so close as brother and sister.

Capons.

The art of making capons by castrating the cocks when young has been practiced from the earliest antiquity in Greece, India and China, and in England, in Shakespeare's day, so that he naturally referred to men of aldermanic proportions of stomach, as being "with good fat capon lined." Tens of thousands of capons are sent to the markets of Paris yearly during the autumn months.

Caponizing is mostly practiced in this country in Pennsylvania and New Jersey. Its effect upon the fowl is that it grows about one-third beyond its otherwise natural size, fattens more easily and rapidly on less food, and their flesh is of fine quality, the price they command in the market being 50 per cent. higher than that of ordinary fowls of the same age. As an illustration we quote from a published statement of recent date that "a man in New Jersey had just sold a lot of 258 capons, averaging in weight 10 3-5 pounds, the heaviest pair weighing 28 pounds. The price obtained was 38 cents per pound, making over $4.00 per head for the fowls." This is an example worthy of imitation by our readers who raise poultry for the food market. Extra fine fowls always find a ready sale at fancy prices. With the improved instruments manufactured of late years, the operation of caponizing is quickly, easily and safely performed, and the art can be acquired by any farmer in a short time. Circulars describing the operation in detail, together with the instruments necessary, are usually furnished at market price by the publishers of reliable poultry journals all over the country.

What Varieties Should Be Kept.

When fowls are kept as a means of domestic convenience or economy, it will be obvious that the system to be pursued should vary according to the extent of accommodation which can be afforded, and to the object sought. Both of these considerations should be well weighed before operations are commenced, and the plan determined upon as best adapted to the circumstances should, as long as the circumstances remain the same, be constantly carried out and adhered to.

It very frequently happens that a regular supply of eggs is the sole object in view, and that neither the time, trouble nor space can be spared to rear chickens. If, for instance, space for the house and run described be the sole accommodation for fowls, to attempt rearing them would be folly. It is not meant to be denied that chickens *can* be reared in such circumstances, and that in good health and to fair size; but it does not *pay*, and the experiment made will rarely be tried a second time; and yet they may be kept so as to make a good return for the cost of maintenance. The proper plan in such a case would be to purchase, in the spring, a number of hens, in proportion to the size of the house and run, and none exceeding a year old. A cock is useless, as hens, if there be any difference, are rather better without one, and when the eggs only are wanted, his food would be thrown away. All these birds, if in good health and condition, will either be laying or commence almost immediately, and if well housed, as prescribed by us, and properly fed, will insure a constant supply of eggs until the autumnal moulting season. When a hen shows any desire to set, the propensity should, of course, be checked; not by the barbarous expedient of half drowning the poor bird in cold water, a process as ineffectual as it is cruel, but by shutting her up in a dark place, with plenty of water and rather scanty food. A barrel inverted on three bricks, with a hole in the top for ventilation, makes an excellent prison for a broody hen, the food and water being given through the space just under the rim. A few days of such confinement will take away all desire to set from almost any hen but Cochins and Brahmas, (which should not be kept on that account under the circumstances we are considering,) and in about 10 days or two weeks the fowl, if not older than we have recommended, will begin to lay again.

To buy only young and healthy birds is very important. An experienced hand can tell an old bird at a glance, but it is rather difficult to impart this knowledge to a beginner, for no one sign is infallible, at least to an uninitiated interpreter. In general, however, it may be said that the legs of a young hen look delicate and smooth, her comb and wattles soft and fresh, and her general outline, even in good condition, (unless fatted for the table,) rather light and graceful; while an old one will have rather hard, horny looking shanks, her comb and wattles look somewhat harder, dryer and more "scurfy," and her figure is well filled out. But any of these descriptions may be deceptive, and the only advice we can give the reader is to use his own powers of observation and try and catch the old look; he will soon do so, and need no further description.

As soon as these hens stop laying in the fall, and before they have lost condition by moulting, they should be either killed or sold off and replaced by pullets hatched in March or April, which will have moulted early. Then, again, still supposing proper feed and good housing, they will all be producing eggs by November at farthest, and continue, more or less, till February or March following. They may then either be disposed of and replaced as before by hens that were hatched later in the season previous, which plan we prefer, as they are just in prime condition (or ought to be) for the table; or, as they will not stop laying very long, the best of them may be retained till fall, when they must be got rid of. (This is if the greatest amount of profit be the object sought—the question of "pets" and the pleasure to be derived from them we are not considering.) For if fowls be kept for eggs it is essential to success that every fall the stock be replaced with pullets hatched early in spring. By no other means can eggs at this season be relied upon, and the poultry keeper must remember that it is the winter which determines whether he shall gain or lose by his stock; in summer, if only kept moderately clean, hens will pay for themselves treated almost anyhow. The only exception to this rule is in the care of Cochins, Brahmas and Plymouth Rocks, which will lay through the winter up to their second or even third year; but we have found that even they lay more eggs the first than any winter afterwards. We would advise the selection of stock as follows, if of pure breeds: For the spring, Leghorns, Games, Black Spanish, Polish, Houdans or Hamburgs. These are all classed among the "non-setting varieties," and rarely ever become broody until their second year. They are also varieties very prolific in the production of eggs; but as they are also "high flying" breeds of a quick nervous temperament, they, to do well in confinement, must be kept scrupulously clean, as they suffer most from filth or over crowding. The Spanish and Houdans lay the largest eggs, but the Leghorns, Games, Polish, and Hamburgs will produce the greater number. For selection in fall we recommend the Brahmas, Cochins or Plymouth Rocks. As winter layers of the largest eggs of any of the varieties they are first class, are very tame, bear confinement well, and their tendency to set will not be troublesome at this season of the year.

Our advice would be by all means to procure from breed fowls or what are frequently just as good, first crosses, for after all, where is the "barn-door" fowl that will lay as many eggs as the Leghorn, Hamburg or Spanish, or as large a one as the Cochin and Brahma? Still the cost of such stock will stand in the way with many and has to be taken into consideration, and to those who cannot afford "fancy" poultry it may be said that success may be attained with ordinary "barn door" fowls

if care be taken in their selection. They should be young, fair sized, sprightly-looking birds, with plump full breasts, rather short legs, and nice tight-looking plumage, and should be chosen from a yard where the parents have been well fed. If such be obtained, they will repay the purchaser better than inferior birds of any, even the "fancy" class. Thoroughbred fowls are often to be met with at a moderate price, which for some irregularity of feather are quite disqualified as show birds, but which possess in perfection all the merits of the breed to which they belong. Let such be secured and prized by all means when possible.

It has already been remarked that the Cochin and Brahma breeds are excellent layers in winter, but their invincible propensity to set, which occurs every two months, and sometimes oftener during warm weather, is a fatal objection to their being kept in that season, by those who do not desire the care of young broods. If, however, the system adopted depend upon home reared chickens to replant the stock, one or two Cochin or Brahma hens may be kept with great advantage, especially if the other fowls are Spanish, Leghorn, or Hamburg. The frequency of their desire to incubate now becomes a recommendation, as the owner can depend upon "a broody hen" at almost any time which may suit his views, and if parted with at the age of two years, they will not fail to maintain their reputation as winter layers. If it be only intended to replace from time to time the laying stock, or to hatch the eggs of the non-setting varieties, one or two such hens will furnish more broods than will be required. (Their eggs may always be distinguished from the others by their size and color). It is, perhaps, unnecessary to state that when young chickens are to be raised, the introduction of a cock to the flock is indispensible.

Let us repeat again, for nothing is so important, whatever be the breed selected, there must be every autumn a proportion, at least, regularly replaced by young birds hatched in the spring of the same year. This is the greatest secret of success, as far as system is concerned; and if it be neglected, during the winter an empty egg-basket will eat up all the summer profits, and testify dismally to the improvidence of the owner.

Artificial Hatching.

Artificial hatching and rearing of chicks has been practiced without the aid of the hen-mother for centuries in Egypt and China, and within the past ten years has been a subject of much interest and experiment in this country, so much so that there are now made some 20 different styles of "incubators," or artificial hatching machines, and each one with an artificial mother attached for rearing the chick. We have never used one, and it is our belief that the attempt would result in loss of both time and money to any but those thoroughly acquainted with its management.

DIFFERENT VARIETIES OF FOWLS.

Cochins.

The Cochin breed has attracted perhaps more attention and commanded higher prices since its introduction into this country than any other, and the "poultry fever," was mainly caused by its introduction,

and has since resulted in marked improvement, not only in the Cochins themselves, but in every variety of fowls.

The improved Cochin is one of the largest of our domestic fowls. The cock ought to weigh not less than 10 or 11 pounds, and they have been known to reach 15, and the hens not less than 8, 9 or even 10 pounds. The shanks are yellow, profusely feathered, as is also the middle toe. The neck should be short and neatly curved, back and breast broad, wings small, tail short, very abundant fluffy feathers covering the posterior portion of the fowl; comb single, rather small; wattles medium in length, ear lobs red. The colors most bred are buff, partridge, white, and black. The white and black must be perfectly pure in every feather. The buff may be any shade of that color, but should be bright and rich in color. "Mealy" colored fowls are objectionable; black pencilling on the neck hackles are objectionable. Black is admissible in the tail of both sexes, but the less of it the better. The color of the cock should correspond with the hen, except that his hackles, wing coverts, back and saddle hackles are usually a rich gold color. In partridge hens the neck hackles is bright gold, striped with black, the rest of the body light brown, pencilled with a very dark shade of the same color. The cock's hackles and saddle are bright red, striped with black, back and wings dark red, crossed with a sharply defined bar of greenish black, breast and under part of the body, black. The merits of the Cochins have already been hinted at. The chicks, although they feather slowly, are very hardy, grow fast, and are generally ready for the table at 12 weeks. The fowls do well in a limited space, are very tame, early domesticated, rarely quarrel, and cannot fly; a fence 3 feet high, will keep them within bounds; as setters and mothers they are unsurpassed, and if you kill a Cochin for the the table you have *something* to cook. Lastly, they are good layers of very large eggs (brownish in color of shell), especially in winter, when eggs are most scarce.

Brahmas.

Some writers aver that the Brahma was originated by a cross with the Cochin and thus that it is a distinct variety. We do not propose to discuss the question here. They certainly resemble each other in general appearance, in size and color of eggs. This magnificent variety has steadily increased in public favor ever since its first introduction.

Their most marked peculiarity is in the comb, which is totally different from that of any other variety. In a first-class cock the effect is such as would be produced by a little comb about a quarter of an inch in hight laid close to each side of his own proper comb twice as high. It resembles three combs pressed into one. Each division of the comb ought to be straight and even. In the hens the comb is very small, but its triple character should be plainly visible. The formation is quite plain in the little chicks when they leave the shell. The comb is designated among fanciers as a "pea" comb. There are two varieties, viz.: "Light" and "Dark."

Light Brahmas are chiefly white in the color of their plumage, but if the feathers be parted, the bottom color will often be found of a bluish gray, showing an important distinction between them and the white Cochin, in which the feathers are always white down to the skin. The neck hackles should be striped down the center with black—that of the cock, however, often lighter than the hen—and the back white; the wings

should appear white when folded, but the flight feathers are black. The tail should be black in both sexes. In the cock it is well developed, and the coverts show splendid green reflections in the light; it should stand tolerably erect and open well out laterally like a fan. The legs ought to be yellow and covered on the outer side with white feathers, mottled with black. The ear lobes must be pure red. The "Dark" Brahma is similar to the above in every particular, except that of color. At the head, the feathers of the cock should be silvery white, the neck hackles of silvery white with a distinct black stripe down the center and should taper to a point, back silvery white. Saddle hackles silvery white with stripe down the center. Wings small, breast and under part of body black, or black evenly mottled with white.

With regard to the comparative merit of the two colors, the "dark" will probably lay a few more eggs than the "light," but they are not as large. The merits of the "Brahma" fowl places it among the first rank; they are good layers of large eggs, and if of pure breed, will rarely ever set until they have laid 30 or 40 eggs. As winter layers no breed equals them except the Cochin. They bear confinement as well as that breed, but are more sprightly in their habit, and are less liable to get out of condition by over-feeding. They are of immense size, but the flesh is in some respects inferior, this being, we believe, their only fault, but a cross with a Leghorn cock produces the most splendid table fowl possible, combining large size with excellent quality.

Game.

No variety of fowl is so enthusiastically cultivated by the amateur or the fancier, and in none, perhaps, is there room for more difference of opinion. The varieties are legion, and for a description of each we are obliged to refer the reader to the "Standard of Excellence," published by the American Poultry Association, as any attempt at description of the different varieties would occupy too much space for this work. We will simply give such general description as will suffice for nearly all.

The Game cock is the undisputed king of all poultry. The head of the cock should be long, thin, tapering and very strong at its junction with the neck, beak slightly curved, and strong at the base, ear lobes red; after the first Christmas the comb and wattles and ear lobes should be neatly trimmed off. This process is termed "dubbing." Eyes should be large and prominent, bright, clear, with a quick and fearless expression, and perfectly alike in color. Neck rather long and nicely arched, hackle being short and close; back rather short, flat, broad across the shoulders, and narrowing to the tail; the stern slender and neat, and the saddle feathers very short and close; breast broad and full; body very firm and muscular, not soft or hollow on the sides, broad at the shoulders, and tapering towards the tail. Wings of medium length and powerful, the buts and shoulders slightly raised, as if for a sudden spring, the remainder not drooping but carried compactly against the sides, the points resting under the saddle feathers. Tail of medium length, carried well together, and only at a moderate elevation. Sickle feathers only slightly curled. Thighs rather long, round, stout, hard and firm, and placed well forward on the body. Shanks rather long, bony, clear and strong, and standing well and evenly apart; the scales smooth and close, and the spurs set on low. Feet broad, thin and flat; toes long, straight and spreading, and well furnished with strong nails. Body feathers short, glossy, close, hard and firm, quills very hard and strong.

The hen should correspond in form, and, of course, in proportion, hardness of flesh and feathers, with shortness of body being main points. Comb single, small and thin, low in front, evenly serrated, and perfectly erect and straight. Wattles small, thin and neatly rounded at the edges. Ear lobes very small and close to the face. Color of combs, wattles and ear lobes, bright red. Tail moderate in length, not carried over the back, but extending backwards at a slight elevation, the feathers not spread out, but held neatly together. Carriage neat, upright, quick and active. The varieties of games known to the American standard are as follows, viz:

Black-Breasted red Games, Brown-Red Games, Ginger Red Games, Yellow Duckwing Games, Silver Duckwing Games, Red Pile Games, White Pile Games, White Games, Black Games, Blue Games, Gray Games, Spangled Games.

Their merits are many and various. In elegance of shape, in hardihood, in bold and fearless spirit, what can equal them? But beside their recommendations, they rank, as already stated, in the very first class as layers, provided always that they have a good run, whilst for delicacy of flavor their flesh is confessedly beyond comparison. They should never be fatted, being too impatient to bear the process, but if eaten just as taken off their runs, are equal to the pheasant. They also eat little, and are, therefore, profitable fowls, whilst as a mother the hen has no equal. She should not be given too many eggs, on account of her small size; but she will hatch her full complement, and when hatched will take good care of them, defending them against any foe to the last gasp. If there be cats or rats in the neighborhood who have a tooth for young chickens, commend us to a good game hen.

There are, however, a few drawbacks. The size of the hen and eggs are both small, which makes them of little value as a market fowl, and in close confinement, the game hen will, by no means, lay so well as Brahmas, Hamburgs, Spanish, or Leghorns. We should pronounce this breed the very one for a country gentleman, who can give his fowls ample range; and it will, in such circumstances, afford a constant and abundant supply of the most delicious eggs and meat to be obtained.

Plymouth Rocks.

This fowl is a bird of American origin and of comparatively late introduction, but its wide and growing popularity is one of the greatest recommendations we can give it.

Its body is large, square and compact, plumage of a bluish-gray, each feather penciled across with bars of a darker shade of the same color; head, medium size, carried well up; beak, bright-yellow, short and stout at the base; comb, bright-red, single, rather small, upright, straight; wattles and ear-lobes, red and of a medium size; neck, short and tapering nicely; wings, medium size, well folded against the body; tail, comparatively small, curved somewhat upright; sickle feathers and tail coverts, short and well curved; thighs, large and strong, and well covered with fluffy feathers; shanks, of medium length, stout, bony, well apart, bright-yellow in color. The merits of the Plymouth Rock are as follows: They are of good size, good layers of large eggs nearly the year round; the young chicks mature rapidly, and get their feathers much quicker than either the Brahmas or Cochins. They do well in confinement, are good setters and exemplary mothers. They are commonly called the

farmers' fowl, and that name suits them admirably. They are, under reasonably favorable conditions, little liable to disease. They are an unexceptionable table fowl, being thick-breasted and of such juiciness and sweetness as to be hardly excelled by any other fowl for culinary purposes. Their plumage, which resembles the "Dominique," is usually much lighter in the cock than in the hen. Very dark pullets should be bred to a lightish cock to produce the best and most even colors—a dark cock and dark hen bred together having the tendency to darken the color of the chicks, which we have seen nearly black in the pullets. They are very quiet, and may be confined without very high fences.

American Dominique.

This, like the Plymouth Rock, is a bird of American origin, and the description of plumage given for that variety will answer well for this; in fact, the resemblance is so great that if the amateur were to see a dozen hens in a row, containing alternate pairs of each variety, he would say, without hesitation, that they were of the same variety. They, however, differ in the following points: They are much slighter built, have rose instead of single combs. The cock displays a very large tail, with immense sickle feathers. They are plump and tender on the table, and capital layers of medium-sized eggs.

The Dorking

Is a pre-eminently English breed of fowls. The varieties usually recognized are the gray, white and colored; the white being the original color from which the others have been bred. They are a fowl of more than average size, the cock often weighing 12 pounds. In the gray variety the color is not material, so long as they match in the pen. The cock's breast may be either black or black mottled with white, the hackle, back and saddle are usually white, more or less striped with black, and the wing usually nearly white, with a well defined black bar across. The silver gray color is as follows: cock's breast a pure and perfect black, with metallic reflections; head, hackle, back and saddle feathers pure silvery white, and the wing-bow also white, showing a sharply marked bar of black across the middle; tail, pure black. Hen's breast salmon-red, shaded into gray at the thighs, head and neck silver gray striped with black, back silver gray, the white of the quill showing as a streak down the center of each feather, wings gray with no shade of red, tail dark gray, passing into black in the inside. The white birds should be what their name implies, pure white. The description of silver gray will also answer for the colored varieties, because, inasmuch as they are of diverse colors or shadings, any of which are recognizable, no extended or critical description of colors of this variety need be attempted. The white Dorking should have a rose comb, the gray, silver-gray, and colored varieties may have either rose or single comb. All varieties should have a well defined fifth toe.

The Dorking ranks in the first class as a table fowl, and it is for this that it is chiefly raised in England. The meat is not only abundant and of good quality, surpassing most any other breed except the Game, but is produced in greatest quantity in the choicest parts, breast, merrythought, and wings. Add to this that no breed is so easily got into good condition for the table, and enough has been said to justify the popularity

of this variety. The hen is a good setter and mother, and as she remains longer with her brood than any other, is peculiarly suitable for hatching early broods.

The Dorking is only a moderate layer, scarcely ever laying in winter. The chickens are also very delicate, and should, therefore, never be hatched before May in this climate.

The Spanish,

Usually known as White-faced Black Spanish, is a truly beautiful fowl. The general carriage of the cock should be very stately and upright, the breast well projecting, and the tail standing well up but not carried forward. The sickle-feathers should be perfect and fully developed, and the whole plumage of dense jet-black with greenish reflections in the light. The hen should be equally dense in color, but is much less glossy. No white or speckled feathers should be seen. The legs should be blue or lead color. The legs in both sexes are long, but the fowl should be, nevertheless, plump and heavy. A good cock ought not to weigh less than six or seven pounds, and the hen a pound less. The comb must be very large in both sexes, and of a bright red color. That of the hen should fall over on one side, but that of the cocks must be perfectly upright. A most important point, as their name indicates, is their white face. This should extend as high as possible over the eye, and be as wide and deep as possible. At the top it should be nearly arched in shape, approaching the bottom of the comb as nearly as possible, and reaching sideways to the ear-lobes and wattles, meeting also under the throat. The ears are large and pendulous, and should be as white as the face. Any fowl of this breed with red specks in the face, would have no chance at a show. The Spanish fowls are among the best layers.

In rearing the chicks, great care should be taken to keep them out of the damp. Exposure generally results in death, although they rarely have roup. They ought not, as a general rule, to be hatched early in the year, and one cock ought not to be allowed more than three or four hens, as the eggs are less liable to be fertile than most other breeds.

Leghorns.

The Leghorn, like the Black Spanish, was first imported from the Mediterranean, and resembles in many particulars that variety, having similar habit of carriage, the same comb, (upright in the cocks and falling in the hens). They have, however, red faces with white ear-lobe much smaller than in the Spanish, and all the varieties have bright-yellow legs. The varieties are White, Brown, Black and Dominique. The plumage of the Brown is as follows: neck feathers, rich golden-bay, striped with black; back, very dark red, approaching black on the lower part, each feather striped with golden-bay; breast and body black; wing bows red, each feather striped with bay; primaries, black, each feather edged with golden-brown; secondaries, black, the outside web broadly edged with brown; coverts, a metallic or greenish-black, forming a well-defined bar across the wing; tail and sickle feathers, black or greenish-black. The other three varieties are as their name indicates, White, Black and Dominique, in plumage. The Leghorns are among our first-class fowls, and,

except the Hamburgs, are perhaps the most prolific layers known; are hardy and bear confinement well. The different colors are alike in value so far as our knowledge goes, the white laying the largest egg of any. It is a non-setting variety, and lays the largest egg of any fowl of equal size.

Hamburgs,

Present the general characteristics, of rather small size, brilliant rose combs, ending in a spike behind, projecting upwards; blue legs; sprightly, vivacious appearance, and beautiful plumage.

None of the Hamburgs ever show any desire to set until the second or third year, unless in a state of great freedom, but lay nearly every day throughout the year, except during the moulting season, and are often denominated the "Dutch every day layers."

There are six kinds known to the standard, viz.: White, Black, Golden Penciled, Golden Spangled, Silver Pencilled, Silver Spangled. The plumage of the white and black are, as indicated by their name, pure white or black. The plumage of the silver penciled variety is described as follows: The head, hackle, back, saddle, breast and thighs of the cock should be white; tail, black, glossed with green, the sickle or side feathers having a narrow white edging the whole length; wings, principally white, but the lower wing-coverts marked with black, showing a narrow indistinct bar across the wing. The secondaries have also a glossy black spot on the end of each feather, which gives the wing a black edging. The hen should have white head and hackle; the rest of the body should have each feather distinctly marked or penciled across with bars of black, and free from cloudiness.

Golden Penciled—The form and markings of this variety are precisely similar to the foregoing, the only difference being that where the other is white this is of a rich golden or bay color.

Silver Spangles—Whilst the markings on penciled Hamburgs consist of parallel bars across the feathers, the variety we are now considering varies in having only *one* black mark at the end of each feather, forming the spangle, the balance of the feather being pure white. The spangle is usually round or moon-shaped. Each feather on the neck, body, wing and tail is spangled as above.

Golden Spangled—marked same as preceding, except where the former is white, this variety should be a rich gold or bay color. In all these varieties the ear lobe should be opaque white, small, flat, rounded on the lower part and fitting close to the face. We can most strongly recommend the Hamburgs as a profitable breed. Each hen will lay from 200 to 250 eggs in a year, and if they are small, the consumption of food is small also. Though naturally loving a wide range, there is no real difficulty in keeping them in confinement if cleanliness is attended to; the greatest difficulty in keeping them arises from their flying propensities. Small and light, they fly like birds; their run should be covered or surrounded by a very high fence. Hamburgs are small for a table fowl. They carry, however, from the smallness of the bones, rather more meat than might be expected and its flavor is first-class.

Polands.

The Polish fowls are of somewhat remarkable appearance, the chief characteristic being a well-developed crest on the top of the head, the

feathers in the crest of the cock resembling those in his neck hackles, being long and pointed, whilst those of the hen are round. The comb of all Polish fowls is likewise peculiar, being of what is called the two-horned character; it should be almost invisible, but when seen it should present this formation. The varieties known as the standard are as follows: White Crested Black, Golden, Silver, White, Bearded Golden, Bearded Silver, Bearded White. The White Crested Black has black plumage, except the crest which should be snow white; ear lobes white.

Silver Polands--In this variety the ground color of the plumage is silver white, with well-defined black spangles. In the cock the hackle feathers are white-edged and tipped with black; in the hen each hackle feather should have a spangle at the end. Tail feathers clear white, with a large spangle on the end; ear lobes white.

Golden Polands—This breed is similar to the former in black markings, but substituting a rich golden ground for white.

White Polish—This breed is identical with the foregoing, except it is of snow white plumage.

The Bearded Golden, Bearded Silver and Bearded White are of the same general characteristics as those we have mentioned above of same name, except that, as the difference in their name indicates, instead of wattles they have a well-defined beard.

Polish fowls have many solid merits. They improve in appearance up to the third year and under favorable circumstances they are prolific layers, never wanting to set. Their great fault is a peculiar tendency to coulos and roup. The dense crest is easily wet and the fowl is thus attacked in a most vulnerable part. They can only be kept successfully in warm, dry quarters.

Houdans.

This fowl hasthe size, deep, compact body, short legs and fifth toe of the Dorking, which in many respects it resembles, but has much less offal and smaller bones. The plumage varies considerably, and is well described by saying it consists of white and black feathers intermixed. The head should be surmounted with the Polish crest, and they should have a well-defined beard; the comb is of most singular appearance, it being antler-like, retreating rather backward into the crest, the outside opening like two leaves of a book, the center having the appearance of an ill-shaped long strawberry. In the hen it should be very small.

We have no hesitation in pronouncing the Houdans one of the most valuable breed of fowls ever introduced into this country. We have in this fowl the form, size and quality of the Dorking, with earlier maturity. The hen is a prolific layer of good-sized white eggs. The chicks feather rapidly and early, and withal are exceedingly hardy, perhaps more so than any except Cochins, Brahmas and Plymouth Rocks. The hen rarely sets. They will bear a moderate amount of confinement well, but do their best when allowed their liberty.

Crevecoeur.

This variety is favorably known for the quality and quantity of its flesh. In form the Creve is very full and compact; legs exceedingly short, especially in the hens. They rarely set, and are only tolerable layers of large white eggs. The comb is in the form of two well-devel-

oped horns, surmounted by a large crest; wattles, full and long, the throat furnished with ample whiskers; plumage, black. The merits of this variety consists chiefly in its edible qualities, early maturity, the facility with which it can be kept in confinement, and the fine, large size of its eggs.

La Fleche.

In appearance this resembles the Spanish, but excels that breed in size. The plumage is dense black with green reflection.

The look of the head is peculiar, the comb being not only two-horned, like the Crevecoeur, near the top of the head, but also appearing in the form of two little studs or points just in front of the nostrils. The wattles are long and pendulous; ear-lobes, white. The hen is an excellent layer, and does not set. The flesh is excellent. The breed is, however, very delicate, and does not lay well in winter.

There are a number of other varieties of fowls recognized by the standard, such as Russians, Sultans, Silkins, Rumpless fowls, Frizzled fowls, which we would like to describe to our readers would our space permit, but we believe we have enumerated all that come within the practical wants of a majority of our readers, and leave this portion of our subject.

Bantams.

These diminutive specimens of poultry are no doubt produced, in all cases, by carefully breeding from the other varieties, which they nearly, if not quite resemble. This being especially true of the game bantam, between which and the game-fowl there is no difference, except in size. In courage and "bottom," game bantams are not behind their larger relatives. Bantams are more attractive than any other class of "artificial fowls," and their attractiveness consists rather in their beauty than economic value. We will, therefore, not enumerate the different varieties, whose number is legion, but pass on to subjects of more practical value.

Turkeys.

Various opinions have been set forth by different breeders as to whether the raising of turkeys can be made profitable, the verdict of the average breeder being, that they cannot. The main secret of lack of success is the difficulties with which the young chicks are raised. During the first six weeks or two months of their existence, the young are *excessively* tender, being unable to withstand wet or dampness, exposure to a slight shower, or by running through wet grass afterward, often carrying off the largest part of the brood within forty-eight hours. When, however, they have been reared to the age of two months, or to a period of their existence, at which, to use a well known breeder's phrase, "they shoot the red," that is, the red excresences peculiar to the turkeys, begin to make their appearance on the head or neck, they become the hardiest of all domestic fowls, withstanding nearly all hardships and exposure with less bad result than any. After reaching this age they will, if permitted plenty of range, nearly forage their own living, only requiring a meal of grain at night. It has been stated that the number of hens allowed to a cock may be unlimited, and most breeders concede that one visit to the cock is sufficient to render the eggs of the hen fer-

tile for the whole season. The best breeders, however, affirm that, as the number of hens allowed to one cock approaches a score, the chicks show falling off in constitution, and it is thought best to limit the number to about twelve or fifteen—quite enough brood stock for even a large establishment. The turkey cock may be used as a breeder at two years old, and the hen at twelve months, but are not at their prime until a year older, and retain their quality as breeders thoroughly for at least three years longer. The turkey hen usually lays about eighteen eggs, and will lay more, usually when the eggs are removed as laid. A good plan is to give the turkey's first seven eggs to a hen, which is, owing to their size, quite as many as she can cover, when there will generally be enough left to be hatched by the turkey herself. The turkey-hen is very prudish, but gives little or no trouble while setting. She sets so constantly that sometimes it is needful to remove her from the nest to feed, or she would absolutely starve. The well known setting qualities of the turkey-hen is frequently profited by in permitting her to hatch several broods of hen's eggs in succession. When this is practiced, the eggs should be removed and placed under a hen a day or two previous to the chicks making their appearance, and new eggs substituted. The turkey sets thirty days on her own eggs, the chicks breaking the shell usually a little earlier, from the twenty-eighth to the twenty-ninth day. The best food for young turkeys during the first week of their existence, is hard boiled eggs, chopped small and mixed with nothing but minced dandelion; when dandelions cannot be obtained, boiled nettles, chopped fine, may be substituted. At the end of a week or ten days, some bread-crumbs and barley meal may gradually be added to the egg, which may by degrees, be lessened, until quite discontinued at the end of three weeks. Curds are excellent as a portion of their diet, but must be squeezed dry before they are given. By the feeding, the little chicks are got through their first danger—a tendency to diarrhœa—and the cost of the egg food will be repaid by the extra nnmber raised. The water must be supplied in such a manner that they cannot wet themselves, as it is usually fatal, as before alluded to. To attain great size, animal food must be supplied from the first; by this method great weights are obtained.

The number of varieties known to the standard are six, viz.: Black, Bronze, Buff, Narragansett, Slate and White. The plumage of each variety is well described by its name, except the Narragansett, whose plumage is described as being a black, each feather ending in a broad light steel gray band edged with black. Of these varieties the Bronze, or Mammoth Bronze, is the largest and most popular variety; the "gobler" often weighing 35 to 40 pounds and the hen 20 to 25 pounds.

Peafowl.

The common peafowl is a native of India, Ceylon and neighboring islands, where great numbers are to be found wild. The distinguishing characteristics of this bird are the curt, and the peculiar construction of the tail covert feathers. The true tail of the peacock is short and hidden, and what is generally denominated his tail, is in fact an excessive development of the tail-coverts or side-feathers, which have been known to extend more than a yard and a half from their insertions. The color of the ordinary peacock is too well known to need description. The peahen is much more subdued in color, being of a

prevailing chestnut brown, variously shaded on different parts of the body, and mottled or shaded in places, especially about the wings and tail, with dull grayish white. She has a crest like the male, but duller in color and not so tall.

Peafowls are tiresome in some respects and *unprofitable* always. The scream of the cock, if near the house, is most disagreeable, and the bird is also very quarrelsome with other poultry as a general rule, even eating young chicks occasionally. Some are so vicious as to attack young children or aged persons, but these are rather exceptions, and most of them become very tame as regards mankind, coming to the door or window to be fed and making a persistent row until their wants are supplied.

Little can be said about their management. They must be left in a great degree to manage for themselves. The peahen sets nearly eight days, and must on no account be disturbed while setting, which will usually occur in some very secluded spot. She goes with the young chicks until they are six months old, and not infrequently until the following spring. The young appear to need this extended care, and it is therefore useless to attempt to hatch them under a hen. Till they moult at 18 months old, the cocks remain the same color as the hens, and do not get their finest plumage until the third year.

Ducks.

In the care of these birds, they will do well in a garden or any tolerably wide range where they can procure plenty of worms and slugs, and with plenty of water for drinking. Kept in this manner, they will not only be found profitable, but serviceable, keeping the place almost free from those insects which are the gardener's greatest annoyance, and doing very little damage, except to strawberries, for which they have a peculiar partiality, and which must therefore be carefully protected from their ravages. In such cases they are no doubt profitable, and when numerous fowls are kept, a few should also be added, as they will nearly keep themselves on what the others refuse, but when ducks must be raised upon food purchased for that purpose, we are decidedly of the opinion that it would not pay, as they have everlasting and voracious appetites. The young ducklings should be kept from entering water until 10 days old, else they are liable to die of cramp. They soon grow totally independent, and often forsake the mother at two weeks old, after which they may be left entirely to themselves.

Ducks are very careless about dropping their eggs, which usually occurs late in the night or early in the morning, and for that reason should always be penned up at night and not liberated until late in the morning. The varieties known as the standard are Aylesberry, Call-Gray, Call-White, Cayuga, Crested White, Black East Indian, Colored Muscovy, White Muscovy, Pekin and Rouen, with which our readers are sufficiently acquainted to need no description. The most popular varieties are the Aylesbury, Cayuga, Moscovy, Pekin and Rouen.

Geese.

The varieties known to the standard are the African, Brown, Chinese, White Chinese, Egyptian, Embden, Toulouse and the Common Gray. Of these, the Toulouse are the largest and best. The goose and gander

are hardly distinguishable in plumage, their call being the principal feature of difference. They often, when mature, reach the enormous size of 30 lbs. in weight, and are very lazy in their carriage and easily kept within an enclosure. Toulouse geese, with a good grass run, will do well with only a trough of water, and will require no extra feeding in summer except for fattening. With regard to the general management of geese, little need be said. More than four or five should not be allowed to one gander; but to secure the finest stock, not more than two or three should be allowed to run with one male.

Geese should be hatched in April or May, as dry, warm weather is productive to young goslings. The time is 30 to 34 days. The goose sets very steadily, but should be induced to come off daily and take a bath and partake of a good supply of food, or hunger will compel her to eat her eggs. The goslings should be allowed to hatch out entirely by themselves; and when they leave the nest the mother should be confined for two weeks, or kept in such circumstances as that the young should not get into the water for that period. They should be fed liberally with oat-meal and rice, and have a never-failing supply of water to drink. After two weeks they can be left almost to take care of themselves. For fattening, geese should be penned up in a dark shed and fed on barley-meal, but let out several hours before being killed, that they may bathe liberally, and thus cleanse their feathers. The goose is a profitable fowl to those having a sufficient "pasture" or grass run, their feathers being always in good demand, and a good fat goose finds a ready market for the table.

Number of Hens to a Rooster.

The number of hens to be allowed to one rooster should, of course, be generally varied by the vigor and activity of the bird; but the following general rule will be found nearly what is required: Houdans, 10 hens to 1 rooster; Crevecoeurs, 8; Cochins, 10; Dorkins, 10; Leghorns, 14; Spanish, 12; Brahmas, 10; Hamburgs, 14; Polands, 12; Games, 10. With this proportion of hens to a rooster, the vitality of the eggs will generally prove good.

THE STABLE AND OCCUPANT.

Every one will prefer to have the stables near his house, if not on his own premises; in either case, if they are already built, he must do the best he can with them. Old buildings are for the most part very defective, badly drained, and badly ventilated. This must at once be remedied, and may generally be done at a moderate expense, which will be amply repaid by the improved health and comfort of the horses.

When about to build a stable, the first consideration will naturally be the selection of a site. We need not insist on the advantages of a southerly aspect; they are almost self-evident. The stables will be much more cheerful, and much warmer, and enable the groom to avail himself of every gleam of sunshine to open the windows and thoroughly ventilate the interior. If, however, this cannot be managed, a west aspect is next best, and a northeast the worst.

Drainage.

There are 4 conditions which are to be regarded as indispensable in the construction of all drains from all buildings whatsoever. These conditions are:—Firstly, that the entire length of drain is to be constructed and maintained with sufficient declivity towards the discharge into the cesspools to enable the average proportion and quantity of liquid and solid matters committed to it to maintain a constant and uninterrupted motion, so that stagnation shall never occur. Secondly, that the entire length of the drain is to be constructed and maintained in a condition of complete impermeability, so that no portion of the matters put into it shall accidentally escape from it. Thirdly, that the head of the drain shall be so efficiently trapped that no gaseous or volatile properties or products can possibly arise from its contents. And, fourthly, that the low extremity of the drain or point of communication with the cesspool shall be so completely and durably formed, that no interruption to the flow of the drainage or escape shall there take place, and that no facility shall be offered for the upward progress of the sewage in case of the cesspool becoming surcharged.

For most purposes a fall of 2½ ins. in 10 ft. will be sufficient, and the drain should be of 3 or 4 inch glazed stoneware pipes with carefully-made socket-joints laid in the direction of the current, and cemented. For the head of the drain we would recommend the bell-trapped horse pots, which are to be had at all stable-furnishing ironmongers, taking care that they are sufficiently large and of good, strong quality.

The cesspool for sewerage should be well away from the tank provided for the reception of the rain water, and well puddled with clay on the

outside and cemented inside. Precaution should also be further taken that all sewage drains should be laid below the rain water drains, so that in case of any accidental defects, no matter will, by any possibility, taint the water supply.

The rain water drains will subdivide themselves into two, those laid to collect the drainage of yard, etc., and which may be common pipes laid dry, and leading to an ordinary cesspool made of bricks laid without mortar, where the water will collect and gradually lose itself; the others connected with the down pipes from roofs and leading to a rain water tank. These should be laid with the same care as the sewer drains, the tank constructed in the same way with an overflow pipe to lead to cesspool just mentioned.

The Building.

The plan of the building will vary very much according to the aspect, disposition of land and other premises, and the number of horses to be kept. These should be very carefully studied, and the plans well matured, as the success of the building will greatly depend on the disposition of its various parts. We will lay down as one of the first principles, that no stall should be less than 6 ft. wide by 10 ft. long, no loose box less than 10 ft. square, and no stable less than 10 ft. high from floor to ceiling. Passage in rear of stalls, 5 ft. wide.

Such arrangement as will put all the horses' heads the same way, with the light and ventilation behind them, will be the most preferable, as enabling the doors and windows to be opened without placing the horses in a draught.

The doors should be wide and high, and hung in two heights, with fanlight over (4 ft. by 7 ft. at least), that the horses may go in and out freely, without a chance of knocking themselves about. One often sees a horse hesitating before entering a stable; and when, after a little coaxing, he is persuaded to come on, he will do so with a rush. Such a horse has, no doubt, at some time or other, hurt himself when passing through a door either too narrow or too low.

The light should be full, as tending greatly to the cheerfulness of the interior. It is also well known that horses who work in darkness, such as those in the mines, eventually become blind. Their sight, therefore, must be, to some extent, affected by the quantity of light which they enjoy. The sashes, also, should be hung on centres in their height, as the most advantageous method for ventilation.

To complete the ventilation, the only further requirements will be an opening in the ceiling—not immediately over the horses, but in the rear over the passage—fitted with an ornamental ventilating grating, to be shut and open at will, leading to an air-flue laid between the joists, and conducting the foul air from the stables to the outside through an ornamental perforated air brick or iron grating.

The Floor.

No absorbent materials should be used for the paving of the floor, if it is possible to avoid it, because it will retain the manure, and the stable will never be sweet. It is a good thing to occasionally sprinkle the floor with gypsum when cleaning the stables, as it acts as a great purifier by absorbing the ammoniacal gas, and thus removing the foul

smell which frequently causes ophthalmia. If the ammonia collects in a considerable quantity, muriatic acid is the best disinfectant. A few buckets full of water dashed over the floor, while the horses are at work, or exercising, will usually keep everything sweet. The litter should be frequently dried, and a shed placed by the side of the stable is a great advantage for this purpose. Then, too, in stormy weather, the horse can be dressed there.

The Manger.

The best mangers are those containing hay-rack, grain-manger and water-trough; and in the best stables, or those somewhat expensively built, they are made of galvanized iron.

The wall over the manger should be match-boarded to the height of partitions, and lined with iron hoop bands, sheet zinc over the joints of match-lining, or enameled tiles, to prevent horses biting at it when being cleaned.

The manger will have two rings for halter reins, and a ring and galvanized chain fitted in wall over same.

Stable Utensils.

Under this head is included all that is used in dressing the horse, and in cleansing the yard and stable.

The pitchfork is used to shake up the straw, of which the horses' bed is made; to remove all that becomes soiled and dirty; and, in general, to set it fair and straight. The handle should be kept clean, and the prongs bright.

The shovel removes the smaller particles, and the scrapings of the stable yard.

The besom or broom is used to sweep out the stable after the damp, soiled litter has been removed, and to keep the yard neat and clean. Those made of birch are the best, and are bought very cheap, according to the quality and locality.

A manure basket, to take up the droppings. This should be done before trodden about, to keep the straw clean and the stable sweet.

The stable pail should be made of strong oak, bound with iron, and neatly painted.

A sieve, to cleanse the oats and chaff of all dust and small stones.

A peck and a half-peck measure, to measure out the oats, beans, chaff, etc., for each horse's feed.

The currycomb.—Horses of the present day are so much better bred than formerly, consequently their coats and skin are so much finer, there is now much less use for the currycomb, except to remove the dust from the body brush. On very rough-coated horses it may occasionally be used, but no other should ever be touched with it. In summer it is absolutely unnecessary, and in these days of clipping and singeing, in the winter it is almost equally so. It must always be used lightly, or it will severely punish the horse, and on no account should the teeth be sharp, or more than ¼ in. in length.

The body brush, or horse brush, as it is sometimes called, is, in the hands of a good groom, the most useful implement used in dressing the horse, as it thoroughly removes all dust and dirt, stimulates the skin, and imparts a gloss to the coat.

The water brush is to wash all dirt and mud from the feet and legs of the horse, and stains from his quarters, etc.

The mane comb, as the name implies, is to comb the mane and tail. It should be made of horn, have large teeth, and be used carefully and only occasionally, as in a general way a good brushing will answer the purpose without pulling out the hair.

The picker is a blunt iron hook for removing the grit and stones from the horse's feet. Some are made to fold up for the pocket. A good, careful groom will always carry one of these.

A sponge, too, is always necessary to dry the legs, etc., after washing, and for other purposes of cleanliness. Price varies according to place and quality.

Leathers and rubbers are also indispensable for drying the horse after work, and wiping him over after dressing.

An oil brush and tin to hold the oil, and to rub round the hoofs before leaving the stable to go to work.

Feeding and Watering.

It is said that one-half of the diseases of the horse owe their origin to over-feeding with hay, particularly young horses and those not kept hard at work. As with human beings, this surplus produces a debility of the stomach and digestive organs, which bring a host of evils in its train. Horses will sometimes eat 30 lbs. of hay in a day, which is three times what should be given during that time; while 8 lbs., with a due allowance of oats, will keep a horse in good health and spirits, while doing full work. Young horses should be kept at grass until five years old, and they should also be moderately worked during that period.

Cut feed, composed of equal quantities of clover or meadow hay, and wheaten, oaten or barley straw, cut into pieces half an inch long and mixed well together, then the allowance of oats, or beans well bruised, added to it, constitutes the best provender for horses, and they like it better than any other. For the farm or cart horse, 8 lbs. of oats and 2 of beans should be added to every 20 lbs. of cut feed. For a moderate-sized horse, 36 lbs. of this feed is sufficient, even when hard at work all day, though the wagon horse, which is hauling heavy loads, may need 40 lbs. The carriage horse may use this feed, but it will not do for the hunter or race horse, though they have been known to do well with it, the grain, however, being largely increased in quantity.

One caution must be given. No one should use damaged hay or musty oats to make this feed. If he does so, it will be to the lasting detriment of his horses.

One great consideration about this manger feeding is, that it saves time for the horse to rest. The chaff being already cut in small pieces, and the beans and oats bruised, he can satisfy his appetite in an hour and a half, while, by the other mode, he eats his grain and then takes two or three hours to clear his rack of hay. Besides this, there is a saving of hay and straw, as there are very few horses that do not habitually waste a portion by pulling it down and trampling it under foot, in order to get the sweetest and best pieces. Afterwards a good feeder will pick up much that he has thrown down, though it will not be in a good condition. It was this that first suggested manger feeding. The animal is compelled to chew his food, because the straw bits are too sharp to swallow without; neither could he waste the straw or hay.

Some persons object to bruising the oats, as they think it gives it a purgative quality; but this need not be feared, as the quantity of straw in the feed may always be made to counteract anything of this kind. It only requires a little watchfulness to enable any one to judge what each horse needs. More hay and less straw is necessary for horses which are doing rapid or hard work.

Hay for horses should invariably be of the best quality; many different sorts and conditions being more or less detrimental to the digestion and wind. Good old upland meadow hay is the best, as being the hardest, sweetest, and most hearty. It should be of a pale brown color, and smell sweet and clean. Hay of a green color is generally grown on low, marshy ground, and is often dusty; while the dark brown indicates that the stack has been very hot from having been put together in too green a state before it was properly made. Both are detrimental to the horse, and therefore to be avoided.

It is more nearly in perfection when about a year old, being most nutritive, and without the purgative quality it has earlier. The slight fermentation that takes place after the hay is stacked is necessary to develop the sugar, but when it goes too far, it is very injurious, and the horse long fed with it will become almost worthless.

The hay should be sprinkled with water in which salt has been dissolved, as this aids digestion, and the horses like it. The best way to salt hay though, is to sprinkle it over the layers as the stack is formed.

Oats are the staple food for horses when at work, and is the part of the food which gives the most nourishment, containing, as they do, about 750 parts in a thousand of nutritive matter. They should be sweet, free from dirt and stones, and weigh nearly, if not quite, 40 pounds per bushel. The lighter oats are generally deficient in kernel, while some of the heavier kinds, by thick coarse husks, make up the weight, which must be taken into consideration by the purchaser in making his selection. The value of the oat depends more upon the thinness of the husk and the amount of meal contained in the kernel, than upon the size and weight, which are often the result of thick, coarse husks.

No oats should be used until they have been cut at least six months; and if 12 or 18 months have elapsed, they are so much the better. New oats, and oats that have been heated in the barn or stack, are not only very prejudicial to the horse, but it is impossible to get him in good condition on them, as they are too soft and relaxing. When eaten in considerable quantities they are apt to give him the colic or staggers. The old oat forms a smooth mass when chewed, and is readily acted upon by the stomach.

The quantity of oats to be fed to the horse varies according to the work to be done. In the winter a medium-sized animal, doing moderate work, will be well fed upon from 10 to 15 lbs. a day, while in summer half the quantity with the green food will suffice. Nothing can safely be substituted for oats, as nothing else seems to combine so many necessary and desirable qualities for food. An excellent gruel is made for the sick horse out of oat-meal, in the proportion of a pound of meal in a gallon of water, stirred constantly until it boils, and a few minutes afterward.

Barley is very nutritive, containing over 900 parts in a thousand of nutritious matter, and it has sometimes been substituted for oats; but it frequently gives rise to inflammatory complaints, and hence is not considered so desirable. When given it should be bruised, and the chaff

should consist of equal parts of hay and barley straw. Not more than a peck should be used in a day.

Wheat, though containing still larger proportion of nutriment, is not good, being apt to ferment and produce colic, and often death. If given at all it must be given in very small quantities, with very little hay and a large proportion of straw. Bran may be given as a sort of aperient in the form of mash, but never as a regular article of food.

Beans contain only about 550 parts of nutritive matter, and yet they add very much to the horses' strength, and some animals will not stand hard work without them. They are somewhat astringent, and seem, also, to possess a stimulating power which does not die away, but continues each day as they are used. It will not do to give them whole or split, but they must be crushed, and during the winter 2 lbs. may be given with advantage during the day, but in summer this quantity must be very much diminished. Beans ought always to be given with oats, as otherwise they would be too binding and stimulating. They should be a year old before being used.

Peas are sometimes used, but they are not as good as beans. Indian corn is also a valuable article of diet combined with roots and salted. Among the other vegetables that may be used to advantage are carrots, turnips and potatos, sliced up and put in their chaff.

Horses should be fed at as regular intervals as possible, and never allowed to get too hungry. If extra work is required of him, it is better to give a double feed the night before, rather than the morning of the day on which he is to do it.

Watering.

This is a very important thing in the care of a horse, although the farmer rarely pays much attention to it, except to let the horse go to a brook or trough to drink at night and morning and take his fill. This usually does him no harm, because the water is soft, and seems to contain certain principles necessary to his well being, and probably produced by the decomposition of matter. He likes soft water better than hard, and will always take it in preference, although the last is clear and the first turbid. Well water, besides being hard, and causing a roughened coat, is, when freshly drawn, too cold, and both qualities together will cause colic and sometimes death.

A horse should have plenty of water, given, however, judiciously. Three times a day in summer is not too often. One hour before his work begins he should be allowed 2 qts. Of course, water should never be given either immediately before or after eating grain. Very often when a horse which is traveling refuses food, it is because he is thirsty rather than that he is so much exhausted.

Care of the Stable.

The temperature should not exceed 70° in the summer, nor fall below 40° or 50° in the winter. The litter should be frequently removed in order that putrefaction may not take place. It will become wet and softened by the urine in a very short time, and should be immediately swept away. No fermenting dung should be allowed to remain during the day in any portion of the stable.

There should be some arrangement of the floor by which the urine may be made to run off quickly, though it must not be by a descent sufficient to keep the toes higher than the heels, which would be likely to cause a lameness. The best way is to have a grating in the center with a slight inclination towards it from every side, and the gutter beneath communicating with a larger drain, and that with a reservoir outside the stable. A moderate quantity of litter should be placed beneath the horse through the day, especially if the floor is paved.

Grooming.

Regular grooming is not necessary for the farm horse, which requires little more than to have the dirt brushed off. The stabled horse, on the contrary, must be thoroughly rubbed with the brush or currycomb, to open the pores of the skin and cause the blood to circulate freely to the extremities, and produce the healthy perspiration which he does not get by exercise. A fine coat should be produced by rubbing and not by heating the horse. He should be regularly rubbed every day, besides what is necessary after work. The currycomb must be used lightly, and in many cases it is not needed at all. A soft brush applied with more weight to the hand would be better. When the skin is very thin, a hair cloth will be sufficient.

Exercise.

This is as important for the horse as for the human being. The farm horse, of course, gets all that is necessary, as does the draught horse of every kind; but the stable-fed horse should have two hours' exercise given to him every day, if he is to be well. To keep a horse standing idle, then take him out and ride or drive him long or fast is to ruin him. Exercise must be regular, and may be gradually and so safely increased. A young horse needs more exercise than an old one. To promote health, it must be moderate, at least at the beginning and ending.

Clothing for a Horse.

This consists of several articles, which may be very expensive in make and finish, or the contrary. It consists of blankets or rugs of different degrees of warmth and thickness, according to the time of year, a roller, a suit of body clothing, and a set of flannel bandages. The best material will be the cheapest in the end, as wearing so much longer than the cheaper kinds.

The blanket or rug should be cut back at the top of the shoulder, with a projecting piece on each side coming round and meeting in the center of the chest, where they fasten with a buckle and strap. Each rug, too, should be bound with some strong material to prevent the edges tearing out. Two rugs will be found necessary for each horse.

A suit of body clothing may be made of various materials, but strong, warm serge is best for winter, and a lighter kind for summer wear. It consists of a quarter-piece, hood and breast-piece, with roller to match. The roller must be well padded, to prevent bruising or injury to the back from pressure.

In winter, in a warm stable, a heavy rug and the body clothing will be found sufficient during the day; but at night the latter should be removed

to keep it clean, and another substituted. Flannel bandages are necessary in illness, to keep up circulation and warmth in the extremities, and to put on after the legs have been washed. Of course these things are only used for fancy stock.

Shoeing.

The horse must be shod according to the amount of work he has to perform. The shoes should last three weeks or a month, but they should be removed as often as once a month. The horn should never be cut away when the horse is shod unless he has very strong feet. Simply have the rough, ragged parts removed, and the foot rasped around the toe. If this were well attended to, there would be fewer lame horses. The shoeing should always be done by an expert, and never carelessly.

Pasturing.

A few remarks are necessary in regard to pasturing, which, if properly conducted, is very healthy for the horse, but some cautions are requisite in order to have it prove so.

In the first place, he should never be turned out of a warm, comfortable stable in the early, cheerless spring days, or in those of the gloomy, chill autumn. He is sure to get cold, just as a human being would, and if such treatment is continued, will contract a disease which may never leave him. It is a comparatively easy matter to provide a shelter, which may be merely a hovel with three sides, open to the south, but high and dry. If litter is placed there, the horse will be tempted there not only during the cold weather, but in the heats of the summer. Exposure to the extremes of either heat or cold is apt to produce emaciation, though he will recover much sooner from the former than from the latter.

It is not best to cut off the tail from any caprice, or for any other than the most excellent of reasons, especially before pasturing, as that is the only means of defense that the poor animal has against the flies, which will sometimes irritate tender-skinned horses almost to madness.

It is best to preserve the feet by light shoeing, as pastures are sometimes hard and baked by the sun, and unshod horses will break away the crust and in so doing rub off the horn, until there is not enough left to hold a nail.

The usual time for turning horses out to pasture, is about the beginning of May. If the season is early, the last of April may be substituted, as the grass is young, juicy and tender, and exceedingly nutritive. If the weather is unsettled and backward, they should be brought in at night and on cold days. Some care should be taken to prepare a horse which has stood in a stable for his exposure when turned out to pasture. The temperature of the stable should be gradually reduced until it becomes as cool as the air outside. The horse should not be groomed for eight or ten days before going out, but the feet should be dressed and the grass shoes applied a week previous. He should also be fed as usual, so that he will not over-eat of the green grass.

It is not a good thing to use the expedients that are often employed to

prevent horses from breaking through or leaping over fences, as some of them are apt to injure their gait, and with others there is danger of receiving serious injury. Usually a little watching for a day or two will end all trouble of that kind. But horses in pasture should all through the summer be visited every morning by some trustworthy person to see that they are all right.

When taken from grass to stable again some caution is necessary in giving them food, and in their treatment generally. Physic is very often given to prevent the diseases that are apt to follow the change, unless it is made gradually so that there is no rapid transition. Effected by slow degrees and there would be no need of so many evils as often follow stabling after grazing. Physic is frequently given indiscriminately and carelessly, to the injury of the animal. A very fat, lusty horse may need strong doses once or twice, one immediately on stabling and another after an interval of a week. A lean horse does not need it for several days after coming in from grass, and possibly not then. Two or three weeks will tell the story. A very useful tonic is 1 dr. of tartar emetic, 2 of ginger, and 4 of gentian, made into a ball with honey. This is excellent when there is a torpid state of the digestive apparatus, produced by a poor diet, and a mild physic has been administered. One of the balls should be given every day, or every second day for a fortnight.

Farm horses are sometimes kept at pasture at all hours when they are not at work, or turned out only at night. In both cases there is a great loss of strength when the horse should be resting. A man could cut the grass in a few minutes and leave the animal to seek the repose he needs after working. A very good way recommended, is to let them pasture over Sunday at which time they do not have to labor.

Horses, like human beings, require some preparation for different kinds of work, in other words, they must be inured to extra exertion. No matter if they appear in good condition, if they have been idle for some time, they need to have light service imposed upon them at first, which may gradually be increased, until they are able to do the full amount required. A certain amount of preparation is also necessary to inure them to exposure, as we have said before, that is, they must be seasoned. The course taken to do this must depend largely upon what they are to do, and should be carefully considered before attempting such a thing. Otherwise it may result in great detriment to the animal.

Animals that are obliged to stand in the weather are the most liable to trouble until they are thoroughly seasoned. Getting wet does not hurt them, provided they are quickly dried, or kept in motion until dry. But if allowed to stand perfectly wet they are sure to take cold, because the surface cools rapidly and there is no stimulus to form more heat. This is a fruitful source of inflamed lungs, catarrh and other troubles.

To inure horses to the weather requires good judgment and some thought. The course taken depends much upon the season. If work that will require constant exposure is begun in the summer, they will be hardened by the time winter comes to go out all day without danger, but commencing in the winter the time must be varied according to the condition of the animal, the inclemency of the weather, and the violence of the work to be done. Shorten it when the day is severe and take advantage of mild weather to lengthen it. Do not let him stand long at any time at first, but gradually increase the intervals as he grows better inured to cold and wet. After a while the skin will acquire activity enough to meet the demands of a bad atmosphere, and with care in the

gradation he will be able to maintain a comfortable temperature when standing 3 or 4 hrs. under very adverse circumstances.

HORSES, AILMENTS OF.

Horses are subject to various ailments arising either from accident or disease, too numerous to mention in a work of this kind. The following are a few of the most common. In all that are serious, or admit of the least doubt, it will be better at once to send for the nearest veterinary surgeon, as few grooms are competent to treat any but the most plain and simple cases. Many valuable horses have been lost or rendered useless by their ignorance, that might have been saved by timely and proper treatment.

Broken Knees.

Broken knees are the result of a fall upon some hard substance, as the road, etc., causing a lacerated wound. They should be washed as clean as possible with warm water, then well poulticed to remove all the dirt and grit that cannot be removed by washing, which will not only remove the soreness and reduce the inflammation, but very materially assist the healing. After which, if necessary, a strong stimulant may be used to reduce the enlargements and promote the growth of the hair.

Blows, Thorns and Wounds.

All horses, but particularly hunters, are exposed to accidents, as blows, thorns, and wounds. In most cases begin with a mild dose of physic, to cool the system. If the blow be severe use cooling lotions to subdue the inflammation, after which, if any enlargement remains, 2 or 3 dressings with biniodide of mercury will be found to reduce it. The inflammation and soreness arising from thorns are only temporary. When possible, they should be extracted; but if not, poultices made of bran and linseed meal mixed should be constantly applied, hot. This will assist nature in promoting slight suppuration, and they will work out.

In all cases of wounds, if large and severe, they must be washed to remove all dirt, then neatly sewn up, and the part well fomented with warm water. If slight, they should be bound up if necessary, and washed with arnica and water several times a day.

Horses are sometimes pricked in shoeing, owing to the carelessness of the smith, or a nail may be picked up in the road. In either case the shoe must be taken off, the horn cut away around the hole made by the nail to allow any matter formed to escape, and the feet kept in a poultice till the inflammation has subsided, and all fear of further suppuration at an end.

Colic, or Gripes.

Colic, or gripes, is another complaint to which horses are liable, the result generally of indigestion and gross feeding. Care must be taken to distinguish between it and inflammation of the bowels, as to an unpracticed eye the symptoms are very similar. The horse is restless

and uneasy, constantly looking round at his flanks, which are blown out and distended, and by repeatedly lying down and rolling, stamping, and kicking, showing the acute pain he is suffering. In colic there are intervals of ease and rest which do not occur in inflammation of the bowels. In this, as in other cases, it will be better and safer at once to send for the veterinary surgeon.

Cold, or Catarrh.

In common cold, or catarrh, the symptoms are similar to those in influenza, but very much milder. The horse should be kept quiet and cool, the throat stimulated with mustard or liniment, to relieve the soreness and cough. He should be fed on bran mashes, with a few scalded oats in them, mixed with linseed, and have 1 or 2 fever drinks; after which, if the attack be slight, a few days' rest and quiet will set him right.

Congestion and Inflammation of the Lungs.

Congestion and inflammation of the lungs are highly dangerous, and no time should be lost in sending for the veterinary surgeon, and at once placing the horse under his care. This attack generally comes on with shivering, accompanied by hard, quick breathing and working of the flanks. The horse is dull, hangs his head, refuses his food, and his legs and ears are cold. When taken at once and in time the attack may soon be reduced, but if neglected, it is a work of time, and frequently terminates fatally.

Corns.

Corns are sometimes very troublesome. They come in the inside heel of the fore feet and are the result of bad shoeing or neglect in allowing the shoe to remain on too long and thereby to press upon and bruise that part of the sensible sole. Horses with low, weak heels, are particularly liable to them. When slight and recent, they are of little consequence if carefully treated, but if confirmed and of long standing, are incurable, and it is only by the greatest care and having the shoes removed once a fortnight, the horse can be kept sound. The corns must be well pared away, the shoe hammered out so as not to press on the heels, and the parts dressed with ointment to remove the soreness, keep down the inflammation and promote the secretion of horn. There are several recipes for this, but the veterinary surgeon can always supply one that will answer the purpose.

Influenza.

Influenza is perhaps the most common and tedious complaint to which the horse is liable. It is an epidemic, and most prevalent in the spring. The symptoms at first are those of a common cold, accompanied by more or less fever, and great and rapid prostration of strength. The appetite fails, the coat looks rough and unhealthy, the throat is sore, the flanks heave, the breathing is labored and accompanied by a cough, the legs swell, and the inside of the eyelids and nostrils is red and congested, with a thick yellow discharge from the

latter about the 3d or 4th day. The most important part of the treatment is to keep up the strength by every possible means; therefore bleeding should generally be avoided, and all directions of the veterinary surgeon be strictly carried out. The stable must be kept cool and well ventilated, but the horse kept warm with clothing and bandages. After a horse is pronounced pretty well again, the effects of a bad attack of influenza will often last for some time, and in some are never recovered. One common result is an affection of the wind, either roaring or whistling, both of which are incurable. Swellings on different parts of the body and legs are not uncommon, and are only to be removed by care and good feeding.

Lameness.

Splints—These are small bony enlargements on the fore legs of a horse; they are generally situated on the inside, but occasionally occur on the outside. They do not always cause lameness, except when very sore during their first forming. Young horses are principally liable to them. Unless of large size, rest and a strong blister will render them harmless.

Scratches.

Wash their legs with warm soap suds, and then with beef brine. 2 applications will cure the worst cases.

Strains.

Bone spavin is a bony deposit formed inside the joints the hock. It is the effect of strain and of hard work. If taken in time it may sometimes be cured or at any rate much alleviated. It is often incurable and the horse will remain lame for life, but much will depend upon the part of the hock affected. In the early stages much may be done by blistering and firing, but when confirmed it is incurable. In a mild form the horse will start lame even if he goes sound when warm.

Curbs.

These are swellings at the back part of the hock, and generally occur in young horses, being caused by a violent strain on that part. Some hocks are so formed as to be predisposed to throw curbs, and in them they are always likely to recur unless the part is properly fired. When they occur in good shaped hocks the remedy is simple, and time and rest will effect a cure.

Treatment.—A dose of physic, the parts to be kept cold and wet with cooling lotion. When the inflammation has subsided, 3 or 4 strong dressings with biniodide of mercury and a few weeks' rest are sufficient.

Strains of the back tendons and suspensory ligaments are violent strains of the tendons and ligaments between the knee and fetlock joint, and the hock and fetlock joint. Hunters and race horses are more liable to them than horses whose work is not so fast and severe. The horse should have a dose of physic, with cooling lotion constantly applied to the parts till the inflammation has subsided, after which strong blisters, and in bad cases the legs must be fired. Under no circumstances will the horse be fit to use for 5 or 6 months.

Swelled Legs and Cracked Heels.

Many horses in the autumn are subject to swelled legs, particularly of the hinder ones. It is produced by the horse being out of health and condition, generally from debility, and many times is accompanied by a cracking of the skin on the heels. Horses that have been summered at grass are particularly liable to swelled legs in the autumn, when put to work. Good feeding, tonics, and steady exercise with an alterative ball twice a week will set all right.

When the heels are cracked the horse should be kept in the dry, as much as possible at exercise. They must be kept clean, with some glycerine ointment well rubbed in about an hr. before going out, to keep the skin soft and pliable, and less likely to crack out again. They are at all times tedious and difficult to cure.

Thrush.

This is a very common complaint in horses; it is a foul smelling discharge from the clefts of the frog both in the fore and hind feet, and is caused either from a want of cleanliness or from an inflamed state of the feet arising from a gross habit, or other causes. It occasionally produces lameness, and when very sore renders a horse unsafe on the road, where he is liable to tread upon loose rough stones. He should have a dose of physic, the feet be kept very clean, all the loose, ragged, diseased horn removed, and some common salt applied 2 or 3 times a week. Care must be taken to keep the feet dry and clean in the stable, and an alterative administered every 3 or 4 days. This treatment will soon effect a cure.

Lice on Cattle, Colts, and Pigs, Cure for.

During winter, farm stock are apt to get lousy. The following articles will drive away or kill the lice:

1st. Soft grease of any kind, and Scotch snuff—1 oz. of snuff to 1 lb. of grease—mixed, and rubbed in among the hair on the affected parts. If you have not the snuff, use the grease without it. It will effect a cure.

2d. Powdered charcoal, or coal dust sifted into the hair.

3d. Ashes from the blacksmith's forge sifted into the hair.

For lice on swine, or pigs: Pour buttermilk along their backs, freely, so that it will trickle in little streams down their sides.

If sheep get *ticky* during the winter, open the wool along their backs and sprinkle in a little Scotch snuff, from the head to the tail. A tablespoonful is quite enough for the largest sheep, and from that down to a teaspoonful for a lamb.

TRICKS AND VICES.

The same qualities are necessary in managing horses as in human beings—and, indeed, the finer breeds seem almost as intelligent—those are gentleness, patience and perseverance. Their dispositions are as varied as those of people. They are stubborn or yielding, amiable or

cross, even or quick tempered, impatient or long enduring, and each and every one must be studied and understood by those who have them in charge, in order to manage them well. Many a young horse has been ruined by ill treatment, while on the other hand, horses which have formed unfortunate habits, or are even bad tempered and fractious, have by proper measures, been transformed into trusty animals.

There are certain tricks and vices which belong to the horse family that may be remedied, and of these we shall speak. Some of them arise from fear and nervousness, and some from vice or improper breaking. Vicious and nervous horses should be left to those who understand them.

Baulking.

This most provoking vice in a horse can only be treated and cured by the utmost self-control upon the part of his driver. Usually the habit comes first from a nervousness, perhaps an over-anxiety to do his work. If he starts suddenly to draw his load and fails, he is apt to become excited. A repetition brings a greater disturbance, and then a hasty blow, or angry words, will irritate the horse to the extent of making him utterly unmanagable. This is generally the beginning of the habit of baulking at heavy loads, but after a time he will baulk at anything if the fit seizes him.

To cure this habit is not easy, and requires the utmost gentleness. The first thing is to establish in him a confidence in your good intentions, and to do this will perhaps take considerable time, but it is an absolute necessity. Exercise him first with a light, easy load, coaxing him along until he sees that it is an easy matter to draw it. Then when he is accustomed to that, gradually increase it, being sure always to start quietly and go slowly wherever he has been in the habit of baulking.

Be always sure that you know whether the horse refuses to move from a vicious determination or some trouble, such as being galled or pained by the harness or wrung withers. Sometimes a cold collar will cause the refusal, especially if the shoulders are raw, but when the collar becomes warm he will go readily. A false collar, or strip of cloth around the shoulder to prevent the coldness of the collar being felt, will cure this vice, or lining the collar with cloth instead of leather will have the same effect, but in every case, as we said before, patience and gentleness are absolute essentials.

Kicking and Biting.

These vices are usually both the result of teasing, and in the case of the latter almost impossible to cure. The severest punishment will not prevent the animal from biting again in a very short time afterwards. Kicking, however, though very hard to correct, can, to a certain extent, be overcome, though rarely if ever entirely conquered.

When horses show a disposition to kick in the stall, a good thing to do is to fasten a thorn bush against the partition so that he will strike it if he kicks, and when he finds himself severely pricked he will stop. Sometimes it is necessary to fasten a heavy piece of wood to a chain buckled above the back in such a way as to reach half way down the leg, and when he kicks this will strike him a severe blow, which will finally operate as a preventive.

Kicking in the harness is the worst, however. Often the least touch upon the horse's quarters will cause him to begin to kick violently, and nothing will quiet him until everything is demolished. Especially is this true if he gets the reins under his tail. The only way to prevent a horse with this habit from doing great mischief, is to have a stout kicking strap which will hold the hind limbs down, and have the shafts made very strong plated with iron underneath.

The following has been recommended, and is said to be the best possible way to break a horse of kicking up. If you have a pack-saddle, put him in it; if not, use something as near like it as possible. If the horse is ordinary sized, girt or bind on him very tight two bags, each containing 125 lbs. of sand, fastening them on so that the horse can not possibly throw them off. Have some one mount another horse, and, taking hold of the rope of the vicious horse, start off as soon as he is loaded with sand, another horseman following and whipping the horse every time that he kicks up. In this way let him trot off at least 10 or 15 miles, then take off the load and have some one get upon him at once and trot back at the same rate. As a general thing horses will not kick up again after being exercised in this way two or three times. Usually a horse will not kick up after the first three or four miles; if, however, he should do so at the end of ten miles or so, make him go at least three miles after he stops kicking. If he should stop kicking soon and appear tired, you can regulate the distance accordingly. Other remedies are used, but they can only be practiced by a good horseman; this, however, can be tried by any one without exposing himself to any danger whatever.

Rearing.

This is one of the most dangerous habits, because it leads to such terrible consequences, but it fortunately is not very common, and the use of the martingale will generally prevent it. With saddle horses a good way to do is to touch him on one side with the spur, which will cause him to lift the hind leg on that side, and, before he has time to recover, touch the other side, and continue this just fast enough to cause him to raise his legs alternately, until he forgets his inclination to rear. If the horse rears from absolute viciousness, he is never to be depended upon, and should be avoided by the unskillful rider.

Rolling.

If this is indulged in in the harness, the horse is liable to become entangled and strangled, and yet strange as it may seem, though almost half dead from it one day, he will do it again the next. The only remedy is to tie him with length of halter enough to lie down, but not sufficiently long to permit him to rest his head upon the ground, which he is obliged to do in order to roll over.

Running Away.

This may arise from vice or from having been terribly frightened at some time. The only prevention is great care and a very sharp bit, if he is vicious, and, if possible, sometimes when he is determined to run, let him have a good deal more of it than he likes, helping him along

with whip and spur whenever he shows any disposition to stop. If the running has first proceeded from fright, whenever he is alarmed nothing will stop him, as for the time being he is in a state of insanity.

Shying.

This bad habit may arise from timidity, defective eyesight, or bad temper. If from timidity, it can only be overcome by gentle usage and allowing the horse to pass the object without taking any notice of his fear beyond patting and encouraging him; to chastise him is worse than useless and senseless. If it arise from defective vision, it will be incurable, as it will be impossible for the animal to see objects otherwise than through a distorted medium. If it arise from vice, which is frequently the case, the horse must be made firmly but temporarily to pass the object at which it shies. Having passed it, continue the ride; do not return and pass it again and again, as that only irritates him, but when he finds he is mastered, he will daily improve.

Stumbling.

All that can be done where a horse has this habit is to keep the foot as short and the toe pared as close as possible, while the shoe is rounded at the toe. Then he should be put to slow and heavy work, where, only, he can be made useful. Some recommend the use of the Spanish bridle, and then by holding the reins short and checking him when about to stumble, he can be improved.

THINGS TO KNOW.

Horse's Back, To Keep From Getting Sore.

If going to take a long journey, obtain a saddle with a saddle-tree open enough so that it will not come in contact with the spine. If you use a Spanish saddle, or one of the common saddles used in herding cattle in this country, add to it a couple of cushions filled with well-picked and clean wool, making them thicker at the upper part where they come nearer the spine, and thinner as they descend upon the ribs of the horse. Fine wool is by far the best material for stuffing the cushions. A small saddle blanket, also of wool, should be placed under the saddle. If you stop only for a few minutes, unloose or slacken the girth, and if you stop one-half hour, take off the saddle if the weather is warm, and when you stop at night curry your horse well, and bathe his back in cold water. Let him have as much corn and fodder as he can eat giving him fodder an hour before he begins to eat the corn. A horse in good condition is less liable to be hurt than a lean one, so it is a good plan to rise early in the morning and see that your horse eats as much as he will before starting on your journey. If your horse gets foundered on the road, you must ride him or walk him for at least two hours, then bleed him copiously in the mouth, and the next day you can continue your journey without fear of his failing, and he will be well by night. Rub all his legs well and bathe them in cold water before you

bleed him, and in rubbing them always begin at the upper part and rub downwards.

Caution in Paring Horses' Hoofs.

In cutting your horse's hoofs be careful not to do it in such a way that the soft part, which is in the middle of the foot, and is generally called the frog, shall rise above the outside of the hoof, for it will be likely to make the horse limp. If it is too big, the best thing to do is to have a blacksmith cut it off.

For Carriage Driving.

To accustom a gentle horse to being driven before a carriage, after harnessing him, handle him in the forehead a short time, and then let some one lead him while you go behind him, holding the reins, and with a whip in your hands. When you wish him to stop, speak to him, at the same time pulling upon the reins, and then make him advance by simply speaking to him. After exercising him in this way a few minutes, handle him again in the forehead; then make him advance again, letting the person who led him go a little distance before him, then further off, until at last you can drive him without any one being before him. Next let him drag a small piece of wood, having some one lead him as at first, until he will be driven without. After exercising him in this way a few minutes, try something larger that will make a good deal of noise, a barrel for instance, containing some round stones, fixing the barrel, of course, so that it will roll round. Continue the exercise until he can be driven in any direction, and then put him to an empty cart, and continue the practice in the same way, never pulling the reins to stop your horse without speaking to him. Always give your horse a small quantity of salt after having exercised him to go in a cart or gig; a thimbleful at a time will be enough. As a general thing he will go well the first day, but for a short time he ought to have a few hours exercise every day.

Treatment on a Journey.

Start early in the morning, if possible, and, if the weather be warm, unloose your girth and take off the saddle when you stop for breakfast, and also when you stop for dinner. Do not feed your horse at noon from September to March; let him drink whenever he pleases, but do not give him anything to eat until you stop, which should be a little before sunset. If your horse is warm, let him walk about a few minutes before removing the saddle. As soon as he is perfectly dry have him curried, and, if the weather is very warm, bathe him. If you feed with corn, give him fodder for one hour before giving him corn; if with barley or oats, either may be given him with his hay. In the morning travel at a moderate pace until 10 or 11 o'clock, then go some faster, increasing the rate in the afternoon. Give your horse as much corn and fodder as he will eat at night, leaving hay or fodder, but not corn, in the rack all night. Before starting in the morning give him twenty or thirty ears, if he will eat that many, and feed him a little at noon from April to the first of September. Every morning, clean the mud out of your horse's hoofs, and if there are balls of hard, dry mud in them, after

removing the mud rub the inside with soft soap, which will prevent the mud from collecting in there again.

HOW TO PURCHASE A HORSE.

In his choice of a horse the purchaser will, of course, be guided by whether he wants one for riding, driving or draught purposes; if for riding he will be particular that the shoulder lies well back, and if strong, not loaded at the top or points — that he has a good back, deep body, clean, flat, wiry-looking legs, and free from large splints, curbs, spavins, etc.; that his feet are firm and of moderate size — neither large and flat, and therefore necessarily weak, nor strong and narrow like those of a mule. When a horse has natural feet of the latter description they are generally remarkably sound, and will stand a great deal of work; but, as a rule, that shape is produced by internal disease, rendering the horse unsound when put to work.

If for driving purposes, he need not be so particular about the shoulders; for harness they may be stronger, heavier, and more upright, as many make capital harness horses that are, from their formation, very uncomfortable to ride.

Riding Horses.

In selecting a riding horse much must depend upon the size and weight of the rider. The best and most useful size is from 15 hands to 15 hands, 2 inches. The most fashionable colors are bay, brown, and dark chestnut. A really good riding horse, with good action and fine manners, is very difficult to find, as he must be good-looking, well-made, sound, and temperate, with breeding substance, action and courage. His head should be lean, the eye bold and prominent, the muzzle small, with large nostrils. The neck should be good and slightly arched to bend to the bridle, shoulders lie well back and strong, but not heavy and loaded at the points, the body deep and round, strong back and loin, with good, deep quarters, and good firm legs and feet. He must ride lightly in hand, walk pleasantly and safely, trot freely, with good action, and canter easily, yielding to the bit without pulling. He must carry the saddle well back behind the shoulders; nothing is so uncomfortable or looks so badly in any description of riding horse as sitting on the top of the shoulders instead of behind them.

The great defects to be avoided in purchasing a riding horse are a loose, weak neck — horses so formed invariably getting their heads up, and being very uncomfortable to ride—low, upright shoulders; and twisted fore legs — rendering the horse liable to hit either the inside of the knee or fetlock joint, which is very dangerous and likely to cause him to fall. A shy, nervous horse, too, should be avoided, as well as a hot, irritable one. Horses of a light chestnut color are very often so, and in company will not settle into any pace. Ten miles is a fair average day's work.

Lady's Horse.

A perfect lady's horse is, of all descriptions, the most difficult to find. So many good qualities, which, though desirable in all riding horses, may be overlooked in those for men, are here absolutely essential. Fine

temper and courage, a light level mouth, and fine manners, are indispensable. He should be from 15 hands to 15 hands 3 inches high, with a good head and neck, fine oblique shoulders, rather long in the body, with a good back and loin, deep, strong quarters, firm, sound legs and feet. If the hind legs are rather bent, so much the better; he will get them more under him, and consequently his paces will be easier—horses with straight hind legs invariably pitching most unpleasantly in the canter, which must be easy and elegant. As few ladies ride more than from 10 to 11 stone, including a 19 or 20 pound saddle, and ease and lightness in action are indispensable, the lady's horse should be very nearly thorough-bred, if not quite so. He must walk well and freely, step lightly and sharply in the trot, with a rather long, easy canter. He must be high couraged and free, but at the same time docile and temperate.

Hunting Horses.

The points essential to a hunter are a lean head and neck, well set on to good oblique shoulders, a strong back and loin, wide hips, a deep body and back ribs, good muscular quarters, and gaskins well let down to the hocks, and clean, firm legs and feet. He must be temperate, with plenty of courage, and have a good mouth and manners. The best and hardiest colors are bay, brown, dark chestnut, and black. Light chestnuts are very often hot and irritable, and also bad feeders when put to work. Horses with short back ribs, too, are almost invariably bad feeders. Hunters go in all forms, but a loose, weak neck and twisted fore-legs are always to be avoided. The former is the most dangerous fault a hunter can have; it is impossible to steady him at his fences or in any way interfere with his mouth, without his at once throwing up his head; consequently he cannot see where he is going, and serious falls are the result. With twisted fore-legs, the horse is liable to hit and cut himself under the knee, and on the fetlock joint, resulting in lameness and swelling, even if he do not fall.

Light Harness Horses.

They should be well-bred, neck rather long and arched, with good back and quarters, strong, oblique shoulders, carry a good head and tail and be of a generally showy and stylish appearance, with high, grand action. Horses of this description are more fitted for the park and for show than for real work, and command high prices. For general use, horses of a more common description will be preferred—less showy, and with less action; the better to stand the wear and tear of the hard roads, and must be selected according to the work required of them. Many of them are very fast, and can trot up to 15 or 16 miles an hour. All must have a certain amount of style and action to render them safe and pleasant to drive; but as a rule, the higher and grander the action, the less useful is the horse for real work, the wear and tear of horses of this class being so great as almost to preclude them from all that can be called work, and they are suitable only for the park and show.

Heavy Harness Horses.

These are such as have grown too large and coarse for carriage horses, and are used principally to run in spring vans by railway carriers and

others requiring great strength, combined with a certain amount of pace, and for which the cart-horse is not adapted from being too slow, and from his weight and heavy action liable very soon to shake himself on the road when put beyond a walking pace. Another sort is the common, coarse, half-bred horse, too light for a cart-horse, and too plain and heavy for private carriages. These are generally used in omnibuses, for which they are admirably adapted, as from their size and power, as well as being for the most part active, and on short legs, they can draw these heavy machines, often loaded inside and out, at the rate of six miles an hour—which is as fast as the frequent stoppages, the bad foothold on the stones, and the crowded state of our streets will admit.

Draught Horses.

These animals, such as the celebrated Vermont draught horses, have lofty crests, thin wethers, and well set-on heads. They are peculiar for the shortness of their backs, the roundness of their barrels, and the closeness of their rubbing up. They are rather small, but hardy and strong.

The Conestoga, of Pennsylvania, is another celebrated draught horse of the United States, somewhat like the light-class London dray horse, and fully equal to them in capacity for work. They have lofty crests, shaggy manes and tails, round buttocks, hairy fetlocks, and large, round feet. They have a light, lively carriage, and an excellent step and action, are great carriers, and the principal farm horses of Pennsylvania.

There is an infinite variety of horses which the fancier must study from works of more pretention than this. We can only speak in a general way of these things which the majority of people find it necessary to know.

Guard Against Deception.

Perhaps there is nothing about which more deception is used than in selling horses. In order to guard against this, the buyer should always take with the receipt for his money, what is termed in law, a warranty. It will not do to depend upon the word "warranted" in the receipt, as that simply refers to soundness, but the paper should be made out so as to include every cause of unsoundness that can be detected, or was inherent in the animal at the time the sale was made, and every vicious habit he had previously contracted. The age should be mentioned, and the quietness to ride and drive also.

No price paid, however exhorbitant, can take the place of this warranty, or be equivalent to one. It must be given at the time of the sale, as one afterwards is given without legal consideration, and is, therefore, of no avail. The warranty should read something like this:

READING, March 3, 1881.

Received, of James Forbush, the sum of Four Hundred Dollars, for a bay horse, warranted only four years old, free from every vice, sound and quiet to ride and drive. JOSEPH HALL.
$450.

If the buyer has this warranty, taken at the time of the purchase, he has the redress by law in his hands, providing he finds himself deceived in regard to the animal.

THE TOILET.

While the most important requisites in the preservation of personal good looks are good health, cleanliness and a calm and equable temper, there are little things that can be done which will enhance natural beauties, assist in eradicating defects or conceal them from the eye. No woman can afford—or, we might say, no *human being* can afford to neglect what will enhance their good looks, and it is a truth that no one is hopelessly ugly. With attention to the laws of health, and a skillful use of little aids to the toilet, a homely woman can make herself attractive. The great trouble is that often these aids are used carelessly and show that they are artificial, which entirely destroys the charm. It needs time and skill to make them effective. Those contained in this department are among the best that are known and the safest.

The Hair.

Great care should be taken to keep the scalp clean, if any one desires to preserve the hair soft and of its natural color. This can be done by frequent washings with soft rain water and careful drying. The principal good that different washes do is that in their application the person is led to rub the scalp and brush the hair at regular times, two things which promote the preservation and growth of this necessary part of good looks. Of course, there are some things which have a stimulating effect upon the hair follicle, inducing greater secretion; but as a general thing the most that is needed is thorough washing once or twice a week and brushing every night and morning. Never drag a comb or brush through in a careless, rough manner, as in that way the hairs are tangled and broken, and the finest heads of hair may be spoiled in that way.

Following are some of the best washes and pomatums known. It is not best to use oils and pomatums too freely, as the grease clogs up the pores of the skin and prevents growth. The natural oil secreted by the hair is best, but when that fails a little artificial annointing may be necessary.

Baldness.

Those who have short hair should immerse the head in cold water morning and night; dry the hair thoroughly and then brush the scalp till a warm glow is produced. For ladies who have long hair a better way is to brush the scalp until redness and a warm glow succeed then rub among the roots of the hair the following: 1 oz. of eau de Cologne, 1 oz. of rose water, ½ oz. of vinegar of cantharides, mixed

thoroughly. If this produces smarting or tenderness, the brush may be laid aside, but if not, the brushing should be continued and a second application made. This treatment should be repeated as often as the state of the scalp will allow. When the baldness occurs in patches, brush them well with a soft tooth brush dipped in distilled vinegar morning and evening. It is stated by many who have tried it that coal oil will cause the hair to grow, when all other remedies fail. This use of coal oil was discovered by a man who applied it to a boil that was on a bald place on his head. When the boil was cured, the hair began to grow.

Bandoline.

An ounce of the seed of quinces must be boiled in 8 pts. of water till reduced ¼, then strain it, and add a few drops of essence to perfume it and preserve it sweet and fresh. Keep it in wide-mouthed, well-corked bottles.

Rose Bandoline.

6 ozs. of gum tragacanth, 1 gal. of rose water, ½ oz. of otto of roses. Steep the gum well in water, strain and mix thoroughly.

Crimping Hair.

To make the hair stay in a crimp, take 2 ozs. of gum arabic and add to it just enough boiling water to dissolve it. When dissolved, add enough alcohol to make rather thin. Let this stand all night, and then bottle it to prevent the alcohol from evaporating. This put on the hair at night after it is done up in paper or pins will make it stay in crimp the hottest day, and is perfectly harmless.

The Hair, To Curl.

Cut into small pieces 2 lbs. of good common soap, and put it into 8 pts. of spirits of wine or brandy, with 8 ozs. of potash. Melt the whole in a hot-water bath, and keep stirring it with a wooden spoon. When entirely melted, let it settle and pour off the liquor clear. Perfume it with any fragrant essence you choose. This is equal to any curling-fluids sold by druggists and much cheaper.

Dandruff, Remedy for.

Put 1 oz. of sulphur into 1 qt. of water, and let it stand for several hours, occasionally agitating the water meanwhile. Then pour off the clear liquid, and wash the head with it every morning.

Good Hair Dye.

10 grs. of gallic acid in 1 oz. of weak alcohol.

Lead Dye.

To make liquid hair dye, that will not blacken the skin: Dissolve in 1 oz. of liquor of potassa as much freshly precipitated oxide of lead as

it will take up. Dilute the resulting clear solution with 3 ozs. of distilled water. Do not wet the skin unnecessarily with it.

Harmless Hair Dye.

Melt together, in a bowl set in boiling water, 4 ozs. of white wax in 9 ozs. of olive oil, stirring in, when melted and mixed, 2 ozs. of burned cork in powder. This will give a lustrous blackness to the hair like life. To apply it, put on old gloves, cover the shoulders carefully to protect the dress, and spread the salvy preparation like pomade on the head, brushing it well in and through the hair.

Eyebrows, To Make Grow.

When lost by fire or disease, use the sulphate of quinia, 5 grs., in 1 oz. of alcohol. Rub the eyebrows with this mixture night and morning.

Eyelashes, To Make Grow.

5 grs. of the sulphate of quinia in 1 oz. of sweet almond oil, applied to the roots of the lashes with the finest sable pencil. This must be lightly applied, for it irritates the eye to finger it.

It changes the color instantly, as it is a black dressing rather than a dye. A brown tint may be given by steeping 1 oz. of walnut bark, tied in a coarse muslin, in the oil for a week before boiling.

Hair, Falling out of.

A lotion composed of water of ammonia, almond oil and chloroform, 1 part of each, diluted with 5 parts of alcohol, or spirits of rosemary, the whole made fragrant with a drachm of oil of lemon. Dab it on the skin after thorough friction with the hair brush.

2. Apply a little of the following lotion to the roots of the hair two or three times a week: Spirits of turpentine, trotter oil, of each 1 oz., with the addition of 30 drops of acetic solution of cantharides.

3. Take 2 large handfuls of rosemary leaves, a piece of common soda about the size of a hazel nut and 1 dr. of camphor. Put it in a jug, pour on it 1 qt. of boiling water, and cover it closely to keep the steam in. Let it stand for 12 hours, then strain it, and add 1 wine-glassful of rum. It is then ready for use. If the hair falls off much, the wash ought to be applied to the roots with a piece of sponge, every other day, taking care to wet the skin thoroughly.

Curling Fluid.

Melt a piece of white bees-wax, the size of a filbert kernel, in 1 oz. of olive oil, and add to this 1 or 2 drops of otto of roses.

German Method of Treating Hair.

Once in 2 weeks wash the head with 1 qt. of soft water, in which a handful of bran has been boiled and a little white soap dissolved. Next

rub the yolk of an egg, slightly beaten, into the roots of the hair; let it remain a few minutes, and wash it off thoroughly with pure water, rinsing the head well. Wipe and rub the hair dry with a towel, parting it with the fingers. In winter do all this near the fire. Have ready some soft pomatum of beef marrow, boiled with a little almond or olive oil, flavored with mild perfume. Rub a small quantity of this upon the skin of the head after it has been washed as above. This may be efficient, but in this age women prefer the cleanlier method of stimulating the hair without pomade.

Long Hair, To Clean.

Beat up the yoke of an egg with a pint of soft water; apply it warm, and afterward wash it out with warm water.

Hair Oil.

Melt ½ lb. of lard and 6 ozs. of olive oil in a jar placed in hot water; when nearly cool add about 2 drs. of essence of lemon, oil of lavender, or any other perfume, and then pour it into glass bottles or earthen pots.

Hair Oil, No. 2.

Mix fresh beef-marrow and carefully-prepared neat's-foot or trotter oil in equal proportions, melt in a water bath and decant, leaving the dregs behind; after which, when nearly cool, the scent is to be added as above, and the whole stirred till quite set.

Palma-Christi Oil, To Thicken the Hair.

Add some oil of lavender to 1 oz. of Palma-Christi oil and scent it. Brush it well into the hair twice a day for 2 or 3 months, applying it freely to those parts where a luxuriant growth of the hair is desired.

Perfumed Oils.

Soak cotton in fine olive oil and spread it in layers, over which strew lightly such flowers as violets, jessamine or roses. As soon as the oil imbibes the scent of the flowers, it should be pressed from the cotton and filtered through flannel. In this way most of the French scented oils are made.

Oil, To Thicken and Strengthen the Hair.

Skim the fat from the top of calves' feet while boiling; with this mix 1 teaspoonful of rum; shake together. Apply morning and night.

The Hair, Rowland's Macassar Oil for.

Take ½ oz. of the chippings of alkanet root, tie this in a bit of coarse muslin, and suspend it in a jar containing 8 ozs. of sweet oil for a week, covering from the dust. Add to this 60 drops of the tincture of can-

tharides, 10 drops of oil of rose, neroli and lemon each 60 drops. Let these stand 3 weeks closely corked, and you will have one of the most powerful stimulants for the hair ever known.

Hair, Southernwood Oil for.

Take 1½ lbs. of southernwood and boil it, slightly bruised, in 1 qt. of old olive oil, with ½ pt. of port-wine or spirit. When thoroughly boiled, strain the oil carefully through a linen cloth. Repeat the operation 3 times with fresh southernwood, and add 2 ozs. of bear's grease or fresh lard. Apply twice a week to the hair, and brush it in well.

The Hair, Perfume for.

Oils of lemon, neroli, orange and rose geranium, of each, 12 drops, tincture of cardamon-seeds, 1 oz., cologne alcohol, 1 pt. Mix. This, and all other preparations for the hair should be bottled and kept corked.

Pomade.

Take 4 lbs. of mutton suet, 1 lb. of white wax, 1½ oz., each, of essence of bergamot and essence of lemon, and ½ oz., each, of oil of lavender and oil of origanum. Melt the suet, and when nearly cold stir in the other ingredients. The origanum has considerable power in stimulating the growth of the hair.

Pomade. (2.)

3 ozs. of olive oil, ½ dr. of the oil of almonds, 2 drs. of palm oil, ½ oz. of white wax, ½ lb. of lard, and ½ dr. of the essence of bergamot.

Children's Hair, Pomatum for.

Pick carefully and wash ½ lb. of beef-marrow, put it into an earthen jar, with ½ lb. of fresh lard, stand it in boiling water till melted and clear, then strain it into a basin, and add 1 gill of rose water. Stir it well and let it get cold. Break it up and squeeze it through the rose water till it begins to be soft, then press out the water and beat it with a wooden fork. Add 1 oz., of pure olive oil, and ½ oz. of violet-scented oil. Beat till it is quite smooth, and put it into covered toilet-pots. The mixing of every kind of pomatum had better be done in a cool place, more particularly when castor oil is used.

Jessamine Pomatum.

Melt and skim 1 lb. of fresh lard, and, when cold, wash it 3 times with spring water. When freed from water, spread the lard 1 in. thick on a plate and strew it thickly with jessamine flowers.

Soft Pomatum.

1½ ozs. of almond oil, 2 ozs. of castor oil, 3 drs. of beeswax, 20 drops of oil of lavender, 40 drops of oil of burgundy. Melt slowly together the

almond and castor oil with the beeswax, and stir until cool; then add the oil of burgundy and lavender; mix them all well together; put in small jars and cover closely.

Pomade Victoria.

¼ lb. of honey and ½ oz. of beeswax should be simmered together for a few minutes and then strained; to this add oil of almonds, lavender and thyme, ½ dr. each. Continue stirring until quite cold, or the honey and wax will separate.

Scurf, To Remove.

Beat up the yolks of 2 eggs with the juice of a lemon, and rub the mixture well into the hair, using a great deal of friction with the fingers upon the scalp. Wash the mixture off with plenty of luke-warm soft water, and dry the hair thoroughly.

Superfluous Hair, To Remove.

The safest depilatory is a strong solution of sulphuret of barium, made into a paste with powdered starch and warm water. It should be applied immediately after it is mixed, and allowed to remain 5 or 10 mins. upon the part, which should have been previously shaved close. The paste should then be washed off with warm water, and a little cold cream or any simple ointment applied to the part. Care should be taken to prevent the paste extending to the adjacent parts.

Economical Hair Wash.

Dissolve 1 oz. of borax and ½ oz. of camphor, powdered fine, in 1 qt. of boiling water; when cool the solution can be used; dampen the hair often. This strengthens and cleanses the hair, preserves the color and prevents baldness.

Wash to Prevent the Hair Falling Out.

Place 3 handfuls of the tendrils of grape-vines, and the same quantity of rosemary tops, in a still with 1 lb. of unadulterated honey. Distil as cool and slowly as possible, allowing the liquor to drop till it tastes sour.

Hair Wash.

Take 2 lbs. of honey, a handful of rosemary, and 12 handfuls of the curling or tendrils of grape-vine, infused in a gallon of new milk; distil as slowly as possible. From this about 2 qts. of a most excellent wash may be made—one that will thicken the hair when it has fallen off from debility.

A Good Wash for the Hair, or Roughness of the Skin.

Take of Belmont glycerine 1 oz., oil of rosemary ½ dr., proof spirit 1 oz., honey ½ oz., lavender water ½ pt.; mix the oil of rosemary with

the honey and spirits, and add the lavender water gradually, shaking them well up; then put in the glycerine, and cork.

THE HANDS.

A nice clean white hand is the mark of a lady, and every one may possess it with a little care. Of course the employment makes a difference, but if it is anything that roughens the hands more trouble is necessary to keep them in good condition.

It is best to always wash them in warm water, and if a little oat-meal is thrown in, it is a very good thing, as this has a tendency to soften and whiten. Avoid getting the hands very dirty by wearing gloves with the tips cut off to do rough work in whenever it is possible. Always dry them thoroughly after washing. The recipes given for the care of the hands and nails will be found excellent.

Glycerine Balsam.

Take 1 oz. of white wax, 1 oz. of spermaceti, ½ lb. of almond oil, 2 ozs. of glycerine, ½ dr. of otto of roses.

Camphor Balls.

1 lb. of purified suet, ½ lb. of white wax, ½ lb. of camphor, ½ oz. otto of French lavender or rosemary.

Imitation Bear's Grease.

Take 16 ozs. of hog's lard, flour of benzoin and palm oil, of each ½ oz. Melt these together until combined, scent as you please, and stir until cold. This can be kept any length of time.

Camphor Ice.

Oil of sweet almonds, 2 ozs.; spermaceti, 4 ozs.; white wax, 2 ozs.; camphor, ½ oz.; melt them in a water-bath; run in molds.

Chapped Hands.

Use common copal, or furniture varnish, a thick, viscid, semi-fluid. Every farmer should keep a small, wide-mouthed bottle of this, and apply well at night to all chafes, chaps or cuts on human beings or animals. The air is thus completely excluded, and the broken surfaces rapidly heal up. Glycerine is also excellent for chapped and chafed hands.

Chapped Hands, Paste for.

Wash ½ lb. of unsalted hog's lard in soft water, then in rose water, and mix it with the yolks of 2 new-laid eggs and a large spoonful of honey. Add enough fine oat-meal or almond paste to work into a paste.

Chapped Hands, Cheap Lotion for.

Have a pot of strained honey on your wash-stand, and every time you wash your hands, dip your *wet* finger into the honey and rub it over your hands *while wet*. Wipe them very dry and the skin will be soft even in the coldest weather. A little glycerine used daily will have the same effect.

Hands, Chapped.

3 ozs. of oil of sweet almonds, 1 oz. of spermaceti, and ½ oz. of rice flour. Melt these over a slow fire, keep stirring till cold, and add a few drops of rose oil.

Cheap Simple Cerate.

4 parts of lard, 2 parts white wax, and 2 parts spermaceti.

Camphor Cold Cream, (Otherwise Camphor Ice).

1 lb. of almond oil, 1 lb. of rose water, 1 oz. of wax and spermaceti, 2 ozs. of camphor, 1 dr. of otto of rosemary.

Cold Cream.

1 oz. of white wax, 1 oz. of spermaceti, 1 oz. of mutton tallow, free from kidney fat, 2 ozs. of sweet almond oil, 2 ozs. of glycerine, 12 drops of otto of roses. Melt all slowly together in an earthen vessel, pour into a soup-plate or bowl, and beat with a silver fork until perfectly white and light, then, while it is still warm, put in small earthen pots, and cover.

2. Take ½ oz. of white wax, and shred it in a basin, with 1 oz. of almond oil. Place the basin by the fire till the wax is dissolved, then add very slowly 1 oz. of rose-water, little by little, and during this beat smartly with a fork, *to make the water incorporate*, and continue beating till it is accomplished, then pour it into jars for use.

Rose Cold Cream.

1 lb. of almond oil, 1 lb. of rose-water, 1 oz. of white wax, 1 oz. of spermaceti, ½ dr. otto of roses. Heat the wax and sperm in a water-bath, add the otto last.

Violet Cold Cream, Imitation.

½ lb. of almond oil, ½ lb. of huile cassie, 1 lb. of rose-water, 1 oz. of sperm and wax, ½ dr. of otto of almonds.

Finger-Tips, Dye for.

Tie ½ oz. of chippings of alkanet in coarse muslin, and soak it for a week in diluted alcohol. Touch the finger-tips with jewelers' cotton dipped in this mixture.

Cosmetic Gloves.

Beat the yolks of 2 eggs with 2 spoonfuls of oil of sweet almonds, to this add ½ oz. of rose-water and 2 dr. of tincture of benzoin. Apply with a brush to the wrong sides of the gloves. Wear the gloves during the night; one pair can be worn 2 weeks. The pomade that is left can be used for rubbing the hands.

Cosmetic Gloves. (2.)

These are white kid gloves which have been turned inside out and brushed over with the following compound: Take of spermaceti ointment ½ lb.; heat. When the liquid fat has cooled a little, stir in well 3 drs. of balsam of Peru. In a few minutes pour off the clear portion from the dregs, and add 20 or 30 drops of oil of cloves. Pour into moulds to harden.

Hands and Arms, To Improve the Skin of.

Take 2 oz. of fine hard soap—old Windsor or almond soap—and dissolve it in 2 ozs. of lemon juice; add 1 oz. of the oil of bitter almonds, 1 oz. of oil of tartar; mix the whole, and stir it well till it is like soap, and use it to wash the hands. This contains the most powerful agents which can safely be applied to the skin, and it should not be used on scratches or chapped hands.

Hands and Arms, To Whiten and Soften.

Myrrh. 1 oz.; honey, 4 ozs.; rosin, 2 ozs.; rose water, 6 ozs.; mix the whole in one well-blended mass for use, melting the rosin, rose water and honey together in a dish over boiling water, and adding the myrrh while hot. Rub this thickly over the skin before going to bed.

Hands, To Soften.

Fill a wash-basin half full of fine white sand and soap-suds, as hot as can be borne. Wash the hands in this 5 mins. at a time, brushing and rubbing them in the sand. The best is flint sand, or the white powdered quartz sold for filters. It may be used repeatedly by pouring the water away after each washing, and adding fresh to keep it from blowing about. Rinse in warm lather of fine soap, and after drying, rub them with dry bran or corn meal. Dust them and finish with rubbing cold cream well into the skin.

This removes the roughness caused by house-work and should be used every day, first removing ink or vegetable stains with some vegetable acid. Always rub the spot with cold cream or oil after using acid on the fingers.

Hands, To Whiten.

Scrape 2 cakes of brown Windsor soap to a powder, take 1 wine-glassful of eau de cologne, and another of lemon-juice, and mix well in a mould. This, when hard, is an excellent soap for whitening the hands.

2. Put 50 grammes of bitter almonds into boiling water, so as to be able to take off their skins easily, let them dry, and then pound them in a mortar. Pound separately 30 grammes of cherry-buds, and an equal amount of orris root and starch. Mix these powders with the blanched almonds, add the yolks of 4 eggs to this and mix it again, wetting this paste with 200 grammes of alcohol and 20 drops of essence of roses, or any other essence. Warm this mixture over a slow fire, stirring it all the time, for fear it should stick to the vessel. You then put this paste in a jar, keeping it in a dry place, in order that it may become sufficiently dry to be reduced to powder. You can use this powder to wash your hands, but it is better to use it dry and to rub the hands with it night and morning, which will give the skin all the whiteness and softness that it is possible for it to acquire. It can also be used to make wrinkles disappear.

Musk Soap, To Soften and Whiten the Hands.

Reduce to powder 2 ozs. of marsh-mallow roots, cleaned and dried in the shade; to this powder add ½ oz. of starch, ½ oz. of flour, 3 drs. of fresh pineapple kernels, 1 oz. of orange pips, 1 oz. of oil of tartar, the same of oil of almonds, and ½ dr. of musk; to each ounce of the dry ingredients reduced to a fine powder, add ½ oz. of Florence iris; steep 4 ozs., of fresh roots in orange-flower water; after standing all night, squeeze them well and use the mucilage that comes from them to make a paste with the powder; when the paste dries, mould it into round balls. It will make the hands soft and white.

Nails, Care of the.

Keep the nails clean by the daily use of the nail-brush and soap and water. After wiping the hands, gently push back the skin which grows over the nails, which will prevent the skin cracking around their roots and becoming sore. Pare the points of the nails once a week, and avoid biting them.

Nails, To Give a Fine Color to.

Wash the hands well with nice soap; then the nails must be rubbed with equal parts of cinnabar and emery, followed by oil of bitter almonds.

Nails, To Take White Specks From.

Melt equal parts of pitch and turpentine, in a small cup; add to it vinegar and powdered sulphur. Rub this on the nails, and the specks will soon disappear.

Nails, Choice Wash for.

Render down 1 oz. of mutton suet and work it well till it is as smooth as pomatum; then shave ½ oz. of white curd soap fine and melt it with the suet in a new tin pan; as soon as it is thoroughly melted, add 3 ozs.

of palm oil; stir while simmering, and take it off the fire as soon as it is thoroughly mixed. Pour it into a vessel and stir till it is cool, so that the soap will not separate. Perfume as you choose. At night wash the hands and dry them well, rub this well upon the nails, then put on some light kid gloves, and the nails will be in an excellent condition in the morning.

Nails, To Whiten.

1 drs. of diluted sulphuric acid, 1 dr. of tincture of myrrh, 4 ozs. spring water. After cleansing with white soap, dip the finger in the mixture.

2. Tincture of myrrh, 1 dr.; diluted sulphuric acid, 2 drs.; spring water, 4 ozs; mix. First, cleanse with white soap, then dip the finger into the wash.

Warts, to Remove.

To remove warts, the common annual spurge is much more efficacious than celandine or than the milky juice of the fig leaf, which removes them very slowly. Corns as well as warts may be removed by applying the bark of the willow tree burnt to ashes and mixed with strong vinegar.

THE SKIN.

One of the things which is most necessary to be considered because of the large share it has in making any one pleasant to look upon, is a good complexion. Nature makes a very great difference in her gifts in this respect, but those to whom she has not been kind may improve what they have received, and those to whom she has given a clear, fine skin, may preserve it by attention to the following rules:

1. Go to bed early and sleep soundly, rising in the morning whenever awaking naturally.

2. Take plenty of exercise in the open air, not enough to feel exhausted but to a healthy fatigue.

3. Bathe frequently in pure rain water, and use plenty of friction in order to keep the skin in an active condition.

4. Do not go into crowded rooms, where the air is vitiated often, nor remain longer than obliged when there.

5. Do not use cosmetics of whose composition you know nothing. Often there are mineral substances contained in them which are injurious to the skin.

There are general rules which will apply to everybody, no matter what the individual condition of health.

Often in the spring, when the first warm days come, the system becomes disordered, and the complexion looks yellow or sallow. When this is the case, some simple thing to cleanse the blood will bring back the fresh hue to the skin and invigorate the system generally. For this purpose the following is recommended:

Boil ½ hr., in 1 gal. of water, ½ oz. each of spruce, hemlock, sarsparilla bark, yellow dock, burdock and dandelion; strain while it is hot, and add 10 drops of oil of spruce and sassafras mixed; when it is cold, add ½ lb. of brown sugar and ½ cup of yeast; cover it tight and let it stand

about 12 hrs., and then bottle. Use it as an iced drink whenever desired, or quite freely.

After these general rules have been carried out, such little aids to add to the beauty of the complexion as are given here may be used with safety and with pleasant results.

Almond Bloom.

Brazil dust, 1 oz.; water, 3 pts.; boil, strain, and add 6 drs. of isinglass, 2 of cochineal, 3 of borax, and 1 oz. of alum; boil again, and strain through a fine cloth. Use as a liquid cosmetic.

Borax Water, Uses of.

Borax water will instantly remove all soils and stains from the hands, and heal all scratches and chafes. To make it, put some crude borax in a large bottle and fill with water. When the borax is dissolved, add more to the water, until at last the water can absorb no more, and a residium remains at the bottom of the bottle. To the water in which the hands are to be washed, pour enough from this bottle to make it quite soft. It is very cleansing and very healthy. By its use the hands will be kept in excellent condition—smooth, soft and white.

Pure Carmine.

This may be safely used, as it is made from cochineal. The best way to detect adulteration is to fill a small silver thimble successively with different sorts. The best kind will not weigh more than ½ or ⅝ of the poorest, which is adulterated with vermilion and red lead, and thereby increased in weight.

Chaps and Sunburn, Lotion for.

Best glycerine, ¾ oz.; 6 drs. powdered borax; rose water or elder flower water, 12 ozs.; mix well.

Comedones.

These are minute particles of coagulated lymph, which close the orifices of some of the pores or exhalent vessels of the skin. They may be got rid of, and prevented from returning, by washing with tepid water, by proper friction with a towel and by the application of a little cold cream. The following lotions are recommended:

1. 20 to 60 grs. of sulphate of zinc, mixed with 1 pt. of distilled rose-water.

2. Fluid potash, 1 dr., oil of sweet almonds. 1 oz. Shake well together and then add 1 oz. of rose-water and 6 ozs. of pure water. Rub the face for some time with a rough towel and then cover with the lotion.

3. Twice a day wash the face with warm water, and rub dry with a coarse towel. Then with a soft towel rub in the following lotion: 2 ozs. of white brandy, 1 oz. of cologne, and ½ oz. of liquor potassa. Some prefer sulphur soap to any of the above, as it not only cleanses the skin, but imparts a remarkable freshness to it.

4. Take 36 grs. of subcarbonate of soda, and put it in 8 ozs. of distilled water, perfumed with 6 drs. of essence of roses. Bathe the part affected.

Complexion, Milk of Almonds for.

Pour boiling water over ¼ lb. almond meats for 3 or 4 mins.; pour this off and put on cold water for a minute or so; then pour off again, and with the fingers slip off the skin of all the meats; now rub them and add ½ oz. of white soap in a mortar or bowl to a fine pulp for 10 or 15 mins., then add 1 qt. of rose-water and rub to a milky appearance; strain and bottle for use. Apply after washing by means of a towel or cloth.

Freckles, To Remove.

1. Wash the skin at night with elder flower water, and apply the following ointment: Simmer together gently 1 oz. of Venice soap, ½ oz. of deliquated oil of tartar, and ½ oz. of oil of bitter almonds. When it thickens add 3 drops of oil of rhodium. Wash off the ointment on rising.
2. Another remedy is, lemon juice, 1 oz., powdered borax, ½ dr., sugar, ½ dr. Let it stand a few days in a glass bottle, and apply occasionally.
3. Squeeze the juice of a lemon into ½ pt. of milk, and add a teaspoonful of brandy. Boil and skim, then add 1 dr. of alum.
4. Take finely powdered nitre (saltpetre), and apply it to the freckles with the finger moistened with water and dipped in the powder. Continue this until the freckles disappear.

Freckle Lotion.

Take ½ lb. of clear ox gall, ½ dr. each of camphor and burned alum, 1 dr. of borax, 2 ozs. of rock salt, and the same of rock candy. Mix and shake well several times a day for three weeks, until the gall becomes transparent; then strain it very carefully through filtering-paper, which may be had of the druggists. Apply to the face during the day, and wash it off at night.

Freckle Wash.

Mix 1 dr. of muriatic acid, ½ pt of rain-water, ½ teaspoonful of spirits of lavender, and apply the mixture 2 or 3 times a day to the freckles, with a bit of linen or a camel's hair pencil.

Cosmetic Juice.

The following will cleanse the skin and brighten the complexion wonderfully: Having made a hole in a lemon and filled it with sugar-candy, close it with gold-leaf applied over the rind that was cut out, and roast it in hot ashes. Whenever you wish to use the juice, squeeze out a little, through the hole previously made, upon a piece of cloth and wash the face with it.

Nose, To Cure Enlargement and Redness of.

Muriate of ammonia, 1 dr.; tannic acid, ½ dr.; glycerine, 2 ozs.; rose water, 3 ozs.; saturate a piece of cotton with the mixture, and bind it on the nose nightly until a cure is effected.

Pimples, To Remove.

1. Mix 3 ozs. of spirits of wine and ½ dr. of liquor of potassa. This mixture should be applied to the pimples with a camel's hair pencil. If too strong, ½ oz pure water may be added to it.
2. A weak solution of carbolic acid in rain water will cure summer pimples and simple eruptions.

Cambou's Rouge Powder.

1 lb. of alum, 1 oz. of white sugar, 1 oz. of gum arabic, 1 oz. of carmine; mix, and reduce the whole to an impalpable powder and strain through a fine cloth. This powder cures ringworms, red blotches and pimples. Tie it up loosely in a bag, moisten with fresh water and rub gently over the skin.

Rose Face Powder.

7 lbs. of wheat starch, ½ dr. of rose pink, 2 drs. of otto of rose, 2. drs. of otto of santal.

Violet Powder.

12 lbs. of wheat starch, 2 lbs. of orris root powder, ½ oz. of otto of lemon, ½ oz. of otto of bergamot, 2 drs. of otto of cloves.

Devoux French Rouge.

Carmine, ½ dr.; oil of almonds, 1 dr.; French chalk, 2 ozs.; mix well. This makes a dry rouge.

Milk of Roses. (Rouge).

Mix 4 oz. of oil of almonds, 40 drops of oil of tartar, and ½ pt. of rose water; add carmine until it is of the proper shade.

Skin, Cosmetic to Soften and Whiten.

Take finest pale honey, 4 ozs.; best glycerine, 1 oz.; unite by a gentle heat; when cold, add rectified spirits, 1 fluid oz.; essence of ambergris, 6 drops; bottle at once.

Skin, Discolored.

Moles, freckles, sunburn, etc., result from a diseased action of the skin. Do not meddle with moles. The best lotion for sunburn is made of 2 ozs. of lime water and 2 ozs. of flaxseed oil. This is also good for freckles; or

you may mix 5 grs. of corrosive sublimate and ¼ pt. of almond mixture, and use. If the skin becomes bleached in spots, apply any kind of stimulating liniment.

Skin, To Make Fair and Smooth.

Mix 1 spoonful of the best *tar* in 1 pt. of pure olive or almond oil, by heating the two together in a tin cup set in boiling water. Stir till completely mixed and smooth, putting in more oil if the compound is too thick to run easily. Rub this on the face when going to bed, and lay patches of soft, old cloth on the cheeks and forehead, to keep the tar from rubbing off. The bed linen must be protected by old sheets folded over the pillows. The odor, when mixed with oil, is not strong enough to be unpleasant—some people fancy its suggestion of aromatic pine breath—and the black, unpleasant mask washes off easily with warm water and soap. The skin comes out, after several applications, soft, moist, and tinted like a baby's.

Skin, French Compound for.

4 lbs. of butter, 4 lbs. of oil of sweet almonds, 6 lbs. of common white soap, 8 lbs. of decoction of marsh-mallow, 1 pt. of alcohol. Melt and heat the above mixture in a stone-ware vessel, stirring well all of the time; when the whole is thoroughly incorporated, pour out to cool. Perfume as you choose. A piece the size of a filbert, well rubbed on, is enough for washing the hands.

Skin, Iodine Lotion for Eruptions on.

Iodide of potassium, 30 grs., iodine, 15 grs., soft, filtered water, 1 pt., add only 2 tablespoonfuls of the water at first, and when the solids are dissolved, add the remainder.

Skin, To Make Soft.

Mix 3 ozs. of ground barley, 1 oz. of honey and the white of 1 egg to a paste. Spread this over the face, and let it remain all night. In the morning wash it off with warm water. Repeat this every night for at least 3 weeks. After that once a week. This is said to make the skin very fine and soft.

Soap for Delicate Complexions.

Beat 2 ozs. of blanched bitter almonds to a paste in a mortar with 1½ ozs. of tincture of benjamin; then add 1 lb. of white soap cut in small pieces and a little piece of camphor. This is a perfectly harmless preparation and cleanses and assists the complexion.

Strawberry Water for Spots on the Face.

This liquid is distilled from strawberries, and when wood strawberries are used for the purpose, the water is very fragrant. Ladies use strawberry water to remove freckles and spots on the face.

Sunburn, Wash for.

Mix 1 dr. of Roman alum, 1 dr. of camphor, 2 drs. of borax, ½ oz. of sugar-candy, and 1 lb. of ox-gall; stir well for 10 mins. or so, and repeat the stirring 3 or 4 times a day for a fortnight, when it will be clear and transparent. Then strain the mixture and bottle it for use.

Tan and Freckle Recipe.

4 lbs. of good hard soap, shave fine and dissolve in 10 qts. of boiling soft water; add 1 oz. of salts of tartar, and 3 ozs. of borax. Then take away from the fire and set to cool; then add 1 oz. of liquid ammonia, 2 ozs. of glycerine and 10 drops of oil of sassafras.

Tan, To Remove.

Put a quantity of elder-flowers into a jug, pour boiling water on them, let the mixture stand 24 hrs., and strain through muslin. Wash the face every morning with the decoction. It is good also for sunburn and to beautify the skin.

Another method recommended is bathing the face in lemon-juice mixed with glycerine. It will remove tan and freckles in a few days if the individual be not exposed to the sun.

Rose Water.

Place some roses in water to which may be added 1 or 2 drops of vitriolic acid. The water will assume the color and become impregnated with the aroma of the flowers. Be careful not to use more than 1 or 2 drops of the acid.

Wrinkles, To Remove.

To 1 fluid oz. of tincture of gum benzoin add 7 fluid ozs. of distilled rose-water and ½ oz. of glycerine. Bathe face, neck and hands with it at night, letting it dry on. Wash off in the morning with a very little pure white castile soap and soft water. If the water is hard, add a little dissolved borax. This is a famous cosmetic, and has been sold under various names. It is an excellent remedy for tan, sunburn and freckles also.

Pomade, To Remove Wrinkles.

Place 2 ozs. of juice of onions, 2 ozs. of white lily, 2 ozs. of honey, and 1 oz. of white wax in a new tin pan, and put in a warm place till the wax is melted; stir constantly with a wooden spoon till it grows quite cold. Apply at night and do not rub it off till morning. This is an excellent ointment for removing wrinkles.

Wrinkles and Freckles, Pomade for.

Oil of almonds 4 ozs., lard, 3 ozs., spermaceti 1 oz.; melt, add of expressed juice of house-leek 3 fluid ozs., and stir until the mixture hardens. A few drops of perfumery may be added.

TEETH, BREATH, ETC.

It is important to preserve the teeth as long as possible, not only because they are so necessary to good looks, but that they are requisite for comfort. If people would begin in early youth to use the care which they often do in after life, the work of the dentist, so far as making sets of new teeth is concerned, would be vastly diminished.

Of course, the first thing after a healthy stomach—which last has much to do with the soundness of the teeth—is perfect cleanliness. They should be cleaned in the morning, after each meal, and before retiring to rest. Use a soft brush and either warm or cold water, avoiding either extreme. Do not let tartar—which is the hard, yellow substance often found at the base of the teeth—accumulate, but go at once to a dentist and have it removed.

It is necessary to be cautious in the use of tooth powders, some of which are so coarsely prepared as to do more injury than good. This united to excessive friction, will often hurt the gums and injure the enamel. Pure water is as good a dentifrice as can be used, if properly applied, and often enough, but the powders and paste which follow are harmless, and will be found often beneficial.

If the teeth and gums are in good order the breath is apt to be sweet, otherwise it will not be, and there is nothing more disgusting than to have a disagreeable odor proceeding from the mouth every time the breath is expelled. Pastilles may partially conceal this, but it cannot entirely. Hence this is another potent reason for good care of the teeth and gums.

Breath, Aperient and Tonic Draught for.

Mix 6 drs. of epsom salts, 2 drs. of rhubarb in powder, 1 oz. of tincture of gentian, 3 ozs. of compound infusion of roses, 4 ozs. of distilled water. 2 spoonfuls of this should be taken every morning, or every other morning, an hour before breakfast, for a month.

Breath, Refreshing Draught for.

A pleasant refrigerant and tonic draught is made by putting from 5 to 10 drops of hydrochloric acid in ½ a tumbler of spring water, adding a little lemon juice and loaf sugar rubbed on lemon peel to flavor it to suit the taste. Take this 3 times a day for 1 month or 6 weeks, and afterward take it occasionally.

Bad Breath, Pastilles for.

3 ozs. of chocolate, 1 oz. of charcoal, 1 oz. of sugar, 1 oz. of vanilla, mucilage, a sufficient quantity to make a paste. Make into 5 gr. lozenges, and take 4 or 5 daily.

Breath, To Sweeten.

1. Make a tincture by bruising and putting into ½ pt. bottle, with 1 gill of alcohol, 1 dr. each of cloves, nutmeg, cinnamon, carraway

seeds, orris root and orange peel; cork well, and shake it night and morning for a week or 10 days; strain and press out; add 5 drops each of lavender and otto of rose. A few drops of this on sugar and eaten will make the breath very pleasant for some time. Of course a bad breath proceeds from disease, and it cannot be permanently cured until the cause is removed.

2. Chlorate of lime in powder, 3 drs.; distilled water, 2 ozs.; reduce the chlorate with a glass pestle in a glass mortar; add a third of the water, stir and pour off, as directed before, till all is added. To this add 2 ozs. of alcohol, in which is dissolved 4 drops of the volatile oil of roses, and 4 drops of perfumer's essential oil. One-half a teaspoonful of the solution in a wine-glass of water is to be used at a time as a tooth-wash and gargle for the mouth and gums.

3. Put from 5 to 10 drops of muriatic acid in a wine-glassful of boiling water, and flavor with a little lemon juice and peel. Take the above drink 3 times a day for 6 weeks, and if beneficial, continue taking it occasionally after the expiration of that time.

Charcoal Dentifrice.

Take 4 ozs. of powdered charcoal, 2 ozs. of powdered yellow bark, 1 oz. of powdered myrrh, and ½ oz. of powdered orris root.

Sore Gums and Nipples, Lotion for.

5 drs. powdered borax, filtered soft water, ½ pt.; mix and bottle. To be applied 3 times a day or oftener.

Balsam for Chapped Lips.

Mix 2 teaspoonfuls of clarified honey with a few drops of lavender water, or any perfume that you may prefer. Anoint the lips with this frequently.

Lips, Cream Imperial for.

White wax and spermaceti, 1 oz. each; oil of sweet almonds, 5 ozs.; melt together and add Mecca balsam, 1 dr.; stir until the mass cools, then add 10 grs. of powdered acetate of lead.

Lips, Harmless Coloring for.

1 oz. of spermaceti, 3 ozs. of oil of sweet almonds and ½ oz. of rice flour; melt these over a slow fire, keep stirring till cold, and add a few drops of rose oil; mix a sufficient quantity of alkanet powder to make a desirable color.

Lip Rouge.

Take cold cream, add ½ as much again wax as is usually put in it, and a few drs. of carmine.

Red Lip Salve.

Take of white wax, 4 ozs.; olive oil, 4 ozs.; spermaceti, ½ oz.; oil of lavender, 20 drops; alkanet root, 2 ozs; macerate the alkanet for 3 or 4

days in the olive oil, then strain and melt it in the wax and spermaceti; when nearly cold, add the oil of lavender, and stir it until quite firmly set.

2. Melt, in a jar placed in a basin of boiling water, ½ oz. each of white wax and spermaceti, flour of benzoin, 15 grs., and ½ oz. of oil of almonds; stir until the mixture is cool. Color red with 2 cts. worth of alkanet root.

Lips, Salve for.

1. 1 oz. of white wax, 1 oz. of beef marrow and 3 ozs. of white pomatum should be melted together; to these may be added some bits of alkanet root, tied in a piece of muslin.

2. Melt ½ lb. of fresh lard and 1½ ozs. of white wax in a pan over a slow fire; fill a small tin dish with water, and add a few chips of alkanet root; boil this until it is of a beautiful red color; strain some of it and mix it with the other ingredients. Scent it with whatever extract you prefer, and pour it into small white jars or boxes.

French Lip Salve.

Mix together ½ oz. each of finely-powdered nitre and alum, 2 ozs. of white wax, 16 ozs. of fresh lard, and sufficient alkanet to color prettily.

Lips, White Salve.

1. Oil of almonds, spermaceti, white wax and white sugar candy in equal parts, melted together, form a good white salve for the lips and cheeks in cold weather.

2. Melt together 2 ozs. of oil of almonds and 1 dr. each of white wax and spermaceti; while warm, add 2 ozs. of rose water, and orange-flower water ½ oz.

Pastilles.

Benjamin, 2 ozs.; cascarilla, 1 dr.; myrrh, ½ oz.; oil of nutmeg and oil of cloves, of each 15 drops; nitre, 1 dr.; charcoal, 1½ ozs.; mucilage, enough to make into a mass; then divide into shapes and dry.

Orris Tooth Paste.

Take 3 ozs. of powdered orris root, ½ oz. of alum, 1 dr. each of oil of cloves and nutmeg, 1 lb. of Paris white, and ½ lb. of rose pink. Mix with these ingredients enough cold honey to make a smooth paste.

Tooth Powder.

1. 2 ozs. of Peruvian bark, 2 of myrrh, 1 of chalk, 1 of Armenian bole, and 1 of orris root.

2. ½ oz. of powdered orris root, 3 ozs. of powdered charcoal, 1 oz. of powdered Peruvian bark, ½ oz. of prepared chalk, 20 drops of oil of bergamot or lavender. Work well together in a mortar until thoroughly incorporated.

Tooth Powder, Highly Preservative.

Take of prepared chalk and washed sulphur, of each 1 oz., powdered myrrh and Armenian bole, of each 2 drs. Mix.

Teeth and Gums, Preservative Tincture for.

Mix 4 drs. of camphor, 1 oz. of tincture of myrrh, 1 oz. of tincture of bark and 1 oz. of rectified spirits of wine, and put into a wine-glass 30 or 40 drops of the mixture. Before using tooth powder, pour a little of this upon your brush, and when the teeth are clean, wash the teeth, mouth and gums with the remainder. This will prevent ordinary toothache.

Teeth and Gums, Borax Wash for.

Put 2 ozs. of borax into 3 lbs. of boiling water, and when dissolved, but before it is cold, add 1 teaspoonful of camphor. Put a tablespoonful of this with 1 of tepid water, and apply daily with tepid water. It is excellent for teeth and gums.

Teeth and Gums, Wash for.

Squeeze out the juice of ½ of a lemon, with which mix thoroughly 1 spoonful of claret or port wine, 10 grs. of sulphate of quinia, and a few drops of cologne water. Keep it for use in a closely-stopped bottle.

Tooth Wash.

Put 2 ozs. of fine-ground myrrh, 2 of Peruvian bark, 2 of orris root and 2 tablespoonfuls of white sugar into a large bottle; fill it with alcohol, shake it thoroughly, and let it stand for a week; at the end of the week pour off all that is clear into another bottle; 2 ozs. of white oak bark should then be steeped a long time in 1 qt. of water, boil it down to a pint and add it to the alcohol which has been poured off clear, and it will then be ready to be used. To make more of the wash, fill the bottle containing the myrrh again with alcohol.

PERFUMERY.

Bouquet de la Reine.

A highly fragrant and much esteemed perfume for the handkerchief, etc., is compounded as follows: Oils of bergamot and lavender, of each, 30 drops; neroli, 15 drops; oils of verbena and cloves, of each, 5 drops; essence of musk, ambergris and jasmine, of each, ½ dr.; rectified spirit of wine, 2 ozs.; mix.

Benzoin, Tincture of.

Macerate 8 ozs. of powdered benzoin in 2½ qts. of alcohol until dissolved, then filter it and bottle; cork closely.

Cologne Water.

Take 3 drs. of oil of orange, 2 drs. of oil of lemon, 2 drs. of oil of rosemary, 1 dr. of oil of lavender, 1 dr. of oil of bergamot, ½ dr. of oil of wintergreen, 26 drops of oil of cinnamon, 15 drops of oil of cloves, and 1 qt. of rectified spirits of wine.

Cologne Water. (2.)

Take 5 drops of oil of cinnamon, 1½ drs. of oil of rosemary, ½ gr. of musk, 1½ drs. of oil of bergamot, and 25 drops of oil of neroli. Mix all the ingredients together, and add them to 1 qt. of pure alcohol.

Cologne Water. (3.)

Take ½ oz. of oil of bergamot, ½ oz. of oil of lavender, ½ oz. of oil of jessamine, 15 drops of oil of rosemary, 6 drops of oil of cinnamon, 6 drops of oil of cloves, 6 drops of oil of neroli, 3 grains of musk, and 1 qt. of alcohol.

Cologne Water. (4.)

To 1 gallon of alcohol put 12 drs. each of oil of lavender, oil of bergamot, and essence of lemon, 4 drs. of oil of rosemary, and 12 drops of oil of cinnamon.

Eau-de-Cologne.

4 pts. of rectified spirits of wine, 1 oz. of oil of bergamot, ½ oz. of oil of lemon, ½ dr. of oil of rosemary, ¼ dr. of oil of neroli, 1 dr. of oil of English lavender, 1 dr. of oil of oranges. Mix well and filter. If this would make more than you desire, smaller quantities can be taken in the same proportions.

Florida Water.

Dissolve 1 oz. each of oil of lavender, oil of bergamot, and oil of lemon, and of oil of cinnamon and cloves 1 dr. each, in ½ gal. 90 per cent. of alcohol; add 1 gal. of water and filter.

Heliotrope, Extract of.

½ pt. of spirituous extract of vanilla, 1 gill of spirituous extract of French rose pomatum, 2 ozs. of spirituous extract of orange-flower pomatum, 1 oz. of spirituous extract of ambergris, 5 drops of essential oil of almonds.

Patchouly, Extract of.

1 gal. of rectified spirits, 1½ oz. of otto of patchouly, ½ oz. of otto of rose.

Hungary Water.

To 1 pt. of proof spirits of wine put 1 oz. of oil of rosemary, and 2 drs. of essence of ambergris; shake the bottle well several times, then

let the cork remain out 24 hrs. After a month, during which time shake it daily, put the water into small bottles.

Lavender Compound.

Procure a quantity of lavender blossoms, put them in a qt. of brandy, and let them stand in a warm place for 3 or 4 weeks; then pour off the liquor, and add to it 2 nutmegs, bruised fine, ½ oz. of cloves, ½ oz. of mace, 1 oz. of cinnamon, a large teaspoonful of cochineal, and 2 ozs. of loaf sugar. Let the mixture stand again for 3 or 4 days; you may then pour another pint of brandy on the blossoms, and let them remain thus until you desire to use the compound; add the liquor then to the spice, bottle it, and keep it well corked.

Lavender Water.

The following mixture should stand a week before it is used: 2 drs. of oil of lavender, ½ dr. of oil of bergamot, 1 dr. of essence of musk, 13 ozs. of spirit of wine, 5 ozs. of water.

Lavender Water. (2.)

Take 2 ozs. of the oil of bergamot, 1 oz. of the oil of lavender, 20 drops of the oil of cloves, ½ oz. of the tincture of musk, and ½ pt. of alcohol.

Perfume, Lily of the Valley.

Mix together ½ pt. of extract of tuberose, 2 ozs. of extract of orange-flower, 1 oz. of jasmine, 3 ozs. of extract of vanilla, ½ pt. extract of rose, ½ pt. of extract of cassia, and 3 drops of otto of almonds. Keep for 4 weeks, when it is fit for use.

Myrtle, Imitation Essence of.

1 pt. of extract of vanilla, 1 pt. of extract of roses, ½ pt. of extract of orange-flower, ½ pt. of extract of tuberose, and 2 ozs. of extract of jasmine. Keep 2 weeks before using.

Pleasant Perfume,

And also a preventive against moths, may be made of the following ingredients: Take cloves, carraway seeds, nutmeg, mace, cinnamon and Tonquin beans, of each 1 oz.; then add as much Florentine orris root as will equal the other ingredients put together. Grind the whole well to powder and then put it in little bags among your clothes, etc.

Rose Water.

Add 10 drops of otto of roses and 1 oz. of loaf sugar to 1 gill of spirits of wine; mix in a mortar, and put into 1 qt. of soft water.

Scent Bags.

Take 2 ozs. of bruised coriander seed, 2 ozs. of bruised calamus, ½ oz. of bruised mace, ½ oz. of bruised cinnamon, ½ oz. of bruised cloves, 2 ozs. of powdered orris root, 1 oz. of lavender flowers, and ½ oz. of musk. Mix the ingredients together, and stitch a portion in small silk bags.

Tube Rose, Essence of.

Place the flowers in alternate layers with cotton or sheep's wool, impregnated with the purest oil of olives, in a porcelain-lined kettle, closely covered, and kept for 12 hours in a water-bath; remove the flowers and substitute fresh ones; repeat this process until the oil is sufficiently scented; then mix the cotton or wool with the purest spirit of wine and distil in a water-bath.

Extract of Verbena.

1 pt. of rectified spirits, 3 drs. of otto of lemon grass, 2 ozs. of otto of lemon peel, ½ oz. of otto of orange peel.

Violet Perfume.

1. Put ½ oz. of orris root, broken in small pieces, in a bottle with 2 ozs. of alcohol; cork it tight and shake well. After 4 or 5 days a few drops of this on a handkerchief will leave the odor of fresh violets.
2. Drop 12 drops of oil of rhodium on a piece of loaf sugar; grind this well in a glass mortar, and mix it thoroughly with 3 lbs. of orris root powder. This will resemble the perfume of violet. If more oil of rhodium be added, a rose perfume, instead of violet, will be produced.

FOR GENTLEMEN.

Baldness, Hair Oil to Prevent.

Take ½ lb. of green southernwood, and boil it in 1½ pts. of sweet oil, to which add 1 pt. of port wine. Strain it through a fine linen bag 3 times, adding fresh southernwood each time. After adding 2 ozs. of bear's oil, replace it near the fire in a covered vessel, until the ingredients are thoroughly incorporated, and then bottle it closely.

Breath, To Sweeten After Using Tobacco.

Chlorate of sodium, 24 grs., powdered sugar, 1 oz., gum-tragacanth, 20 grs., perfumer's essential oil, 2 drs. Powder the chlorate in a glass mortar; put the powder in a cup, and pour in a little water, let it settle and pour off. Repeat the process 3 times with fresh water, filtering what is poured off each time, and mix the gum and sugar with it, adding the perfume last.

Charcoal Tooth Paste.

Make a smooth paste of cold honey, 1½ ozs., 2 ozs. of finely powdered willow charcoal, and 1 dr. of finely powdered chloride of potassa. This is a good deoderizer for the teeth and breath after smoking.

The Art of Shaving Made Easy.

Immediately before applying the lather, wash your beard well with soap and cold water and rub it dry. The more lather you use and the thicker it is the easier you will shave. Warm water should never be used, as it makes the face tender. In cold weather close your razor and place it in your pocket or under your arm to warm it. The best time to shave is just after leaving your bed or bath. Put your shaving-brush away with the lather on it. Before putting your razor away always wipe and strop it. As the razor is only a very fine saw, it should be moved in a sloping direction, holding it nearly flat to the face; and drawing the skin as tight as possible with the left hand, so as to present an even surface and to throw out the beard.

Razor, To Hone.

Keep the surface of the hone perfectly level. Hold the razor flat on the hone, and do not raise the back, or it will induce a round or thick edge. The razor should be drawn from heel to point, alternating the sides at each stroke, and the action always against the edge. If the edge is wiry and thin enough to turn, strop it on a coarse strop, drawing the edge frequently over the thumb nail until it is smooth, then finish on a fine strop and the palm of the hand.

Razor, To Sharpen.

Put the razor for ½ hr. into water to which has been added 1-20 of its weight of muriatic or sulphuric acid, and after a few hours set it on a hone. The acid acts as a whetstone, by corroding the whole surface uniformly, so that all that is needed is a smooth polish.

Razors, Paste for.

1. Take equal parts of black lead, jewelers' rouge, and prepared suet.
2. Rub some emery with enough water to make a smooth paste; stir this into a large quantity of water, after the coarser particles have settled, decant the fluid into another vessel and let it settle; decant the clear water and dry the sediment. Mix this with lard or tallow, or make a mixture of these with neat's-foot oil.

Strop for Razors.

Razor strops made of leather glued on a wooden holder are apt in time to round the edge of the razor by allowing the blade to sink in the leather. A piece of Russia leather, strained tight as a drum on a curved or bowed piece of wood is the best strop that can be made.

To Strop a Razor.

The pressure should be directed on the back of the razor which should never be raised from the strop, as pressing on the edge of the razor in stropping soon rounds it. If you shave from heel to point of the razor, strop it from point to heel, but if you begin with the point in shaving, then strop it from heel to point. The soap and damp so soon rust the fine edge of the razor that if you put it away once without stropping it, or otherwise perfectly cleaning the edge, you cannot expect to shave easily or well. Razors should always be wiped with soft plate leather (chamois leather).

Shaving Paste.

1. Take ½ oz. each of white wax, spermaceti, and almond oil; melt, and while warm, beat in 2 squares of Windsor soap, previously reduced to a paste with a little rose water.
2. Take 4 ozs. of Naples soap, 2 ozs. of powdered castile soap, 1 oz. of honey, 5 or 6 drops each of essence of ambergris, and oils of cassia and nutmegs. These produce a good lather, with either hot or cold water.
3. Take 4 ozs. of white soft soap, fine honey soap, sliced, 2 ozs., olive oil, 1 oz., 2 tablespoonfuls of soft water, and 2 drs. of carbonate of soda. Melt them together and make a paste, adding a little proof spirit, and perfume to the fancy.

TRAPPING, TANNING AND FISHING.

TRAPPING.

Trapping may be carried on successfully during at least six months in the year—from the first of October until the middle of April. All furs are better in winter, but from the first of May until the middle of October they are worthless. More trapping is done late in the fall and early in the spring than at any other time. All fur-bearing animals shed their coats, or at least the finest, thickest part of them, as warm weather approaches, having a new growth of it in the fall to protect them in winter, which accounts for their value then. This is indicated by the color of the inside part of the skin, which becomes brown and dark as summer approaches, showing that the best fur is gone; but grows light-colored, and, in winter, when the fur is in the best condition, is perfectly white. It is then called "prime" by the fur dealers, the fur being glossy, thick and of the richest color, and the tails of such animals as the marten, mink, and fisher, being full and heavy. Muskrats and beavers are not thoroughly prime until nearly the middle of winter, but other animals are prime about the first of November. The exact period at which furs become prime varies with the latitude, the more northern being a little in advance. Much poor fur is caught, as trapping is often begun too early; this must be sold at low prices, and is not of profit to those who handle it. Skins must be cared for and properly cleaned and prepared if you would realize the utmost from them. The skins of animals that have been shot are not valued as highly as from those that have been trapped, for the shot not only make holes in the skin, but furrows, as well as shaving off the skin. The trapper should visit the trap often so that the skin will not become tainted, and should attend to the skinning and curing as soon as possible after the animal is dead and dry. All superfluous flesh and fat must be scraped off, but care must be taken not to go deep enough to cut the fibre of the skin. The skins should be dried in a cool, shady place, never in the sun or by a fire. Simply stretch and dry them as they are taken from the animal, never using any preparation, and not even washing them.

In setting a trap, three things are to be secured: that the animal will go to it, that it shall catch him, and that when once caught he shall not be able to make his escape. Smoke the trap in burning hemlock, cedar or juniper boughs, dipped in the blood of pigs that have just been killed, or let the blood of a chicken run over it, dipping it in melted fat or while warm rubbing it with a ball of beeswax. In baiting a rabbit-

trap, however, your hands must not be greasy, as rabbits always avoid any kind of grease. When trapping on the farm, all appearance of preparation must be avoided. If you wish to catch a fox or raccoon, arrange a place with sawdust, hay-seed, chaff, and chicken feathers, several inches deep, and scatter food adapted to the animal to be caught through it. When you have certain indications that the place has been visited by the animal, set the trap—which must be free from the smell of iron—and cover it with the material you have used, scattering bits of food here and there, and the creature you are trying to catch will probably be there in the morning. Instead of this you can set your trap under water about 2 or 3 ins., hanging the bait above it on a sapling or spike, so that the animal will have to stand on the trap to get it; or plant the trap, covering it well, by the side of a barn, smoke-house or pig-pen, or at the foot of an old stump, hanging the bait above it so that in trying to get the bait the animal will step into it. The trap must be secured by a weight of wood or metal, by a weight or stick that will pull it into the water and drown it, or by a bent sapling that will pull it up into the air. As animals can easily gnaw anything like rope or hide, a short light chain should be attached to every iron trap. No spring is needed if you are catching animals simply to get rid of a nuisance, but if for fur, you must hoist the land animals into the air, so that they cannot damage themselves, and if water animals you must drown them quickly. To attain the former result bend over a sapling with a stout cord attached containing the bait, a small part of the cord continuing down to the trap, and being fastened slightly by a notched peg driven into the ground. The struggles of the animal when caught will free the cord, and the sapling will spring hoisting the animal into the air. If the trap is set in water, fasten it by a ring, at the end of a chain, to a pole running out into deep water, the pole being fastened in its position and securely anchored so that the trap may not go too far down the stream. When the animal is caught, his struggles will make the ring go farther and farther down the stick, and the weight of the trap will finally drown the animal.

The best baits are strong smelling substances, and if in any way the smell of the animal to be caught can be given to the bait, it will surely entice the animal to the trap. To make beaver bait press the castor or bark stone, which is found in the male beaver, from the bladder-like bag that contains it, into a wide-mouthed vial. Mix 5 or 6 of these stones, a dozen or more cloves, a teaspoonful of ground cinnamon, and a powdered nutmeg, with alcohol or whisky, until about as thick as good syrup, then cork the bottle and keep for 3 or 4 days. This should not be put in the trap, but used to attract the beaver to it. Any fresh root or sapling will furnish bait for beavers; for muskrats, use carrots, potatos, or apples; for mink, sable, fisher, skunk and ordinary weasel fresh or salt fish can be used, but in using the latter it should be toasted so that it will emit more smell. To obtain a good fish smell, old hunters cut up any small fish, put the pieces into a bottle, and let it stand in a warm place for several days, and as it decays take the fish oil that rises and put it on whatever bait they have. The waste parts of both wild and domestic fowl are the best kind of bait for all of the weasel tribe, as well as foxes and wolves. If their feathers are scattered around the trap it makes it more attractive. If a little musk mixed with asafœtida be used, or even a muskrat skin be dragged along the ground toward the trap most of this tribe will follow

it up to the trail. Old hunters sometimes tie one of these trail-bags to their belt and let it drag as they go from trap to trap. A good bait for the fox is toasted cheese. Honey smeared on a piece of pork or beef, on an ear of corn, or on a tree or stump near where the trap is set, is the best bait for the bear. Mice are considered a dainty by the skunk, and raccoons will travel far for frogs and fish, and they also like corn. Woodchucks like roots, corn and bread, and squirrels take Indian corn and nuts. Wild cats like any kind of flesh or fish. Hemp-seed is more attractive for small birds than any other kind of bait. For quails, buckwheat is more attractive than any other grain. To catch otters the various kinds of grain are used.

Bird Lime.

Boil any quantity of the middle bark of the holly, in water, until it is soft and tender, which will probably take 7 or 8 hrs. Drain off the water and place the holly in pits under ground, surrounded with stones; it should be allowed to remain until it ferments, water being added if necessary until it passes into a mucilaginous state. After being well pounded and washed in several waters, it should be left to ferment and purify itself for several days.

For the same purpose linseed oil, boiled and burned down to a thick varnish, is used. Heat the oil in an iron kettle and when warm light it and let it burn until it is thick enough. Do not fill the iron kettle over ½ full of oil. The lid should fit closely so that the oil can be quenched at will, and this must be done frequently to see if the oil is thick enough, as it should be of the consistence of thick syrup. It can be used in various ways, either on sticks made for the purpose, or plastered on spots to which the birds are in the habit of coming. If used on sticks, holes must be made in the tree in which to insert the limed sticks. As soon as birds are caught in this way they should be taken from the sticks or they will flutter themselves to death. To wash off the lime use a little alcohol, but be careful in applying it as the odor of alcohol will sometimes kill small birds. If there is no lime on the head of the bird, cover it with a silk-handkerchief, and wash off the lime with a sponge.

Foxes, To Trap.

1. Smear the trap well with blood to destroy the odor of iron. Bait the trap with fried meat and set in soft earth, packing moss and leaves lightly around the pan and jaws. Take from the female of the dog, fox or wolf, the matrix in the season of coition; preserve it in alcohol tightly corked, and put a little of it on something near the trap; in addition to this put some of it on your boots when visiting the trap.

2. Make a bed of chaff, in the open field where the fox is supposed to visit, but where it will not be likely to be visited by hunters. Stir into the bed daily very old or toasted cheese, or fine scraps of meat, making as few tracks as possible, and being careful not to change the appearance of the bed and its surroundings. Do not handle the materials of which the bed is composed any more than you are obliged to. Great care should be taken in making the bed, for it will last some time, and if foxes are plenty, will afford a great deal of sport. When you are sure a fox has visited it 5 or 6 nights, put in a small-sized, double-spring trap,

and fasten it to a clog, light enough for the fox to drag, but so heavy that he cannot get far away. If there is snow on the ground you will have no trouble in finding him, even if he goes some distance. He may be caught the first night, but probably you will have to try several times before succeeding.

Gophers, To Trap.

Open the last mound made, put in a common spring trap, cover with a little light sand and leave the hole open. The gopher coming to close the hole will get caught in the trap.

Hawk and Owl Traps.

Set a pole 20 ft. long a short distance from the house or barn, or on the poultry-house. In the top fasten the base of a common steel-trap and make it fast. In a short time after trap and pole are set you may expect some kind of game. About the best place for the trap is an open field near the chicken-yard, as these birds naturally light on high objects such as the tops of hay stacks or dead branches of trees.

Mink, To Trap.

Set the trap near some stream, and if you cannot find any minks' holes make one. Barricade 3 sides of the cavity with stones, bark or any material that is convenient, after setting the trap in it. The bait should be placed at the farther extremity of the cavity, beyond the trap, and may consist of any kind of fresh meat; muskrat meat is good, but the best bait is either fresh or stale fish. In winter it should be smoked to give it a stronger smell. The decomposition of minnows, eels or trout make the best scent for attracting mink. To prepare this bait, cut the fish in small pieces, put the pieces in a bottle and cork it loosely, and let it hang in the sunshine 2 or 3 wks. in the summer. The mink will come from a long distance, if a few drops of this is put on the bait or on a stick near the trap.

Moles, (Ground), To Destroy.

Mole traps of various kinds work well when the moles can be persuaded to go where they will be caught. During showers in summer, at which time the moles are most active, not only set the traps but set men to watching them, and when one is found moving the soil, have them dig him out and kill him. This way has proved more successful than all the traps that are in use. Poisons have been tried with but little success.

Muskrats, To Trap.

When a log is found with some recent droppings of the muskrat on it, cut a notch for the trap in the log an inch or two under water. Fasten the trap to a tally-stick, which is a green sapling with a fork at the upper end, and a hook near the bottom to hold it in the loose ground. Place the chain-ring on this tally-stick, taking care to so place the tally-stick

and trap that the muskrat, when caught, shall take to the water and be drowned. When the trap is placed on land, among weeds and bushes, the rat when caught may twist off his leg and escape. Place the traps also in the runs, on bogs and old muskrat houses, and wherever there are indications that the muskrats have recently been to feed. Sometimes traps have to be baited, but only when the game is scarce. For bait, carrots, parsnips, apples, potatos, or a piece of muskrat flesh may be used. Place a stick in the ground in such a way that the end shall be 6 or 8 ins. above the treadle of the trap. Place the bait on the end of the stick and if there are any rats near, you will surely catch them. The traps are sometimes covered with an inch or two of weeds; and sometimes trappers put a drop or two of the oil found in the glands of the muskrat, on or near the traps. The hunter takes his boat next morning and visits them,

Muskrats, Home-Made Traps for.

A trap can be made of an old barrel that will be equal to or better than a steel-trap. Sink the barrel near the bank of the ditch, where there are traces of the animal, to the level of the ground, and fill it half full of water. Put in a couple of shingles or light strips of board to float on the water; place small bits of carrots or sweet apples in the runs of the muskrats, and toll them to the barrel; also put several pieces upon the floats inside. When the rats jump in after their food they will be unable to get out. Several muskrats may be taken in a single night by this simple trap, which costs nothing and can be visited easily, and, moreover, will hold a dozen or more at once.

Otter, To Skin.

Rip down the back of each hind leg until the slits meet in the crotch; skin the body whole. Do not rip up the belly; put a split stick over the bone of the tail, between the body and hide, and skin in this way; when skinned draw the head over a stretcher and leave it there until dry.

Otter, To Trap.

The otter is the most cunning animal that exists. When people visit an otter slide it will leave it at once, and stay for 2 or 3 wks. They have a natural dread of man, and will not even follow the creek or river close by a house, but will land some distance above or below the house, and transport their coats through the fields over land back to the water again. It is almost impossible to trap the otter. Hang a small sized steel trap, after setting it, over the fire to smoke for 2 or 3 hrs, then take a stick or board and go in your canoe to the place frequented by the otter and place the trap under water, carefully covering it with leaves, light trash or grass which you can fish up from the bottom of the stream. Do not touch the bank above water, for if the otter sees the print of a boot he will soon be many miles away. If the trap is too light to drown the otter attach a weight to the chain.

Quails, To Trap.

It is hard to catch quails and prairie chickens, except when the snow is on the ground, when they will readily enter the trap. The trap may

be any kind of a coop supported by a figure 4, the spindle of the figure being made so as to hold grain, or some grains of wheat or buckwheat being strung on a strong thread and tied to the spindle.

Rabbits, To Trap.

Make a noose of brass wire large enough for them to put their heads through; trim a small tree near their road, fasten a wire to the top, bend it over and fasten it by a notch to a peg driven in the ground. A little across their road make a fence of fine brush, leaving a hole to hang the wire in. Steel traps laid in their roads and fastened are sometimes used; also box traps, baited with sweet apple.

Raccoon, To Catch.

You can catch them most readily with a good cur dog, one that will bark at the tree, but will not give tongue on track. To trap them with steel traps, find a big log in the woods, in or near a swamp, and set your trap on it, putting two old limbs, one each side of the log, over the trap, making them cross at the top in the form of the letter x, so that the coon will have to go under them and over the trap. You can bait the trap with frogs or chicken, but if the coon comes in the neighborhood, he will run the old log whether you bait or not.

Skunks, To Trap.

Place an old barrel on its side on a triangular stick of wood about 7 ins. high, and fasten the bait on the bottom of the barrel. As soon as the skunk passes the center of the barrel it turns up with the skunk in it without making any scent. Take the animal by the tail and do with it whatever you wish. The barrel must not be placed too high, as it might not remain upright; the more skunks you catch in the same barrel the better the trap will become.

Snares.

Snares are made of horse-hair or thin copper wire tied in a running knot, and set in the paths or runs of the birds you wish to catch. When birds are touched about the head they will push forward, and as this draws the knot tighter, the bird soon kills itself.

Squirrels, To Catch.

Set a steel trap on the upper rail of a fence near where they frequent. Against the side of the fence set a pole, to the end of which is attached an ear of corn or some other squirrel food, placing it in such a position as to spring the bait over the trap at a height of 6 or 9 ins. The squirrel will get into the trap when he reaches to get the bait.

Trap, Farmer's, For Mink, Weasels, etc.

Make a box of boards ½ in. thick, the two sides and top of the box being 12 ins. long, with one end closed, the size of the box inside being

4 ins. square. On the closed end of the box put a steel spring, to which is fastened a square ring at its extremity. The game thrusts its head through this ring to reach the bait at one end of a catch, which holds the ring depressed and held by a wire running from the front end of the trap to the catch on the upper extremity of the bait hook.

Trap, Sieve.

Prop a sieve up with a stick to the middle of which is tied one end of a piece of string. After scattering some seeds and crumbs of bread under the trap and near by, take the other end of the string in your hand and conceal yourself at some distance until the birds come to get the crumbs. When they are feeding directly under the trap pull the string quickly, and the sieve falls making prisoners of the birds. A chicken can often be caught in this simple manner.

Trap, Wild Turkey.

Dig a ditch, and over one end of it build a rude structure of logs, covered at the top. Do not make the structure tight, but close enough not to let the birds through. Scatter Indian corn in the ditch and in the inside of the pen, and the turkeys will follow up the corn in the ditch, and emerge from it on the inside of the trap. When there they do not think of descending into the ditch but walk round and round the pen, trying to escape through the chinks of the logs. The ditch should end about the centre of the pen, and a bridge of sticks, grass and earth should be built over it just inside of the pen and close to the logs. If this is not done, the bird in going round may step into the ditch, and when there they will follow the light and so reach the outside of the pen.

HINTS FOR HUNTERS.

Dogs, Characteristics of a Well-Bred Pointer.

The eyes should be clear and bright, the neck and head set on straight, the chest deep and broad. The head should be broad at the tip, long and tapering, the poll rising to a point, and the nose open and large. The ears should be tolerably long, pointed at the top, slightly erect and falling between the neck and jaw bone. The legs and arms should be muscular, straight and strong, and the elbows well in; the feet small and hard. The body should be well ribbed up but not too long; the loins broad at the top but thin downwards. The hind legs should be strong and large and the hindquarters broad; the hair short, close and sleek, and the tail fine, long and tapering.

Guns, To Guard Against Bursting.

The bursting of a double-barreled gun is generally caused by defects in the left barrel. The right hand barrel is used and reloaded much more frequently than the left, and every time it is discharged the pow-

der in the left is pulverized more or less by the shock, the settling of the grains leaving a space between the charge and the wadding, so that when the left barrel is discharged, it often explodes. This can be avoided by sending the ramrod home with 1 or 2 smart blows into the non-discharged barrel, whenever you reload the other.

Guns, (Shot), How to Clean.

Place the hammers at half-cock; draw out the ramrod and bolt, and and lift the barrels from the stock. Put the barrels in clean, cold water being sure there is no sand or dirt in the pail. If you have a 3-jointed washing-rod with the necessary implements that accompany it, first use the brush until most of the dirty powder is removed, then take tow and wash it until it is perfectly clean and dry it thoroughly with soft cotton rags. Continue rubbing the barrels until they feel warm to the hand, when you may be sure your gun is dry and that there is no danger of rusting. In cleaning a shot gun, never use hot or boiling water, for it will certainly injure the "temper" of it.

Gun, (Scattering Shot), How to Remedy.

Large shot are more apt to scatter than fine; much depends, however, on the size of the gun. A large-bored gun does not shoot fine shot so well as medium, but a small-bored gun throws fine shot with more force than a large-bored one; a small bored-gun is not generally adapted to large shot as it does not chamber them well. Choke-boring, that is, boring from the breech of the gun, in such a way as to give a gradual taper toward the muzzle, is the only remedy for scattering shot. It also greatly improves the shooting qualities of the gun, as the charge concentrates at the muzzle. The length of the gun depends also on the size of the bore: 28 to 30 ins. for a gun of from 10 to 14 gage; 30 to 34, of guns from 8 to 10; 26 to 28, guns of 15 to 18 gage.

Scattering Gun, To Remedy.

Insert a ring about ¼ in. wide in the nozzle of the gun, beveling from the outer edge to nothing at the inward. Fasten it with rivets. The metal of which it is made should be about ⅛ in. in thickness and fitted very neatly.

Guns, How to Use Effectively.

Aim well forward. If the game is going from you, near the ground, if you do not aim full high, the bulk of the discharge will pass below it; but if the birds are going from you higher than the gun, the aim must be equally low, or the discharge will pass above them. In cross-shots, within 35 or 40 yds., the aim must be at 1 ft. or 1½ ft. in front of it, and at a greater distance the allowance must be more. You should always endeavor to get cross-cuts in partridge shooting. This you can generally do by walking across or heading your dog when pointing. When flying across you, birds present a far easier shot and expose a more vital part. If you go straight from the dog to the birds, they will generally go straight away.

TANNING.

Deer Skins, To Dress.

Take 8 qts. of rain water and put into it 1 pt. of soft soap. Warm the liquid and put the skin in while warm. Punch the hide or work it with a soft stick; let it lay in the liquid 1 day, and then take it out and roll it between 2 logs or pass it through a wringing machine. Stretch it out to dry either in the sun or by a hot fire, and when dry oil it with any oil that you have; good fresh butter, however, is better than anything else for the purpose. Repeat the operation, and when the skin is dry a second time, rub it with ochre to give it a fine yellow color.

Deer Skins, Oil Dressing.

As soon as the hide is removed from the animal, it should be grained. To do this, get a beam 6 or 8 ft. long and 7 or 8 ins. through, with 2 legs on one end and the other end resting on the ground so that it will stand at a steep slant. It must be a hard wood beam, clean and smooth and with no ridges on it. Whet the corners of a knife smooth so that they will not cut the skin. Let down the upper end of the beam against your belly, and lay on the skin, hair side down, and take off all the unequal substances before turning the hair side up. Begin to grain with the neck of the skin next to you, shoving it against the hair. By holding it firmly, and using some strength, it will soon begin to go and bring a streak of grain. Hides are grained in this manner when green, but they must be soaked in lime and water until mellow when dry, and then treated like green hides.

Feathers, To Cleanse from Oil.

Mix 1 lb. of quicklime with 1 gal. of clear water. When the lime is precipitated in fine powder, pour off the clear water for use. Put the feathers in a tub, pour the lime water over them until they are covered 3 ins. deep if sunk to the bottom. This they will do when thoroughly saturated. Let them stay 3 or 4 days, then pour off the water and rinse them in clean soft water, and let dry.

Furs, To Clean.

Strip off the stuffing and binding, and lay them in a flat position. Brush them briskly with a stiff clothes brush; cut out the moth-eaten parts, and sew in bits of fur to match.

Dark Furs, To Clean.

Warm a quantity of new bran in a pan, stirring it briskly to keep it from burning. Then, when well warmed, rub it with the hand thoroughly into the fur, repeating the operation 2 or 3 times. Shake the fur and brush it until free from dust.

Light Furs, To Clean.

Lay the fur on the table and rub it well with bran moistened with warm water. Rub until quite dry, and then afterwards with dry bran. The moist bran should be put on with flannel and the dry with a soft muslin cloth. Afterward rub the fur with magnesia or book muslin. Rub against the fur. It takes a long time to clean ermine.

Furs, To Improve by Stretching.

Sponge the inside of the skin, until it is thoroughly saturated, with 3 ozs. of salt in 1 pt. of soft water. Do not wet the fur. Stretch it, fur side downward, on a board in the shape you wish, fasten it with small tacks and let it dry.

Fur Skins, To Tan with Fur on.

Cut off the useless parts, soften the skin by soaking, remove the fatty matter from the inside, and soak in warm water for an hour. Make a mixture of equal parts of borax, saltpeter and sulphate of soda, ½ oz. of each to each skin, with enough water for a thin paste, and spread this with a brush over the inside of the skin. Put more on the thick parts than on the thin, then double the skin together, flesh side inward, and put it in a cool place. Let it remain for 24 hrs. Then wash the skin clean, and brush over it another mixture made of 1 oz. of sal soda, ½ oz. of borax and 2 ozs. of hard white soap, melted slowly together without boiling. Fold it together and put it away for another 24 hrs. Then dissolve 8 ozs. of salt, 4 ozs. of alum and 2 ozs. of saleratus, in sufficient hot rain water to saturate the skin, and put it in and let it soak for 12 hrs., after which wring it out and hang it up to dry. Repeat this soaking and drying until the skin is soft enough, then smooth the inside with fine sand paper and pumice stone.

Leather, Oiling.

Do not apply oils to dry leather, as they will surely injure it. When a harness needs oiling, wet it at night, cover it with a blanket and it will be dry and supple. Use neat's oil, in small quantities, using enough strength to make the oil disseminate itself throughout the leather. A soft, pliable harness is easy to handle, and will last much longer than a stiff, hard one. Neat's foot oil is the best to use, but vegetable oils should never be used on leather.

Muskrats, To Skin.

Begin at the head and rip the skin from the chin to between the forelegs, and then strip the skin off over the body. If taken off in this manner, stretch the skin on a bent rod of tough pliable wood, but stretch it on a board when skinned from the tail.

Muskrat Skins, To Tan with Fur on.

After removing the fatty and fleshy matter, by washing in warm water, soak the skin in a liquor made by putting into 10 gals. of cold

soft water 8 qts. of wheat bran, ½ pt. of old soap, and 1 oz. of borax. If the hides are green, soak them from 8 to 10 hrs.; if dry, soak until soft. If they have not been salted, put 1 pt. of salt into the water, and, by adding 2 ozs. of sulphuric acid, the soaking can be done in 4 or 5 hrs. Then make a liquor of 10 gals. of warm soft water, into which ½ bu. of bran has been put. Stir it and let it stand in a warm place until it ferments, after which stir in slowly 2¼ lbs. of sulphuric acid. Put the hides in and let them stay about 4 hrs., after which take them out and rub them with a fleshing knife, then work them over a beam, until dry. An old chopping knife, with the edge taken off, would do to scrape them off with.

Parchment, How to Make.

Stretch some sheep skin on a frame and pare off the flesh with an iron circular knife. Then moisten it with a rag and spread whiting over it. Then the workman rubs over the skin, and scours off the flesh, with a large pumice-stone, flat on the bottom. He next goes over it with the iron knife used at first, and rubs it again with the pumice-stone without the chalk, to smooth the flesh side. It is again drained by passing over it the iron instrument as before; the same instrument is then passed over the wool side and the skin is stretched on a frame. More whiting is now thrown on it, and it is brushed over with a piece of woolly lambskin. When dry, take it off the frame by cutting it all around, and take it to the parchment maker, who, while it is dry will pare it on a summer (a calf-skin stretched on a frame), with an instrument sharper than the one before used, and who, working it with the arm from the top to the bottom of the skin, will take away half its substance, leaving the parchment perfect.

Rabbit Skins, To Cure.

Fasten the skin with the fur side downwards, upon a board, with tinned tacks. Wash it over first with a solution of salt water. Then moisten the surface over with a solution made of 2½ ozs. of alum in 1 pt. of warm water. Repeat this several times a day for 3 days. Let it dry thoroughly, take out the tacks, roll it loosely the long way, with the hair inside, and draw it quickly backwards and forwards through a large, smooth ring until it is quite soft, then roll it the contrary way of the skin and repeat the operation.

Raccoon Skin, To Prepare.

Nail the skin to a board to dry, and then cover it with a paste made of 1 oz. of alum, 1 oz. of salt, ½ dr. of sulphuric acid, 2 gills of water and a little wheat bran. When dry scrape this off, roll the skin up and work it soft.

Sheep's Pelts, To Tan with Wool on.

Remove all fleshy matter by washing the inner surface in warm water, and clean the wool with soft-soap and water. When perfectly free from all fatty and oily matter, spread the following mixture on the flesh side: Dissolve in 1 qt. of hot water ½ lb. of common salt and ½ oz. of borax;

add rye meal enough to make a thick paste. This is sufficent for 1 pelt. Fold it lengthwise and put it in a cool, airy, but shady place. At the end of 2 weeks remove the paste from the surface, wash and dry it, but before it is thoroughly dry, scrape the flesh side with a crescent-shaped knife. The more the pelt is worked the softer it will be.

Sheepskins, To Prepare for Mats.

Wash the fresh skin with a strong lather of hot water, allowed to stand until cold, and squeeze and rub the wool until it looks clean and white, then carefully rinse all the soap out of it. In 2 gals. of hot water dissolve 1 lb. of salt and 1 of alum, and soak the skin in it for 12 hrs. Hang it up and let it drain thoroughly, then stretch it carefully on a board to dry. Stretch it several times while drying. Before quite dry, sprinkle over it, on the flesh side, 1 oz. each of finely pulverized alum and saltpeter. Rub it in well, then try the wool to see if it is firm on the skin. If not, let it remain a day or two, then rub over again with alum. Fold the flesh sides together, hang in the shade 2 or 3 days, turning them over every day until quite dry, then scrape the flesh side with a blunt knife, and rub it with pumice or rotten stone.

Sheepskins, To Tan.

Soak the skins in water and handle them to separate all impurities from them, which may then be scraped off with a blunt knife. Then hang them up in a close, warm room to putrefy, which will loosen the wool and cause the exudation of an oily, slimy matter, which can be removed with a knife. To thicken and harden the skins, steep them in milk of lime; leave them in this 1 month or 6 weeks, and, when taken out, smooth them on the fleshy side with a sharp knife. Steep them in a bath of bran and water, where they will undergo a partial fermentation and become much thinner. Immerse the skins, now called pelts, in a solution of common salt and alum and water, using 3 lbs. of alum and 5 lbs. of salt to every 120 skins. Agitate them vigorously in this saline bath so that they will become firm and tough. From this bath put them into one of bran and water, and let them remain until they become quite pliant on account of slight fermentation. They should then be trodden in a wooden tub, with a solution of yolk of eggs in water, to give a gloss to the upper surface. As soon as the solution becomes transparent you may know that the skins have absorbed the glazing matter. Drain the pelt from the solution, hang it upon hooks in a warm room to dry, and when dry smooth it over with warm hand-irons, and it will then be converted into leather.

Skunk Skins, To Deoderize.

Make a fire of red cedar boughs, hold the skins over it and sprinkle with chloride of lime Instead of this they can be cleansed by wrapping them in green hemlock boughs and letting them remain 24 hrs.

Vellum, To Make.

Vellum is used for binding superior books and covering drum heads. It is a kind of parchment made of the skins of sucking calves. It is

much whiter and smoother than parchment, and has a much finer grain, but is prepared in the same manner, with the exception of not being passed through the lime-pit.

FISHING.

Fish Culture.

When brook trout and salmon are spawned and artificially impregnated at the proper time, nearly all the ova hatch, and if kept in the hatching-boxes until they commence growth in the spring, and then turned into the stream, they will take care of themselves. Thus the number of fish may be increased annually, a hundredfold in each river, beyond the natural increase, till the waters are literally filled with them. Brook trout that hatch in the winter do not lay their first spawn until a year from the next fall. Each female produces about 300 eggs, the number being doubled yearly until it reaches about 6,000. Salmon begin spawning at the same time and age, and produce from 5,000 to 20,000 eggs, according to the size and age of the female. The ponds should be built according to the amount of water you have, the water being changed every 24 or 48 hrs., and oftener if possible. If the trout have plenty of water they can be very numerous. You can obtain impregnated spawn, shipped in moss, from the first of November to the first of March, for ten dollars per thousand. In warm weather they cannot be shipped safely. To ship them, place the moss box in a tin pail filled with sawdust, so that the spawn will not feel the changes of heat and cold; packed in this way they can be sent a fifty days' journey. After carefully picking the moss from the top of the spawn, put the box in a pan of water, turn it nearly bottom side up and pick out the rest of the moss very carefully; it will do no harm if a little is left in. Pour the spawn in your hatching trough by holding the edge of your pan under water, and place them by agitating the water with a feather, which can be done without touching the spawn. Pick out the dead spawn, which will turn milk white. Arrange the trough so that the water will run in at about 12 ft. per minute. Filter the water by letting it run through gravel, or cloth screens, so that the sediment will not reach the spawn, as it will surely kill them. All sediment may be removed without touching the spawn, by agitating the water with the bearded end of a quill. Trout do not do well in large ponds with little water, as they are too cold in winter and too warm in summer. Do not place any other fish with trout. Young fish should be fed twice a day very slowly, any kind of fish or fish spawn being good for food. They will live and do well if fed regularly, and if the trough be kept clean with a good change of water, but will surely die if neglected. The sun, sediment, rats, mice, snails, crawfish, and many water insects, are death to spawn. If the average temperature of the water is 45 degs., the fish will hatch in about 70 days, every degree colder or warmer making about 6 days difference in hatching. Trout hatch soonest in warm water; after hatching, the sack of their bellies sustains them for 40 or 45 days, after which time they need food—beef, liver chopped nearly to the consistence of blood, being good for them. All old streams and ponds, being full of water insects, have plenty of food for

small trout and large. Young trout, 1 in. long, can be carried any distance in cans and barrels during January, February, and March, and cost forty dollars per thousand. It takes as much water to support a one year old trout as it does a thousand small ones. The approach of spawning is shown by the belly of the fish becoming distended, and yielding readily to pressure; a fluctuation under the hand indicates that the eggs are free from the ovary and easily displaced.

Fishing, Baits for.

In the spring and autumn, worms may be used all day long, but in summer worms must only be used early and late, morning and evening. When baiting with a worm, put the hook in close to the worm's head, and then pass it carefully down, working the worm up the hook at the same time. Do not leave more than ½ in. of the worm hanging over the end of the hook. To scour or starve these worms, place them in damp moss. An excellent bait for small "pan" fish, as sunfish and perch, is the ash grub, which may be found in the rotten bark of a tree that has been felled some time; it may be used all the year, and should be kept in wheat bran. Worms and grubs of all kinds make excellent bait for small fresh water fish. During June, July and August grasshoppers are good bait; before putting them on the hook their legs and wings must be taken off. For bass, tom cod, and lafayette fish, shrimp are good bait, as are also crab and clam, especially shedder crab.

Fishing, Ground Bait for.

Ground baiting is very essential, as success in bottom or float fishing is impossible unless there is some means of drawing the fish together. If you are going to fish with earth worms, throw those that are unscoured in for ground bait, to collect the fish in one spot, and then fish with those that are well scoured. Mix bran and clay together into lumps about the size of an apple, place some grubs in the middle and close the clay over them. This is a good bait for small creek fish in a still pond, hole, or slight eddy. Instead of this you can soak white bread crumbs in water, squeeze almost dry, add bran, and work them up together till they are of the consistence of clay. Brewers' grains, if perfectly fresh, can also be used. If the water is perfectly still, you may throw in grubs, worms, and the toughest parts of crabs, lobsters or clams, without working them into balls or clay; but, if fishing in a stream, this system of ground baiting can not be used, as they will be carried away by the stream, drawing the fish with them from the spot.

Fishing, Paste Baits for.

Mix some crumbs of white bread and old cheese to a tolerable degree of consistence, and you will have a good bait for chub. Dip some crumbs of white bread in honey and knead them in your hand for some time, and this paste will be good for small fish. After removing the husks from some new wheat, pound it, pour some milk or water over it and let the composition simmer gently. It will be somewhat like a jelly when cold and a very small piece will be sufficient to put on the hook. These paste baits may be used in quiet brooks, ponds, or very

still rivers, but are not at all adapted for swift-running streams. When using paste bait, a quill float is better than a cork one, as it indicates the slightest nibble; if you are not on the alert both fish and bait will give you the slip.

Fishing, Floats for.

You can procure floats of all shapes and sizes ready made. Quill floats are the best for small fish and slow streams, but cork floats should be employed for large fish, and in strong and rapid rivers. To make cork floats, take a piece of fine grained, sound cork, bore a hole through it with a small red-hot iron, put in a quill which exactly fits the hole, and cut the cork into the shape of a pear. Then grind it smooth with pumice-stone, and paint and varnish it. Two or three bright colors should be used in painting the float. It should swim perpendicularly in the water, so that it will indicate the slightest nibble. The float can be properly poised by fastening some shot on the line; the best sizes being from swan shot down to No. 4. A gap can be made in the shot large enough to admit the line, by splitting about half through with a small chisel, and can be closed with a pair of pliers after the line is put in.

Fishing, With Artificial Fly.

This mode of fishing possesses many advantages over bottom fishing; it is much more cleanly in its preparations, and less toilsome in its practice, for all the fly fisher has to carry is a light rod, a book of flies and the fish he may chance to catch. There are several kinds of fish, however, that will not rise at a fly, and those that do will not leave their retreat in cold or wet weather.

Fishing, With Natural Fly.

Fishing with living flies and grasshoppers, requires a long rod, running tackle and fine line. In fishing in this way, one should begin by fishing close under the banks and gradually increase the distance until you can throw your live bait across the stream, at the same time screening yourself behind a tree, bush or clump of weeds, or you will not lift a single fish out of the water. If weeds grow so as to check the current, fish where the stream runs most rapidly, being careful not to entangle your line in the weeds. Only draw out enough line to let the fly touch the surface. The top of the rod should be kept a little elevated, and you must frequently raise and depress it and move it gently to and fro so that the fish may be tempted to bite. As soon as your bait is taken, strike smartly and haul it out immediately. The best bait for dace, eels, roach, bream and chub are wasps, hornets and bumble bees. When dried in an oven over the fire, if not over done, they will keep for a long while.

Fishing, Hooks for.

Hooks vary from No. 1, the largest salmon size, to No. 14, the smallest midge. A bad hook should never be used; it is worthless. Use strong, fine silk to fasten the hooks on your lines; the nearer the color of your bait it is the better. Wax the silk with shoemaker's wax, and wrap it

four or five times around the body of the hook; then place the line on the inside of your hook, and wind the silk tightly around till you have wrapped it three parts down the hook. Whipping is finished off by slipping the end of the silk through the last circle and drawing it tight. Knotting by laying two pieces of line together, one of which overlaps the other some 3 ins.; then, holding one end in the left hand, and forming a simple slip-knot on it, then turning the other end to the right and doing the same; after that, draw the two together, when the knot is complete. This water knot can be undone easily, but no direct pull will ever loosen it. Gimp is any kind of tackle covered with fine brass wire, which protects it from sharp stones and the teeth of the fish.

Fishing, Lines for.

Lines made of pure horsehair are the most serviceable, as those made of hair or silk rot easily, and cannot be thrown with the same precision, as they become soft and flabby and fall heavily into the water. The best lines are perfectly twisted round, and without any irregularities, and are either light gray or brown, or white; some, however, prefer a light sorrel tint. The bottom or casting line for fly-fishing, which is attached to the line on the reel, should be of gut, and about the same length as the rod; it should be strong at the top and very fine at the bottom. It should be picked and tried to see that it is of uniform thickness throughout before any flies are made upon it.

Fishing, Reels for.

A multiplying reel is superior to all others, and enables the angler to shorten and lengthen his line rapidly. Keep it clean and well oiled, being very careful that no grit of any kind gets into it. By the aid of a reel parts of the river may be reached that otherwise could not, and the angler can play his fish with great ease and certainty.

Fishing, Rods for.

Rods made of vine, bamboo, hazel, and hickory are used. When put together the rod should taper gradually from the but to the top, and be perfectly straight and even. Generally a rod about 12 ft. in length is used, but in wide rivers 15 and 18 ft. rods are required. A rod should be kept for each kind of fishing, as in this way they can be kept in perfect order and always be ready for use. They should be ringed to guide line, and when screwing joints together, care should be taken that the rings run regularly on the under side of the rod, so that the line will not get twisted. Do not keep the rods in a place that is either too moist or too dry, as in the former case they will rot, and in the latter they will become brittle. If, in warm, dry weather, the joints are shrunk, they may be moistened a little to make them adhere better; but if, on account of being too wet, they stick together and cannot be easily taken to pieces, do not strain them apart, but wait till they are dry, when they will separate readily. To preserve the rods, varnish them once in 2 or 3 years, with copal varnish, or with india-rubber dissolved over a slow fire in linseed oil. In re-varnishing, be careful to scrape off all the old surface before putting on the new.

VARNISHING, POLISHING, PAPERING.

VARNISHING.

The surface must first be made perfectly clean, and all knots or blemishes filled with cement of the same color. The brush must be clean and free from loose hairs. After dipping it in the varnish, stroke it along the wire raised across the top of the varnish pot, and spread over the surface a thin, regular coat. Do this as quickly as possible, being careful not to let the varnish foam or bubble as it leaves the brush, and not passing the brush twice over the same place if you can help it. Place it in a moderately warm room to dry, so that the varnish may not chill. Apply the varnish in a warm room, where the air is dry and free from dust, and never apply a second coat until the first has become perfectly dry. If too much varnish is used it will settle downwards and make unsightly ridges when it dries. A little more varnish can be applied to a horizontal surface than to an upright one. The commonest fault in varnishing is using too much varnish. If too much is used, even on a horizontal surface, it will neither dry hard nor smooth. Give the surface about 6 or 7 coats, let it get quite hard, and then, with the first 3 fingers, rub the varnish until it chafes, and proceed over that part of the work you intend to polish, so as to take out all streaks or partial lumps made by the brush: after this, give it another coat and let it stand a few days to harden. To tell when the varnish is hard, press your knuckles on it, and if they leave any mark it is not hard enough. A varnish pan is the best vessel for holding varnish, being made of tin, with a false bottom, the space between the two bottoms being filled with sand, which, if heated over the fire, keeps the varnish fluid, so that it will flow readily from the brush. It has a tin handle, and the false bottom slopes from one end to the other, so that the varnish runs to one end; there is also a wire fixed across the top to wipe the brush against. Polishing gives the highest degree of lustre to varnish, and also removes the marks of the brush. This consists in first rubbing it with finely-powdered pumice stone and water, then with an oiled rag and tripoli, until the required polish is produced. Then clean the surface with soft linen cloths, clear off all greasiness with powdered starch, and rub with the palm of the hand until bright.

Varnish brushes are made of camel's hair or very fine bristles, either placed flat in tin or round, and tied firm to the handle. To apply oil varnishes, use brushes with fine bristles; camel's hair brushes are used for lac varnishes. After using varnish brushes, great care must be taken in

cleansing them, as they soon spoil if laid away with the varnish in them. They should be washed thoroughly in spirits of wine or turpentine, according to the kind of varnish used; then they may be washed out with hot water and soap, when they will be good as new. You can mix the spirits used for cleaning with varnish and use for the more common purposes, or you can clean the brushes with boiling water containing yellow soap and washing soda. There are two kinds of varnishes—oil and spirit varnishes.

Oil Varnish.

These varnishes consist of resin oil and spirit of turpentine, and are considered more durable and lustrous than spirit varnishes. Linseed and walnut oils are generally used with copal and amber resins and some other gums. Litharge, red lead, or sulphate of lead should be added to the oil to increase the drying power. In making varnish it should be remembered, that it is not a solution but an intimate mixture of resin with boiled oil and spirit of turpentine; that before adding the oil to the resin, the latter should be completely fused; that the oil must be heated from 250° to 300°; that the turpentine must be added gradually, in a thin stream, while the mixture of oil and resin is still hot, and that varnish should be made in dry weather, or its drying quality and transparency will be impaired by the absorption of moisture. There is no necessity for boiling the gum and oil after incorporation, and the varnish is equally good if you add the turpentine just before the mixture becomes too cold to permit perfect amalgamation. It is claimed by some that it is not necessary to raise the oil to a higher temperature than is required to fuse the gum, and that, when the two are mixed, the lowest degree of heat that will insure their incorporation, will secure all the results desired. A considerable turpentine otherwise lost by evaporation is thus saved, and there is much less risk of fire. The varnish should be heated in a copper vessel with a riveted and not a soldered bottom, and having a capacity of at least ⅛ more gallons than the mixture it is to hold. The copal should be heated with continuous stirring over a charcoal fire and then the hot oil should be mixed with it, for if the copal is melted in the hot oil the varnish is less drying and more colored. Great care must be taken, however, in fusing the copal as the resin will become pitchy and give an inferior varnish if the heat is too much prolonged. It must be constantly stirred to prevent sticking to the bottom and sides of the vessel and scorching. The different varieties of copal must not be fused together, for that which melts first is apt to scorch before the other is fused; if you wish to mix different kinds, they must be fused separately and then mixed in a fluid state. The hot oil should be ladled in gradually, when the resin is thoroughly melted, during constant stirring, a drop being taken out occasionally and cooled upon a glass plate to ascertain when enough oil has been added. If it is hard and brittle more oil is required, but if, on cooling, it is limpid and wax-like, no more oil is needed. More oil is absorbed by some resins than by others. After heating the spirits of turpentine, add it in a thin stream to the oil and resin while still hot, being careful not to add it while the mixture is too hot, as much of the turpentine will then be lost by evaporation; if the mixture cools enough to become sticky, stop adding turpentine, replace the mixture over the fire, and heat it gradually up to 600°. In this way limpidity is restored, and when it is removed from the fire enough tur-

pentine must be added to give it the proper consistence. This extra heating should not be resorted to unless absolutely necessary, as it will injure the quality of the varnish.

Amber Varnish.

Place 1 lb. of amber in an iron pot and render it semi-liquid by heat. To this add 10 ozs. of pale boiled oil; after mixing them together, remove the mixture from the fire, and when cooled a little stir in 1 pt. of turpentine. Instead of this you may add to the amber, melted as above, 2 ozs. of shellac, and proceed as before. This makes a very tough, though dark varnish; the first form, however, is the best. It is very hard and durable, and dries well, and is used instead of copal varnish, forming an excellent covering for wood or any other substance not of a white or very pale color.

Pale Amber Varnish.

Fuse 6 lbs. of pale and transparent amber, and add to it 2 gals. of hot clarified linseed oil. When boiled, so that it strings strongly, cool a little and add 4 gals. of oil of turpentine. This varnish soon becomes hard, is the most durable of oil varnishes, and is as pale as copal varnish. As it requires some time to fit it for polishing, if you wish to dry and harden more quickly you may substitute drying oil for linseed, or while the varnish is boiling dryers may be added.

Tough Amber Varnish.

A very tough varnish is made by melting 1 lb. of amber, and adding to it ½ lb. of Scio turpentine, 2 ozs. of transparent white resin, and 1 pt. of hot linseed oil. Afterward, while the mixture is hot, heat some oil of turpentine and add to it.

Brunswick Black.

Boil 45 lbs. of foreign asphaltum, 6 gals. of drying oil, 6 lbs. of litharge, for 2 hrs., and then add 8 lbs. of dark gum-amber (fused), and 2 gals. of hot linseed oil. After boiling for 2 hrs. longer, or until a little of the mass, when cooled, may be rolled into pills, withdraw the heat, and thin down the mass with 25 gals. of oil of turpentine. This is used for iron-work.

Black Varnish for Iron Work.

Fuse 48 lbs. of asphaltum and add to it 10 gals. of boiled oil; 7 lbs. each of red lead and litharge, and 3 lbs. of dried and powdered white copperas. After boiling for 2 hrs., add 8 lbs. of dark gum-amber (fused), and hot linseed oil, 2 gals. Boil for 2 hrs. and thin down with 30 gals. of oil of turpentine. This is used for all kinds of fancy iron work.

Ordinary Carriage Varnish.

Boil together 8 lbs. of sorted gum anime, 3 gals. of clarified oil, 5 ozs. of litharge, 4 ozs. each of dried and powdered sugar of lead and white copperas. Thin the mixture with about 5½ gals. of oil of turpentine.

Common Oil Varnish.

Melt together 3 lbs. of resin and ½ gal. of drying oil; to this add 2 qts. of warm oil of turpentine, when removed from the fire.

Oil Copal Varnish.

Fuse 2 lbs. of palè, hard copal, and add to it 1 pt. of hot drying oil. Boil the mixture, and thin it with oil of turpentine, using about 3 pts., more or less being used according to the absorbing power of the resin. This dries hard in from 12 to 24 hrs. It is a very pale varnish.

Flexible Varnish.

Separate ¼ lb. of India rubber in very small pieces, and dissolve it with 1 lb. of gum damar, in 1 lb. of oil of turpentine, by means of the water-bath. To this add 1 lb. of hot oil varnish, and filter the mixture. This forms an exceedingly flexible varnish.

Varnish for Grates.

Fuse 2 lbs. of common asphaltum in an iron pot, and add to it 1 pt. of hot boiled linseed oil. After mixing thoroughly, boil for some time, and, when partly cooled, add 2 qts. of oil of turpentine. This can be applied with an ordinary brush, and should be thinned with turpentine if too thick.

Gutta-Percha Oil Varnish.

Wash ½ lb. of gutta-percha in warm water until all adhering impurities are removed. Then dissolve it, when well dried, in 1 lb. of rectified resin oil, and add to it 2 lbs. of linseed oil varnish, boiling hot. This varnish is very useful in preventing the oxidation of metals.

India-Rubber Oil Varnish.

Dissolve 4 ozs. of India-rubber, shaved fine, in a covered jar, by means of a sand bath, in 2 lbs. of crude benzole. Mix with this 4 lbs. of hot linseed oil varnish, and ¼ lb. oil of turpentine. This makes a varnish that dries well.

Mahogany Varnish.

Boil 8 lbs. of sorted gum anime, 3 gals. of clarified oil, and ¼ lb. each of litharge and powdered dried sugar of lead together, until the mixture strings well. After it has cooled a little, thin it with about 5½ gals. of oil of turpentine, and strain it. This makes an excellent varnish for mahogany.

Varnish for Printers' Ink.

Add 5 lbs. of clear black resin and ½ lb. of oil of turpentine, to every 10 lbs. of clarified linseed oil. Then mix it with lampblack or other coloring matter. For the finer parts add 1-12th part of Canada balsam.

Spirit Varnishes.

Not less than 95 per cent. of spirit should be used for making spirit varnishes. They should always be kept a safe distance from a candle or other flame. The shellac used can be made more soluble by being powdered and exposed for a long time to the air. To give hardness to varnishes sandarach is used. A gloss is given to a solution of other gums by the use of mastic; benzoin gives a greater gloss, but its color is objectionable. Anime dissolves readily, but the varnish is long in drying. Though amber and copal are scarcely soluble in spirit, they are made partially so by other gums, and also by being previously fused by heat. Care must be taken, in preparing spirit varnishes, to prevent the evaporation of the alcohol, and also to preserve what evaporates. Spirit varnishes are best made on a small scale, by maceration in close bottles. Resin is often mixed with clear silicious sand or powdered glass, to prevent agglutination, as by this means the surface is much increased and the solvent power of the menstruum promoted. By adding a little gum sandarach, oil of lavender, or concentrated ammonia, to the varnish, the tendency to chill or to give a rough surface may be destroyed.

Aniline Black Varnish.

One application of the following varnish makes an object ebony black: Dissolve 1¾ drs., avoir., of fuchsine, 6¾ drs. of aniline blue, and 4½ drs. of naphthaline yellow in 1 qt. of alcohol. The whole can be dissolved in less than 12 hrs. by agitation. If the varnish is then filtered it will never deposit afterwards.

Varnish for Baskets and Card-Work.

To make a varnish for all kinds of fret-work, card-work and baskets, take any colored sealing-wax you may fancy, break it into small pieces and cover it with rectified or methylated spirit. Place the vessel containing it near the fire and let it stand until it is entirely dissolved, which will require about 2 days. Before varnishing, give the article 2 coats of size, which is made by dissolving parchment cuttings in boiling water.

Collodion Varnish.

A varnish that dries rapidly and does not penetrate the paper, is made by adding 1 part of castor oil to 32 parts of collodion. This varnish will keep for years and is used for coating maps, lists and labels. If, after using several coats of the varnish, white spots should appear, they may be removed by moistening them with ether.

To Make Colored Prints Resemble Oil Paintings.

Mix together 1 oz. of Canada balsam, and 2 ozs. of spirits of turpentine. The print or drawing must first be sized with a solution of isinglass in water. When this is dry, take a camel's-hair brush and apply the composition, and the result will be astonishing.

Copal Varnish.

Copal can be dissolved in alcohol, if it is exposed in a vessel, like a cullender, before the fire, the drops of melted gum being received in a basin of cold water, and then well dried in a temperature of 95° Fahr. Powder 1 oz. of copal and ½ oz. of shellac, and put them into a bottle containing 1 qt. of spirits of wine. The mixture should be kept in a warm place and shaken occasionally, until the gums are entirely dissolved; then let it be strained and it will be ready for use. There are various other ways of making copal varnish, but this is the simplest and most common method.

Varnish for Drawings and Lithographs.

First prepare the drawings by using 2 or 3 coats of thin starch or rice boiled and strained through a cloth. Then apply a varnish made of 2 parts of dextrine, ½ part alcohol and 2 parts of water.

To Varnish Drawings, or Paper or Card-Work.

To size the paper, dissolve 1 oz. of best isinglass in 1 pt. of water, by simmering it over the fire; strain this through fine muslin, and it will keep for any length of time. Put some of the size on a piece of moderately warm paper; it will glisten if it is too thick, and then needs more water; if it is too thin it will soak into the paper, and hence needs more isinglass. The preparation, when just right, leaves a merely dull surface. Put on the drawing 2 or 3 coats of this solution, letting it dry after each, and brushing very lightly, so that the picture may not be damaged. When thoroughly dried, give the picture at least 3 coats of the best mastic varnish.

Flexible Varnish.

Take 3 ozs. of sugar of lead, 8 ozs. of litharge, and 3 ozs. of dried white copperas, and boil them together in 1 gal. of linseed oil. Stir the mixture constantly until it strings well, and, after cooling, slowly decant the clear portion. It may be thinned with quick-drying linseed oil, if too thick.

To Make the Design of a Print Appear in Gold.

Cover both sides of the print with a varnish made of ¼ lb. of Venice turpentine diluted with about a gill of spirits of wine. This will make it transparent. Before it is quite dry, lay some gold in leaves on the wrong side of the print and press it gently on with a cotton pad. In this way all parts where these leaves have been laid will appear like massive gold on the right side. As soon as it is thoroughly dry, lay on the right side of it another coat of the varnish used at the beginning of the process, and it will be equal to any crown glass. To support the print better in its frame, a pasteboard may be placed behind it.

Varnish for Gun-Barrels.

To varnish gun-barrels after they are bronzed, dissolve 1 oz. of shellac and 1 or 2 drs. of dragon's blood in 1 qt. of alcohol; filter the solution,

through blotting paper, into a bottle, and keep it closely corked. After putting the varnish on the barrel, and letting it become thoroughly dry, you can make it smooth and glossy by rubbing it with a burnisher.

Varnish for Harness.

This varnish has a good polish, and does not crack when the harness is twisted or knocked about. It is composed of 1 gal. of 95 per cent. alcohol, 1½ lbs. of white pine turpentine, 1½ lbs. of gum shellac, and 1 gill of Venice turpentine. Place these in a jug and let them stand in the sun or by a stove until the gums are dissolved. Then rub 2 ozs. of lamp black, with a little of the varnish, and add it and 1 gill of sweet oil to the above mixture.

Tough India-Rubber Varnish.

If 1 oz. of India-rubber be dissolved by heat in 1 qt. of drying oil, it will form a varnish that dries very tough in about 48 hrs.

Varnish for Iron.

While stirring some oil of turpentine, add to it, drop by drop, strong sulphuric acid, until a syrupy precipitate is quite formed, and no more of it can be produced on further addition of a drop of acid. Now wash the liquid away with water repeatedly, every time renewing it after a good stirring, until the water on being tested with blue litmus paper, does not show any more acid reaction. Then bring the precipitate upon a cloth filter, and after the water has run off, the syrupy mass is ready for use. Paint the iron over with this, and if it is too stiff dilute it with some oil of turpentine. As soon as you have painted the iron, burn the paint in by a gentle heat, and when cool rub the black surface over with a piece of woolen stuff previously moistened with linseed oil. This varnish does not simply cover the metal, but chemically combines with it so that it does not wear or peel off, as many varnishes and paints do.

Map Varnish.

Pulverize 1 oz. of sandarach, ½ oz. of mastic, ½ oz. of elemi, and dissolve them in ½ oz. of Venice turpentine. When thoroughly dissolved, add to it a solution of 4 ozs. of shellac and 8 ozs. of oil of lavender in 12 ozs. of alcohol.

Mastic Varnish.

Dissolve 8 lbs. of mastic and 4 gals. of turpentine by heat, and add ½ gal. of pale turpentine varnish.

Best Mastic Varnish.

Dissolve 6 ozs. of gum mastic and 1 qt. of oil of turpentine. This varnish is colorless, brilliant, hard and tough, and is used for all ordinary purposes.

Varnish for Paintings.

Mix 2 drs. of camphor and ½ oz. of pure turpentine in a water bath. To this mixture add 6 ozs. of mastic and 19 ozs. of spirits of turpentine. When thoroughly mixed filter through a cotton cloth.

Gum Shellac, To Dissolve.

To facilitate the solution of gum shellac, break it into pieces, and macerate in a stoppered bottle with ether. When it swells up enough, pour off the excess of ether, and the gum will then dissolve readily in alcohol.

Filter for Shellac.

Remove the top and bottom from a small wooden keg, and fasten a piece of muslin to one side; on the muslin place 4 ins. of fine washed sand, and on the top of this a layer of clean straw. Pour the solution into a filter, and let it run through. If the first portion that runs through is not perfectly clear, it must be filtered a second time, and when nothing more will run through, pour clean water on the filter, to wash the rest of the solution out.

Transfer Varnish.

Add ½ pt. of pure Canada balsam to 4 ozs. of sandarach dissolved in 1½ pts. of rectified spirit, and 4 ozs. of mastic (in tears). This is an excellent varnish for transferring engravings or lithographs on wood, also for silvering and gilding.

Common Turpentine Varnish.

Dissolve 5 lbs. of clear, pale resin in 7 lbs. of oil of turpentine.

Wax Varnish or Milk of Varnish.

Melt 1 lb of pure white wax with as gentle heat as possible, and mix with it 1 pt. of warm spirit of wine, (90 per cent.) Pour the liquid, when thoroughly mixed, on a cold porphyry slab, and grind it with a muller to a perfectly smooth paste, adding more spirit if necessary. Put the paste in a marble mortar, and make an emulsion with 3½ pts. gradually added and strain through muslin. This varnish is used for paintings. When dry it is rendered transparent by passing a hot iron over it or otherwise applying heat evenly, so as to fuse it. It must be polished with a clean linen cloth when quite cold. It is to the protective power of this varnish that many ancient paintings owe their freshness at the present day.

Wax Varnish for Furniture.

Dissolve, by gentle heat, 3 ozs. of wax and 1 qt. of oil of turpentine. Mix these together and you will have a good furniture varnish.

White Varnish.

This varnish, which may be used on paper, wood or linen, is composed of 8 ozs. of sandarach, 2 ozs. of mastic, 4 ozs. of Canada balsam and 1 qt. of alcohol.

POLISHING.

To Polish Varnish.

Place 2 ozs. of powdered tripoli in an earthen dish and cover it with water. Double a piece of flannel 4 times, lay it over a piece of cork rubber and polish the varnish with it, keeping it well wet with the tripoli and water. To tell if it is polished enough, wipe a part of the work with a sponge and see if there is a fair, even gloss. If so, clear the surface off with a bit of mutton suet and fine flour. Care must be taken not to rub the work too hard or too long.

To Polish Brass Ornaments Inlaid in Wood.

File the brass work perfectly smooth and even with a smooth file. Make a rubber from a piece of old hat or felt and polish the brass work as you would polish varnish, using a mixture of finely powdered tripoli and linseed oil, until you are suited with the result. To increase the beauty of the polish, if the work be ebony or black rosewood, after you have done with the tripoli, take some elder coal, powdered fine, and apply it dry.

Bright Polish.

Take 2 ozs. of gum benzoin, ½ oz. of gum sandarach, and 1 pt. of spirits of wine, put into a glass bottle, cork it, and place it in a sand-bath or hot water until you find the gum is all dissolved. This makes a beautiful clear polish for Tunbridge-ware goods, tea-caddies, etc. Shake the mixture occasionally, and, when entirely dissolved, strain through fine muslin and bottle for use.

French Method of Polishing.

The following is a very superior polish, but requires a good deal of time. Pass regularly over the work, with the grain, with a piece of fine pumice-stone and water, until the rising of the grain is down; then polish the work to a bright face with powdered tripoli and boiled linseed oil.

French Method of Polishing. (2.)

Prepare the varnish and finish the article to be polished as smoothly as possible with glass paper. Apply the varnish to the middle of the flat face of the rubber, by placing the rubber on the mouth of the narrow-necked bottle containing the varnish, and shaking it up once, as

in this way the rubber will imbibe enough of the varnish to cover quite a large surface. Then enclose the rubber in a soft linen cloth doubled, gathering the rest of the cloth up at the back of the rubber so as to form a handle. Apply a little raw linseed oil with the finger to the middle of the linen, and after placing the work opposite the light, pass the rubber lightly and quickly over its surface, in small circular strokes, till the varnish becomes nearly dry. Cover the rubber again with varnish, omitting the oil, and repeat the operation until three coats are laid on, then apply a little oil to the rubber and give the surface two more coats. Continue the process until the varnish is thick enough, then wet the inside of the linen cloth, with alcohol or wood naphtha, before applying the varnish, and rub the whole surface quickly, lightly, and uniformly. Finally, moisten the linen cloth with a little oil and alcohol, without varnish, and rub as before until dry. Do not use too much varnish at a time, but rub each coat until the rag appears dry. Care must be taken to keep the rags clean and soft, and entirely free from dust. Before commencing to polish the work, if it be porous, or the grain coarse, you must give it a coat of size, and, when dry, go over it gently with very fine glass paper. This will save time in polishing as well as fill up the pores, and prevent the waste of polish by absorption into the wood.

French Polish Rubber, To Make.

Take a strip of thick woolen cloth that has been torn off, so as to form a soft elastic edge, and roll it up so as to form a coil from 1 to 3 ins. in diameter. The cloth must be prevented from uncoiling by binding it securely with thread.

True French Polish.

Take ¼ oz. each of gum copal and sandarach, and 1 oz. of shellac, bruise them well and sift them through a piece of muslin. Put them in a vessel that can be closely corked, adding 1 pt. of spirits of wine. Place the mixture near a warm stove and shake it frequently. The gums will be dissolved in 2 or 3 days, when the mixture should be strained through a piece of muslin, then replaced in the vessel and kept tightly corked for use.

French Polish.

Place a stone bottle near the fire and put into it ½ oz. of gum shellac, ½ oz. of gum lac, ¼ oz. of gum sandarach, and 1 pt. of spirits of wine. Shake the mixture often, and it will be fit for use as soon as the gums are dissolved.

To Clean and Polish Old Furniture.

Put a handful of common salt and a tablespoonful of muriatic acid in 1 qt. of stale beer, or vinegar, and boil it for 15 mins. Keep it in a bottle and warm it when wanted for use. After washing the furniture with soft hot water to remove the dirt, wash it with the mixture and polish with any furniture polish.

Furniture Polish.

Having dissolved 4 ozs. of best shellac in 2 pts. of 95 per cent. alcohol, add to it 1 pt. of spirits of turpentine and 2 pts. of linseed oil. To this mixture add 4 ozs. of sulphuric ether, and 4 ozs. of ammonia water, and mix thoroughly. When used shake well and apply with a light sponge. When the varnish has become old and tarnished this is especially good.

Mahogany Work, To Clean and Finish.

After using sandpaper until the work is perfectly smooth, give every part of it a thin coat of furniture oil, and let it remain all night. The next morning tie the powder of the finest red brick up in a cotton stocking, sift it equally over the work, and rub it well forward and backward, the way of the grain, with a leaden or iron weight placed in a piece of carpet, till a good gloss is produced. The process may be repeated if the grain appears too rough. Do not use too much brick-dust, as it should not be used dry, but rather as a paste upon the cloth. As soon as the surface is perfectly smooth, it may be cleaned off with a rubber of carpet and fine mahogany saw-dust. In this way a good gloss will be given to the mahogany, and the surface will improve by use.

Composition for Soft or Light Mahogany.

An excellent composition for soft and light mahogany is made by boiling together cold-drawn linseed oil and as much alkanet root as it will cover, and adding 1 oz. of the best rose pink to every pint of the oil. As soon as all the color is extracted, strain it off, and add ¼ gill of spirits of turpentine to every pint.

Polishing Paste.

Shave 3 ozs. of white wax very fine, and put it into 1 gill of turpentine, letting it stand 24 hrs. Boil ½ oz. of Castile soap in 1 gill of water, and add this to the mixture, and it will form a first-class polishing paste.

Strong Polish.

Take 2 ozs. of seed lac and 2 ozs. of white resin, and dissolve in 1 pt. of spirits of wine. This polish is used in the carved parts of cabinet work with a brush. Warm the article to be polished, if you can, and lay the polish on warm, avoiding moisture and dampness.

Polish for Turners' Work.

Dissolve 1 oz. of sandarach in ½ pt. of spirits of wine. Shave 1 oz. of beeswax, and dissolve it in enough spirits of turpentine to form it into a paste. To this add the former mixture by degrees, and apply it with a woolen cloth to the work, while it is in motion in the lathe. Polish it with a soft linen rag, and it will look as well as if highly varnished.

How to Give Black Walnut a Dark, Smooth Surface.

Place pulverized asphaltum in a jar or bottle, pour over it twice its bulk of benzole or turpentine, and put it in a warm place, shaking it occasionally. Strain it when dissolved, and apply it to the wood with a stiff brush or cloth. It will dry in a few hours, and, if too dark, can be thinned with a little benzole or turpentine. To bring out the grain still more, a mixture of boiled oil and turpentine may be used. No oil should be put with the asphaltum mixture, as it will dry very slowly. As soon as the oil is dry, polish the wood with a mixture of 2 parts of shellac varnish of the usual consistence, and boiled oil 1 part. Put a few drops of this on a cloth and rub the wood with it for a few minutes. This polish does well for old furniture. It should always be well shaken before using.

To Finish Wood with a Brilliant Polish.

It is best to use a piece of soft, lump pumice-stone to take off the rough parts. Then wet the work with a sponge, and after soaking the felt in water, dip it into powdered pumice and rub the work with it, keeping the work moderately wet, and using a circular motion and light touch in rubbing. After cutting it down with the pumice and felt in this way, the filling should be coated with 2 or more coats of the best polishing copal varnish, with which is mixed enough of the best tube flake white to form a creamy mixture. Let this stand for 3 or 4 weeks, until it becomes hard, as the harder it is the better it will polish. Then it must be cut down again with felt and the finest ground pumice-stone in water, and afterward polished with rotten-stone. In this way a bright and brilliant polish, of a very enduring kind, may be obtained. All work that will admit of the application of oil varnish may be treated in the same way.

PAPERING.

Glue Sizing, To Make.

After breaking the glue into small pieces, put it into a dish and cover it with cold water, and let it soak over night. The glue will be soft enough in the morning to melt with moderate heat, or in a water-bath. If too thick, add water to reduce it to the required consistence.

Walls, To Prepare for Papering.

Cover new unwhitewasned walls with a coating of good glue size, made of ½ lb. of glue in a gallon of water, or a coating of good paste, put on and allowed to dry before the paper is hung. Unless this is done the wall will absorb the paste so rapidly that, before drying, there will be too little paste on the surface to hold the paper. When the wall has been whitewashed it should be scratched with a stiff brush, to remove every particle of loose lime from the surface, and then thoroughly swept down with a broom, and coated with the glue size or thin paste.

Utensils for Hanging Paper.

Make a large table of thin boards, cleated together, and placed on wooden horses, such as are used by carpenters. It is necessary to have a white-wash brush, a pail for paste, a yard of cotton cloth, and a pair of sharp shears with long blades. In order that the paste may be evenly distributed, the upper surface of the table should be level. Make the paste of good sweet rye or wheat flour, beaten smooth in cold water before boiling. Do not let it boil more than a minute or so, but raise it slowly to the boiling point, stirring constantly until it is taken from the fire. The paste should be entirely free from lumps and laid on as evenly as possible.

Paper, To Prepare for Hanging.

Be careful to match the paper accurately before cutting, so as not to cut it to waste. When you have decided upon the proper way to cut it, a whole roll or more may be cut at once, placing the pieces printed side down on the table and putting weights on the ends to keep them from curling. Cover the back of the top piece with paste as quickly as possible, as the longer you are in doing it the more tender the paper will be and the harder it will be to hang it properly. Before hanging, turn about ¼ of the length up at the bottom of the strip, for if you do not the bottom will be apt to stick to the wall before the upper part of the strip is placed as you wish it. When the paper is very thick, both ends may be folded over so as to meet in the middle, as this allows the paper to soften without getting dry, and also makes it more convenient to handle.

Paper, To Apply to Walls.

Take the upper end of the piece by the corners, and stepping upon a bench or step-ladder, simply stick the piece at the top, so that the edge shall coincide with the piece previously hung. This can be done by looking down the trimmed edge of the piece, while it is held in the hands. Hold the cloth in a loose bunch, and smooth the paper with it from top to bottom, being careful to work out all air from under the paper, as, if this is not thoroughly done, unsightly blisters will appear. After a strip of paper has been hung, if any air remains under it prick a hole in the paper to allow it to escape. As soon as the top is secured, so that the pattern matches, brush once down the middle of the strip, as far as the paste is exposed—a soft, flat, whisk-brush being better than a cloth for this purpose. Carefully unfold the bottom of the strip, brush down the middle and smooth the whole by passing the brush from the middle to the edges, right and left all the way down, giving one long sweep down the trimmed end to ensure a perfect join. To keep the fingers clean and free from color, a moist cloth should be always at hand. It is almost impossible to avoid wrinkles if the wall is uneven or crooked, but you can get rid of most of them by cutting the paper and letting the cut edges lap over each other in the places where the wrinkles would come. The more practice one has in papering the better the work will be, but the above directions will aid those who have had but little experience, to do their work in a creditable manner.

MISCELLANEOUS.

Alabaster, To Stain or Color.

Mix with the water used for working the gypsum, any of the ordinary pigments or colored solutions that will not be decomposed by contact with sulphate or carbonate of lime. A good color for busts and medallions is produced by a little sienna, in very fine powder or ground with water. The colors are generally added to a solution of clear size, which is then made into a paste with plaster for common or architectural purposes. Colored stucco of great hardness and durability is made in the same way. To stain objects made from the solid alabaster, the same materials and methods are used as for staining marble.

Amphides and Other Insects, To Destroy.

Boil together 3½ ozs. of quassia chips and 5 drs. of larkspur seed in 7 pts. of water, until reduced to 5 pts. When cool, strain the liquid and sprinkle the plants with it, using a syringe or watering-pot for the purpose. This does not injure the plants, and is one of the best methods of destroying the insects.

Ants, To Prevent Injuring Fruit Trees.

The ants can be kept from ascending trees by making a line of gas-tar round the stem of each tree; or, if it be trained on a wall, make a horizontal line on the wall, near the ground, and one round the stem.

Apples, To Barrel Them.

Carefully sort those uniform in size and quality, and place in clean, new barrels, carefully, by hand; begin packing by placing a tier of apples with their ends to the closed head of the barrel; then fill up without bruising the fruit; shake down thoroughly, and fill the barrel so full that the head must be pressed in with a lever, flattening the last tier of apples. The fruit must be pressed so firmly that it will not move in handling. After heading up, place the barrel in some cool, shady position, there to remain until in danger of freezing; finally remove to a dry cellar or fruit room, where a temperature just above freezing is main-

tained. Packed in this manner, apples will keep soundly until the season of ripening arrives, when they should be consumed.

Barn, To Build.

The following is considered a model way to build a barn: Make it 84 ft. square, and 50 ft. in highest altitude. On one side put two rows of horse stalls, a passage way separating the heads of the stalls, the inside row, however, having three stalls less than the outside, thus leaving a space which can be utilized for the storage of carriages. On the other side of the barn make three rows of cattle stalls, a space corresponding to that reserved for carriages on the opposite side, being devoted to the housing of wagons. The horse stalls are 6 ft. wide, and the cattle stalls, intended to accommodate 2 cows, 8 ft. wide. The passage ways between the stalls are 4 ft. wide. The open floor between the great doors is furnished with the necessary bins for grains, which can be arranged to suit the convenience and taste of the builder. On each side of the barn is a large rain water cistern, 25 ft. deep, and something over 12 ft. in diameter, which are connected by a pipe laid beneath the surface, under the barn. At each end of the barn there are 5 sliding doors and 6 windows, and there are 5 windows on each side. On top of the barn are 3 ventilators.

This barn, however, would be too expensive for many farmers. The following plan may, therefore, be recommended as being a good one, and at the same time inexpensive: Construct it, say 50 by 65 ft., or of larger or smaller proportionate dimensions, as circumstances may require, and as high as the taste or necessities may dictate. On one side, opening into the barnyard, of course, construct the horse stalls, 5 ft. wide, 5 or 6 in number. Use the balance of the space between the horse stalls and the end of the barn for cattle stalls. Enclose the barn with close fitting boards and batten. The balance of the floor not used for stalls is open. Mows are on each side of the drive way. At one end of the building we would construct a cattle shed, with a mow over it, and of such dimensions as the amount of stock to be taken care of would require.

Beans, To Shell Easily.

If scalding water be poured upon the pods, the beans will slip from them very easily. In the same way the skin may be taken from apples, thus saving a great deal of labor.

Benzine as an Insect Destroyer.

Parasites which infest dogs may be destroyed by using a mixture of 10 parts of benzine, 5 parts of soap, and 85 parts of water. Benzine has also been used successfully in veterinary practice, as an application in certain skin diseases, and answers the purpose better when thus diluted than when used pure.

Bladder, To Prepare.

After cutting off the fat and loose membranes attached to the bladders, wash them first in a weak solution of chloride of lime, and then in clear water. They should then be blown out and submitted to pressure by

rolling under the arm, which makes them much larger; after this they may be blown quite tight, dried and tied up in dozens for sale. Another way to prepare bladders is to dip them in warm water, dry them and rub in a little glycerine. This will keep them soft and pliable. Bladders should never be bought unless they are perfectly tight and dry, as, if not, they will neither keep nor prove sound. Druggists, oil and colormen use them to tie over pots, bottles and jars.

American Blight, To Remedy.

Mix ¼ pk. of quicklime, ½ lb. of flour of sulphur, and ¼ lb. of lamp-black, with enough boiling water to form a thick paint. In the winter when the leaves are off, after removing all the loose bark from the branches, paint them with this, being careful to remove the soil from the bottom of the stem to the main roots and paint all the underground part. The paint should be used warm, and if one application is not enough it may be repeated. When the paint has become dry, look the trees over and stop all cracks and holes with well-worked clay. After frost dress the clay-stoppings again, to close any crack that may appear. A good time to do this is in February.

Glass Bottle or Jar, To Break across its Circumference.

Fill the bottle with water to the height where you wish to break it, and place it in a vessel filled with water to the same level. Pour coal-oil inside of the bottle, and outside on the surface of the water. Cut a ring of paper fitting the bottle, and saturate it with alcohol or benzine, so that it touches the oil, pouring some in the inside of the bottle also. Set it on fire. The cold water will prevent the glass below its surface heating, and the expansion of the upper part, caused by heating, will break the vessel exactly on the water line.

Brooms, Management of.

Brooms should be wet in boiling suds once a week. This will make them tough, and they will last much longer; they will not cut the carpets, and like a new broom they will "sweep clean."

Soap for Bubbles, To Prepare.

The beauty of the bubbles will well pay for the trouble of making the preparation. Dissolve some castile soap in strong alcohol. When it has settled, take the clear solution, and from it evaporate the alcohol. To the solid residue, which is oleate of soda, add ¼ its weight of glycerine and enough water to give the proper consistence.

Nasturtium Buds.

Gather the seeds in sunny weather, and sprinkle them with salt for a day or two. Drain them from the salt, wipe them, and put them into a pickle bottle. Boil some vinegar, with 1 oz. of salt to every pint of vinegar, pepper-corns and allspice. Let it get cold and cork closely down for use. These seeds will serve instead of capers for sauce for boiled mutton, or they may be eaten as pickles.

Wounds on Rose Bushes, Composition for.

Dissolve over a slow fire, 5 parts of black pitch, 1 part each of resin, tallow, and bees-wax. This, if applied to the wounds with a brush, will heal them, and prevent their dying back.

Calico, To Wash without Fading.

By the following process the colors are rendered permanent, and will not fade by subsequent washing. In 4 qts. of water, infuse 3 gills of salt. While the solution is hot put in the calico, and leave until it is cold.

Stair Carpets, To Prevent Wearing.

To lessen the friction of the carpet against the boards beneath, place slips of paper under it, at and over the edge of every stair, as that is where they first wear out. Make the strips of paper 4 or 5 in. wide, and nearly as long as the carpet is wide. If you have a piece of old soft carpet, it will answer the purpose better than paper. A stair carpet can thus be kept in good condition for a long time.

Wagons, etc., To Transfer Ornaments on.

To save time and labor, decalcomine pictures, expressly designed for carriages, are used. They may be obtained at any book-store. They should be wet and stuck on, and the damp paper carefully removed. If the work is done with care, the picture will be left perfect upon the panel, and will answer the purpose as well as one that required the use of the pencil for hours.

Cement for Glass Syringes.

Melt 2 parts of resin and 1 part of gutta-percha together, over a slow fire. This cement should be applied hot. Scrape off carefully with a knife all that is not needed.

Gutta-Percha Cement.

Take 2 parts of common pitch and 1 part of gutta-percha, and melt them together in an iron pan. Stir them well until thoroughly incorporated, and then pour the liquid into cold water. It is black, solid and elastic when cold, but softens with heat, being a thin fluid at 100° Fahr. This cement is used instead of putty for glazing windows. It is used either in the liquid state or as a soft paste and is excellent for cementing metal, glass, porcelain and ivory.

Cement to Resist Benzine and Petroleum.

Gelatine mixed with glycerine forms a compound liquid when hot, which solidifies on cooling and forms a tough, elastic substance, having much the same appearance and characteristics as India rubber. This substance is insoluble in petroleum or benzine, and if casks are painted

on the inside with it they will be impervious to these fluids. It is also used for printers' rollers and for buffers for stamps, as benzine will clean them when dirty in a very short time. Water cannot be used with this compound, a fact that must not be forgotten.

Rubber Cement.

This cement is considered by good judges to be the best ever invented for rubber boots and shoes, and applying rubber soles to leather boots: Take 4 ozs. of pure India rubber, ¼ oz. of powdered asphaltum; put together in a tin can, then add about 6 times the quantity of benzine; let it stand 3 or 4 days, then take a stick and work it over; then add benzine, and stir it well until you have it about the consistence of honey; then it is ready for use. It should be covered as tightly as possible while dissolving, and afterward. Be as cautious of this cement as you would be of burning fluid. It requires no heating. Directions for use: Have the boot or shoe perfectly dry, then rasp the bottom, so as to have a rough and clean surface; then apply the cement three times to the leather and twice to the rubber, letting it dry ½ hr. between each coat — the last coat to dry ½ hr. before being pressed together. Never dry by the sun. The lining on the rubber soling should be removed before applying the cement; it can be done by moistening it with benzine or fluid. For mending rubbers scrape the polish from the rubber, apply 2 coats to each part; dry ½ hr. between each coat, the last coat to dry 10 mins., then press them together.

Champagne, Sham.

Pour 2½ gals. of boiling water over 1 lemon, 1 tablespoonful of tartaric acid, 1 oz. of race ginger, 1½ lbs of sugar. Add 1 gill of distillery yeast or 2 of home-brewed, when the mixture is blood warm. Let it stand in the sun through the day, and in the evening, when cold, bottle, cork and wire it. Will be ready for use in 2 or 3 days.

Churn, To Keep from Frothing Over.

Cut a groove ⅝ in. deep around the inside of the mouth of the body of the churn, about 3 ins. from the top, and remove ½ the thickness of the wood, making a shoulder all around. Cut the cover to fit nicely inside and there will be no trouble about the cream flowing over.

Cistern, To Make.

In a solid clay soil, a good cistern can be made, by simply cementing against the sides of the ground. If the ground freezes, it is better to lay a wall of cobblestones in a mortar of cement, and face it with a thick coating of clear mortar. Be sure that the cement is good, and mix it with coarse sand, as fine sand will not answer the purpose. Mix 3 parts sand and 1 part cement, and use as soon as mixed. Lay every part of the wall below the reach of the frost, and have an iron or wooden pipe or throat, lead to the surface. Cheap and good cisterns are often made of wood in the form of a large cask; sometimes a tank is made of pine or cedar plank.

A cistern of this kind, if sunk into the ground and kept constantly wet, will last for years.

In using a tank or cask of this kind, the best way is to place it in one corner of the cellar, putting a faucet in the bottom, so that the water can easily be drawn when you wish to clean the cistern out, or when water is needed in the cellar. If the cistern is left open in the cellar, it will rarely freeze.

Clothes, To Wash.

The following is a French way of washing clothes, and is very economical, and said to be very effective: 2 lbs. of soap is reduced with a little water to pulp, which having been slightly warmed is cooled in 10 gals. of water, to which is added 1 teaspoonful of turpentine oil and 2 teaspoonfuls of ammonia; then the mixture is agitated. The water is kept at a temperature which can be borne by the hand. In this solution the white clothes are put and left there for 2 hrs. before washing them with soap, taking care in the meantime to cover the tub. The solution may be warmed again and used once more, but it will be necessary to add a half teaspoonful of ammonia. Once washed with soap the clothes are put in hot water, and the blue is applied. This process, it is obvious, saves much time, much labor and fuel, while it gives to the clothes a whiteness much superior to that obtained by any other process, and the destructive use of the washboard is not necessary to clean the clothes from the impurities which they contain.

Coins, Worn, To Develop Inscription on.

In almost all cases, gradually heating the coins will cause the inscription to appear.

Cork, To Remove from the Inside of a Bottle.

Project a stout string into a bottle, and turn the bottle around until the cork is caught in a loop of the string. Then pull the cork out with force.

Corkscrew, Substitute for.

Insert in the cork a common screw, to which is attached a string to pull the cork. Instead of this you can stick 2 steel forks into the cork on opposite sides, a little distance from the edge, run the blade of a knife through the two, and give a little twist, which will generally bring out the cork.

Plan for Creamery.

The following is an excellent though a very simple plan for a farmer's creamery: Building, 12x20, balloon frame—set on a stone or brick foundation, or on blocks—studding 2x6, sheeted outside and in with ship-lap, and filled between with sawdust; height of story, 12 feet; ceiling, ship-lap, covered with eight inches of saw-dust; three windows, one door, a ventilator; building shingled; a tank, made of brick and cement, covers about one-third of the ground space of the building, the

remainder is floored with pine; the floor inclines to one side so as to allow the wash to pass off in a simple drain; machinery required, an old horse power to pump and churn; apparatus, a churn, butter worker, deep tin pails for setting, a small refrigerator for storing butter, two strainers, two skimmers, a set of milk testers, and a thermometer. A small addition, 8x8, is needed, in which to place a stove to heat water to cleanse the utensils, and for other purposes. This provision will answer for sixty cows.

Estimated Cost.

Building, 12x20	$140
Addition, 8x8	24
Water vat, 6x12	25
Power churn	20
Refrigerator	25
Horse-power	20
Wheel and shafting	15
Sixty tin cans, 8 ins. diameter, 19 ins. deep	24
Strainers and skimmers	2
Other fixtures	5
Total cost, for sixty cows	$300

Just as good butter can be made in this simple creamery as if it cost ten times as much. The same plan can be increased to any size to suit the number of cows. The cost is relatively decreased as the size of the building is increased. For sixty cows the preparation cost $5 per cow; for four hundred cows it would cost less than $3.

Cream Butter, Remedy for.

This is due to an alteration in the secretion of milk, commonly attributed to a sub-inflammatory state, which often lasts for a long time. In some cases it is due to over-feeding, and in others to a scanty supply of innutritious food. Besides alteration in the diet and keep of the cow, the following remedies may be used internally: Take 2 ozs. of sulphuret of antimony and 3 ozs. of coriander or fennel seeds. Mix these, finely powdered, together with soft sweet cheese, and divide the mass into three parts, of which give one part daily for three days. The balls require to be taken after a night's fasting, and the administration of each ball should be followed by a drink consisting of a pint of common vinegar, a quart of water, and a handful of common salt. If necessary, the remedies may be repeated the following week.

Cream, To Make Rise.

It is impossible for cream to rise through a great depth of milk. If you wish to free the milk almost entirely of cream, place it in a broad flat dish, not more than 1 in. deep; but if you wish it to retain the cream for a time, put it in a deep, narrow vessel.

Cream in Coffee, Substitute for.

Beat the white of an egg to a froth; put to it a small lump of butter, and turn the coffee to it gradually, so that it may not curdle. It is difficult to distinguish the taste from fresh cream.

Creases, To Take out of Drawing Paper or Engravings.

Place the paper, face down, on a sheet of smooth, unsized, white paper. Cover with another sheet of paper, very slightly dampened, and iron with a moderately warm iron. This will remove the creases and not injure the paper.

Cucumbers, To Keep Fresh.

Cut the cucumbers when they are at their best, and lay them in a box just large enough to contain them. Bury the box in some dry sand, and cover it with sand about a foot deep. No hay or moss should be buried with the cucumbers, for it will make them turn yellow. The color and bloom may be preserved 2 wks., so that they will look as fresh as when cut, if the cucumbers are put in a box without hay or straw. In the same way, melons may be kept for some time.

Cucumbers and Melons, Thrips on, To Kill.

Syringe the plants with tobacco-water, to which a little sulphur is added, or with a decoction of elder leaves, and repeat the operation several times. Instead of this, the infested parts may be dusted over with flour of sulphur, which should be allowed to remain 3 or 4 days, and then washed off thoroughly with a syringe.

Currants Preserved.

10 lbs. of currants, 7 lbs. of sugar. Take the stems from 7 lbs. of the currants, and press the juice from the other 3 lbs. When the juice and sugar are made into a hot syrup, put in the currants and boil until thick and rich.

Cuttings, To Insert.

If cuttings are inserted at the side of the pot, so as to touch the pot in their whole length, they rarely fail to become rooted plants, but if placed in a mere mass of earth, away from the sides of the pots, they will rarely throw out roots. Place the cuttings so that they touch the bottom and side of the pot, then plunge them in a bark or hot-bed, and keep them moist.

Diarrhea and Dysentery, Cure for Children.

To 1 pt. of cold soft water put 1 package of peppermint and let it come to a boil. Let it stand a few minutes and simmer, then strain and add 3 teaspoonfuls of best Turkish rhubarb, grated; loaf sugar enough to make like a syrup; 2 teaspoonfuls of paragoric, 4 tablespoonfuls of brandy and 1 even teaspoonful of soda. Boil the peppermint-water with rhubarb and sugar, and when a little cool, add brandy, paragoric and soda.

Creaking of Doors, To Prevent.

Mix equal parts of lard, soap and black lead, and apply to the hinges. Sometimes a little soap used alone will answer the same purpose.

Docks and Dandelions, To Kill.

In the spring or summer cut off the tops and pour some gas-tar, or sprinkle some salt on the wound. These will kill the root, as they will eat to the very extremities.

Earth, To Cover Bank of, with Grass.

To cover a steep bank quickly with grass, take ½ lb. of lawn grass seed for each square rod to be planted, and mix it thoroughly with about 6 solid feet of good, dry earth and loam. Place this in a tub and add to it enough liquid manure, diluted with ⅓ water, and well stirred, to make it of the consistence of mortar. Clean off the slope and make perfectly smooth, then water it well and apply the paste with a trowel making it as even and thin as possible. If exposure to the air makes it crack, it should be again watered and smoothed up day by day until the grass begins to appear, which will be in 1 or 2 weeks, and the whole slope will soon be covered.

Engravings, To Bleach.

All kinds of printed matter, yellow with age, can be completely restored by immersing them in the following preparation for 1 min. only: Put 4 lbs. of bicarbonate of soda in 1 gal. of boiling water, and let it boil for 10 or 15 mins.; then stir in 1 lb. of chloride of lime, avoiding lumps. The liquid, when cold, may be put in a jug and kept for use. This preparation will not injure the paper at all if the article is afterward thoroughly washed in water containing a little hyposulphite of soda. Simply placing undyed linen and cotton goods of all kinds, however soiled or dirty, in this liquid, will render them snowy white in a very short time.

Engravings, Rolled Up, To Flatten.

Take a roll of paper, wall-paper will answer the purpose, unroll part of it and insert the paper or cardboard that you wish to flatten, so that when the whole is rolled up, the card-board will be bent in the way opposite to which it was at first rolled. Roll it up closely and evenly and let it remain about 15 mins., when the card-board will be flattened without danger of breaking, and entirely free from creases. The thicker the paper and the larger the diameter of the roll, the better. The best way is to use a roller about 3 ins. in diameter, and 5 or 6 yds. of the stout paper sold as pattern paper. This is used by collectors of engravings.

Engravings, Soiled, To Clean.

Place the engraving, face downwards, in a clean vessel large enough so that the engraving may be spread out flat. Pour clean boiling water upon it, and when the water becomes cold, take out the engraving carefully and remove all the moisture you can with clean blotting-paper. The engraving should then be put in a press, between layers of clean white paper, but if very much soiled the operation must be repeated.

Feathers, Goose, To Cleanse.

Feathers should be dried in the sun, or in a stove, and then beaten to remove the loose dirt and dust. If dirty, they may be cleansed with lime-water, with water containing a little solution of chloride of lime, or with a weak solution of carbonate of soda. Then rinse them in clean water and dry as before. In the same way you can cleanse and purify old feathers.

Figures, Plaster, To Render Durable.

Dry the figure thoroughly in a warm, dry atmosphere, then place it in a vessel and cover with the clearest linseed oil, just warm. Let it remain in this 12 hrs., then take it out, put it in a place free from dust to dry. It will look like wax when dry, and will not be injured by washing.

Files, To Clean.

Much annoyance, as well as money, may be saved by cleaning files in machine shops by means of oil, heat, and the card (wire brush).

Flannel, Old, To Make White.

To restore flannel that has turned yellow to its original color, soak the goods in a solution of 2½ lbs. of white Marseilles soap dissolved in 75 lbs. of soft water, to which has been added under constant stirring, 1 oz. of liquor ammonia. Then wash them well in soft water. A shorter method is to put the goods in a dilute solution of bisulphite of soda and let them remain in it 1 hr. At the expiration of this time add, under constant stirring, some diluted hydrochloric acid; the vessel must then be covered, and the goods allowed to remain in it 15 mins. longer. Then thoroughly wash them in water.

Flowers, Color of, To Change by Charcoal.

If roses are of a faded hue, cover the earth in the pot about 1 in. thick with pulverized charcoal, and in a few days they will be of a fine, lively rose-color. The same effect is produced upon petunias, and it gives great vigor to all red or violet colored flowers. Under its influence the white petunias become veined with red or violet tints, and the violets are covered with irregular spots of a bluish or almost black tint. These are often supposed to come from choice new varieties of seed. The only flowers insensible to the influence of charcoal are yellow.

Flowers, White, To Turn Red.

The white hyacinth may be turned red by sprinkling the juice of the Virginian poke-weed on it. Many other white flowers may be changed to red in the same way.

Fritters, Apple.

Cut the apples into rounds as thin as possible, cut out the cores, pare away the skins, put them in a dish, pour over them a wine-glassful of

brandy, and sprinkle sugar and grated lemon-rind over them; let them lie in this for an hour; half fill a good-sized saucepan with clarified dripping; make it quite hot, and when it is still and a blue smoke arises from it, dip each slice separately into the batter, take it out in a tablespoón, and dip it, with the batter that is in the spoon with it, into the boiling fat; turn it over lightly with a fork, and when the fritter is crisp and lightly brown it is done enough. Put on paper to free from it grease; sift white sugar on, and serve.

Frogs.

Americans are slowly learning to eat frogs, although they still do it under protest. Frogs' legs are very good when broiled on a gridiron, but some persons prefer to have them rolled in egg and cracker crumbs and fried. They make a very nutritious jelly, which never disagrees with anybody.

Fruit, How to Make Grow.

It would be an easy matter for every family to have enough fruit for use, with a little care and calculation. The following will give some useful hints :

A plot of ground 16 rods by 10, or 1 acre, should give all the small fruits that a very large family could use the year around. Half this much land should give a full supply, and one-fourth to one-eighth as much can be made to produce a sufficiency with but very little extra care. Suppose we have devoted 1 acre to small fruits including cherries, and our plot is a parallelogram of 16 by 10 rods, and we wish to have strawberries, cherries, raspberries, grapes, blackberries, currants and gooseberries. First we plant 10 cherry trees across each end 1 rod from the fence. Between these and the fence at one end we plant 2 rows of currants 5 ft. apart; at the other end 2 rows of gooseberries in the same way. We then plant across one end, inside of the cherries, 8 rows of strawberries 5 ft. apart, and the plants 3 ft. apart in the row; first 2 rows of Crescent Seedling, then 2 rows of Captain Jack, and so on. These two varieties planted in this way will give more good fruit than any other varieties we know of. A row or two of the Wilson or any other staminate variety may be put in, in place of the Captain Jack; but we think that the best. Then plant 8 rows of raspberries in the same way, only putting the plants 6 ft. apart in the rows. These may be made up of 2 rows of Davison's Thornless, 2 of Doolittle, 2 of Mammoth Cluster and 2 of Gregg. We plant no red raspberries, for they must have some culture each year to succeed, though the Turner will give a good deal of fruit without care; but their bright red color draws the birds to the patch early — for it is one of the earliest — and for this reason is a nuisance. We now have 3 rods for Snyder blackberries — for we think is useless to plant any other variety. They should be planted in 5 rows 8 ft. apart. And the same breadth for grapes. There should be 1 row of Hartford Prolific, or Janesville, 3 rows of Concord and 1 of Clinton. These will give a succession, are all hardy, and have not failed in 20 yrs. in giving a sufficiency of fruit without laying down; or any other varieties equally hardy may be chosen.

We now have our ground all planted. All of it should be kept well tilled and free from weeds the first summer. Potatos or corn may be

planted in all the rows and between the wider rows the first season. We consider corn the best, and better than clean cultivation without it; the stalks can be cut late in autumn and the strawberries covered with them or left to stand among the other plants for protection. This cultivation, the first year, is best done with a shovel-plow with a very small shovel next to the plants, and with a larger shovel in between. The strawberries, if they make a good stand, and the runners are trained a little along the rows, will make a closely-matted row for the next season's fruiting. The next spring the corn-stalks may be raked from among the plants between the rows, or left as they are. The second season all the plants except the strawberries should be well plowed early in the spring, as soon as the soil is dry enough, and 3 to 4 times more during the season. The strawberries will this season give a full crop of fruit, and the other kinds some.

The second winter material should be got out to make a trellis for the grape-vines, and this should be put up early in the spring and the vines tied to it. The third, and for many seasons after, all will go on and give a great amount of fruit, without any care whatever. But regular and systematic plowings each season will give more and better fruit. A large amount of fruit can be had on this no-culture system year after year especially of blackberries, strawberries and grapes; for these two varieties of strawberries will make a stiff sod of their own that blue-grass cannot run out, at least for many years. But it is best to rip up deeply, with a very small bull-tongue shovel-plow, the space between the rows of strawberries each year, and the third year plow up deeply the original rows. The blackberries and grapes will give all the needed fruit without care and culture, but of course they can be bettered by it. The black raspberries will give a great deal of good fruit if let alone after the second year, but will do much better if plowed 3 or 4 times each season, and the canes cut back at least once each season after the fruit is gathered.

Furniture, To Wax.

The coating of wax must be as thin as possible, so that the veins of the wood may be plainly seen. The following is the best preparation known: Melt 2 ozs. of white and yellow wax over a moderate fire, and when melted, add 4 ozs. of best spirits of turpentine. Stir until cool. This forms a pomade fit for waxing the nicest furniture. When rubbed on in the ordinary way, the oil penetrates the pores of the wood, brings out its color, causes the wax to adhere better, and produces a lustre equal to that of varnish. The polish can at any time be renewed if necessary, by rubbing it with a bit of fine cork.

Gantenine.

Take 3 troy ozs. of soap, and dissolve by heat in 2 ozs. of water, and when almost cold add 2 ozs. of Javelle water, and 1 dr. of water of ammonia. This may be formed into a paste, which should be rubbed over the glove until clean. It is sometimes called Saponine.

Glass, To Powder.

Powdered glass used to filter acids, is glued upon muslin or paper for polishing, and to rub down corns after they have been well soaked

and dried. To powder glass, heat it red hot and throw it into cold water. Then dry and pulverize it, coarse or fine, in an iron mortar.

Discolored Glass, To Clean.

When all ordinary methods fail, glass that is smoky can be cleaned by applying dilute nitric acid. Water of ammonia may also be used for this purpose.

Kid Gloves, To Prevent Injury from Perspiration.

Those whose hands perspire freely can prevent their gloves being injured by rubbing their hands with ordinary corn starch or pulverized soap-stone before putting on their gloves. Some prefer to use powder, as they think it is better for the hands.

Glue Which Stands Moisture Without Softening.

Dissolve ½ oz. of sandarac and ½ oz. of mastic in 8 fluid ozs. of strong methylated spirit, and add ½ oz. of turpentine to the solution. Make a hot, thick solution of glue and a little isinglass; to this add the above solution, and filter the whole, while hot, through a good sieve or a piece of cloth.

Grapes, To Prevent Rot.

Grapes are said to be kept from mildew and rotting by enclosing the bunches in paper bags. They will often ripen nicely in this way, when otherwise they would be entirely lost.

Grindstone, How To Use.

Instead of running the stone in water, or letting it stand in water when not used, which will waste the stone and cause a soft spot in it, let water drop on it from a pot suspended above the stone, and stop the dropping of the water when the stone is not in use. The stone must not be allowed to get out of order, but must be kept perfectly round by the use of gas pipe or a hacker. All grease should be cleaned from tools before sharpening, as it destroys the grit.

Liquid Guano, To Hasten the Blooming of Flowers.

Dissolve 4 ozs. of sulphate or nitrate of ammonia, 2 ozs. of nitrate of potash, 1 oz. of sugar, 1 pt. of hot water, and put the solution in a well corked bottle. Add a few drops to the water used to moisten flowering plants that are in pots. For bulbous-rooted plants put 8 or 10 drops of the liquid into the water of a hyacinth glass or jar, changing the water every 10 or 12 days.

Chewing Gum.

Take 2 ozs. of prepared balsam of tolu—which is made of 4 ozs. of tolu, 16 ozs. of white resin, and 1½ ozs. of sheep's suet—1 oz. of white sugar, and 3 ozs. of oatmeal. After softening the gum in a water-bath,

mix in the ingredients, and make it into sticks by rolling in finely powdered sugar or flour.

The Gums, Wash To Harden.

Mix ½ pt. of Jamaica spirits, ½ teaspoonful of powdered alum, ½ of pulverized saltpetre, and 1 oz. of pulverized myrrh.

Gypsum, Use of.

Gypsum (land plaster) is valuable in the barn yard in two ways: First, by acting as an absorbent of ammonia; and, second, in hastening the decay of straw, stalks, and other refuse matter. Once a week, in this latitude, and in southern ones, is none too often to sow enough broadcast in the yards to make them almost white or gray with this material.

Hams, To Sugar Cure.

Spread out the hams, shoulders and side meat and let it cool in the cellar, or where it will not freeze. Let it remain 24 hrs. Put the side meat in the pork barrel and salt liberally. Bulk up the bacon pieces, first rubbing them all over with the same mixture hereafter described for hams. Let the bacon lie in bulk 2 weeks, then rub with the mixture, and then again at the beginning of the fourth week. At the end of the sixth week smoke. When the hams weigh from 15 to 20 lbs., and when there are 8 hams and shoulders, take a large dish pan and put into it 8 qts. of salt, 8 lbs. of coarse-grained brown sugar, and 8 ozs. of pulverized saltpeter, and put in sufficient warm water to make it of the consistence of soft mush. Set the hams and shoulders one at a time in the pan and rub the mixture well in, and see that no part of the meat, especially about the ham, is overlooked. Pile the hams, flesh side up, and let them remain from 3 to 5 days, according to the weather. Put them in a barrel, then pour in enough brine, which has been previously boiled, strained and cooled, to cover them. Let them remain in the brine not less than 4 weeks or more than 6. Then wash, drain and hang them, hock or small end downward, not lower than 6 feet above the slow fire made of green hickory, sugar maple chips or corn cobs. The fire is kept well covered with wood ashes, the object being to dry the hams as well as smoke them. Smoke until they become of a pretty yellow color, when the smoking should be discontinued, except in rainy weather, when an occasional smoke for drying will be needed. Two weeks of continuous smoking during the dry time when the weather is clear will be sufficient. From the first to the middle of March the meat is taken down and rubbed with a bit of cloth dipped in molasses, so that the finely ground black pepper will adhere to every part of the meat. Inclose each ham and shoulder in a cloth sack, place them in a paper flour sack and return them to the smoke house, where they can remain until used or sold.

Eolian Harp, To Make.

Make a box of very thin cedar, pine, or any other soft wood, 5 or 6 ins. deep, 7 or 8 ins. wide, and just as long as the window in which it

as to be placed is wide. Near each end glue a strip of wood ½ in. high and ¼ in. thick, across the top for bridges. Insert 2 pins, like those of a violin in each end of the box, to wind the strings around. Fasten one end of each string to the wooden pin in one end of the box, carry it over the bridges, and wind it around the turning pin in the opposite end of the box. A piece of wood should be glued upon the inside of the ends of the box where the wooden pins enter to increase their thickness. The strings should then be turned in unison and the box placed in the window. If the harp can have 4 strings, so much the better, but very sweet melody is produced by a single string, the notes varying with the force of the wind.

Herbs of the Finest Flavor, To Obtain.

Herbs should be gathered when they first bloom, and on a dry day, before the sun has been long upon them. If you wish to preserve them, clean them from dirt and dust and dry them gradually in a warm stove. When dry, tie them up in bags made of old newspapers. Some pick off the leaves, pound them in a mortar, pass them through a hair sieve, and preserve the powders in tightly corked bottles. The herbs have their fullest flavor in the following months: Marjoram, during July; winter savory, last of July and during August; basil, middle of August to middle of September; thyme, during June and July; mint, last of June and during July; sage, August and September; tarragon and burnet, June, July and August; chevil, parsley, fennel, elder flowers and orange flowers, May, June and July; summer savory, last of July and during August.

Hints about Tomato Culture.

In regard to training, it is asserted that much better fruit—especially for eating raw—can be had from plants fastened to slant stakes, than when the plants are allowed to run at will over the ground, or even when they are fastened to slanting trellises. Heavy stakes are required, of course, as the great weight of a plant in fruit can not be borne by light stakes. Strong bushes are also frequently used, and they answer very well, though sometimes the vines become very dense and obstruct ventilation and the ready ripening of the fruit. In training the plants, much attention has been given to thinning the branches, especially when grown on stakes, and in shortening back some of the branches to within a few buds of where the fruit is to set. Those who have followed this practice judiciously, report good results. But the latest novelty in tomato culture is in the matter of root-pruning in order to produce early fruitage. In this matter some surprising results have been achieved, according to those who have given it their experience. While the plants are young they are transplanted several times, which, of course, destroys some of the roots, and after they are put out into their final resting places, a spade is once in a while thrust down into the ground a foot or so from the main stalk. In this, of course, size, and perhaps quality, is sacrificed to a gain of a few weeks in time; but many are willing to pay this penalty for the sake of the early dish. The principle here is much the same as is often used to get early grapes, when a ring of bark is taken off. The supply of food being checked, the result is earlier fruit, but with slightly impaired flavor.

Horse, To Save.

The following method of saving a horse whose leg has been broken is said to be remarkably successful: Set the broken bone, and then bandage it tightly from the hoof to the knee joint with bandages wet with flour paste or plaster. Over the bandages strap several stiff splints, and allow them to remain on until the paste and bandages have dried to a hard, compact mass, when they are to be removed. Have a large stall for the horse, in which is placed several inches of soft litter for him to stand on. At the expiration of about 9 weeks, the bandages may be removed, and, if the animal has been well cared for, the limb will be perfectly well and straight, with no bunch or deformity of any kind. Then the limb must be rubbed with oil occasionally, and the horse exercised daily by being led back and forth across the barn floor.

Horn, To Unite.

To cement the surfaces and edges of pieces of horn, soften them by the heat of boiling water, and then place them in contact under strong pressure in a vise, and again expose to the heat of boiling water.

Hyacinths, To Raise in Winter.

The bulbs, whether put in glasses or earth, should be set in a dark closet to sprout. When in glasses the water should be at least 1 in. below the bulb, until the roots have reached the water; then fill the glass up, put a piece of charcoal in the water and set the plants in the sun to grow.

Ivory, To Dye Black.

Steep the ivory, after washing it well in an alkaline lye, in a weak neutral solution of nitrate of silver, then expose it to the light or dry it, and then dip it into a weak solution of hydro-sulphuret of ammonia.

Ivory, To Etch on.

The ivory must first be covered with a thin coating of bees'-wax. Trace the figures you wish to etch through the wax; then pour over it a strong solution of nitrate of silver. When it has remained some time it can be removed with the wax by washing in warm water, leaving the design in dark lines on the ivory.

Ivory, To Polish.

A fine gloss may be produced on ivory, in a short time, by polishing it with putty-powder and water, using a rubber made of hat. Instead of this, you may set the ivory in the turner's wheel, and after having worked it, take some rushes and pumice-stone, mix a subtle powder with water, and rub till it becomes perfectly smooth. Heat it by turning it over a piece of linen or sheepskin, and while hot rub it with a little whitening, diluted with olive oil. Lastly, rub it with a little dry whitening, and then polish it off with a soft white rag, and the ivory will look extremely white.

Grape Jelly.

Pick the grapes before they are too ripe, as they become watery then, but they must be ripe enough to have a good flavor, or the jelly will be very acid; pick each grape from the stem, and do not use green or wilted ones; put them over the fire in a porcelain-lined kettle, not a brass one, and let them boil up, mashing them well; then strain the juice and measure it, putting it back on the fire, and let it boil 30 or 40 mins.; to each pint of juice allow a pound of crushed sugar, which put in the upper oven of the range to warm; when the juice has boiled the time mentioned add the heated sugar, and stir until all is dissolved; then boil 10 mins. and test it; if it drops from the spoon thick, it is done. It is very uncertain as to time, therefore difficult to give an exact rule, but should not be boiled more than 25 mins. or it loses its color and flavor.

Fire Kindlers, To Make.

Melt 1 qt. of tar and 3 lbs. of resin; bring to a cooling temperature, and mix with as much sawdust, with a little charcoal added, as can be worked in. While hot, spread out upon a board, and, when cold, break into lumps as large as a good-sized hickory nut. This will make kindling enough to last a year. The lumps will ignite easily from a match, and burn with a strong blaze long enough to start the wood.

Lambrequin, To Make.

Take a smooth board the exact length and width of your shelf, and make a case for it in the following manner: Out of a piece of cloth, of a color to match or contrast with the furniture of your room, cut a strip 8 ins. longer and 4 ins. wider than the piece of board. Cut a second piece, the same shape and size, out of some kind of lining, and tack the two together. Sew one side with over-and-over stitches, and decorate the other side and ends in any way liked. After the edge is finished, cut a slit in the lining of the work large enough to admit the board, and bind this opening with braid. Then slip in the board and lay in flat on the shelf, and, if you have followed directions, you will have a smoothly-covered shelf, with a drapery 4 ins. in depth in front and at the ends.

Magic Lantern, To Make.

The following is a very simple affair, and easy of construction, but will afford a good deal of amusement: A small box, a kerosene lamp with an argand burner, a little fish-globe filled with pure water, and a common double or plano-convex lens are all the materials necessary to make it. A hole is bored in the top of the box to permit the chimney of the lamp to pass through, and allow the heat and the products of combustion to escape. In the side of the box a round hole is cut large enough to admit a portion of the globe, which is suspended inside the box close to the lamp. A piece of common window glass is then moistened with a strong solution of sulphate of soda, and placed on a stand or clip so that the light from the lamp will be focused on it by the globe. The image of the glass will thus be thrown upon a screen when the lens is properly adjusted. The formation of the crystals of the sulphate of soda will

be seen clearly on the screen, and appear like the magical growth of a forest. Any ingenious family can readily devise a great number of interesting experiments with this inexpensive lantern.

Moss on Lawns, To Kill.

Mix 1 gal. of ammoniacal liquor with 4 gals. of water, and water the lawn with it. The grass will look brown for a while, but will soon become green again. If in any way the grass can be made to thrive it will choke the moss. As the moss shows that the soil is exhausted, a top dressing of nitrate of soda or soot will be of benefit. A good plan is to sow some fine siftings of coal ashes, very thinly, over the parts where the moss abounds. If this is done just before a shower so much the better, as the rain will wash it in, and this will kill the moss without hurting the grass. Moss on meadow land may be killed by nitrate of soda sown at the rate of 1½ cwts. per acre. This is also an excellent manure for the grass. In the autumn, mossy parts of meadows should be well manured with good, well-rotted stable dung, and in the spring the grass should be fed off with sheep.

Worms on Lawns and Grass Plots, To Destroy.

Make a mixture of 10 lbs. of slacked lime and 30 gals. of water; stir well together and let it stand for 2 or 3 days. Then pour it off the sediment, and water the lawn with it, using for the purpose a rose waterpot; this will bring the worms to the top of the ground, when they can be swept off and carried away. This should be done in damp weather, for the worms are then nearer the surface. The evening before, the lawn should be rolled, as this brings the worms near the surface, and also fills up the holes they have left. The next night they will open the holes in which they lie, thus making it easier for the water to reach them the next day without wasting much by soaking into the forsaken holes. Diluted ammoniacal water which is used to destroy moss on lawns answers the same purpose.

Skeleton Leaves, To Bleach.

To 1 dr. of chloride of lime, mixed with 1 pt. of water, add enough acetic acid to liberate the chlorine. The leaves should be steeped in this about 10 mins., or until they are whitened, but must not be left in too long, as they will become brittle. Put them into clean water and float them out on pieces of paper. When nearly dry, place them in a book or botanical press. When mounted on black velvet or paper they appear to the best advantage.

Skeleton Leaves, Quick Method of Preparing.

Dissolve 3 ozs. of washing soda in 2 pts. of boiling water, and add 1½ ozs. of quicklime, previously slacked; after boiling 10 mins., decant the clear solution, and bring it to a boil. While boiling, add the leaves, and let the boiling continue briskly for about 1 hr., adding a little hot water occasionally to supply the place of that lost by evaporation. When you think they have boiled long enough, take out a leaf, put it

into a vessel of water, and rub it between the fingers under water. If boiled enough, the skin and pulpy matter will separate easily, and the other leaves may be removed from the solution and treated in the same way; if not, let the leaves remain in the solution, and continue boiling a while longer.

Lettuce in Winter.

Every family that has a little garden spot can enjoy the luxury with very little trouble. All that is necessary is to build a frame of coarse boards, cover it with a closely-fitting glass sash, and place it in a sunny spot, somewhat protected. In this, plant the lettuce sets, about six inches apart, in good ground. They will grow all winter, and in the early spring will form beautiful large heads to encourage the appetite and grace the table.

The seed should be sown in September, and are so hardy that if planted in a sheltered situation, and protected by loose covering of straw and evergreen boughs, they will stand the winter well. If transplanted in a cold frame, as suggested above, they will do better, and produce more tender, delicate and larger heads.

Starch Lustre.

When this is added to starch, it causes the linen to have not only a high polish, but a dazzling whiteness. The best results will be produced by adding a piece of lustre, as large as a copper cent, to ½ lb. of starch, and then boiling it for 2 or 3 minutes. Starch lustre is composed of stearine, colored by the addition of a little ultramarine blue. The essential part, however, is the stearine, and, with or without the blue, adds much to the beauty of the linen.

Lute To Protect Glass Vessels.

Pulverize some fragments of porcelain, sift them well, and add an equal quantity of fine clay, that has been softened previously with as much of a saturated solution of muriate of soda as is necessary to give the whole a proper consistence. A thin and uniform coat of this, applied to the glass vessels, and dried in slowly, before they are put into the fire, will enable them to endure an incredible amount of heat.

Marble, Acids Injurious to.

Care should be taken in the use of marble furniture and ornaments, as marble is a carbonate of lime, and acids of any kind will more or less affect it. Marble slabs soon lose their polish, and are liable to a degree of disintegration, which impairs their beauty, if acids are allowed to stand on them. For this reason, fruits, sauces, and vinegars should not be allowed to come in contact with marble slabs or furniture of any kind.

Marble, To Dye or Stain.

Marble may be stained any color that is desired, by heating the stone enough to make the colored solution just simmer on the surface. Experience is necessary to make the application of the colors successful,

but by skillful use a pleasing effect, both of color and grain may be obtained. The following are some of the colored solutions used: Blue stain is tincture or solution of litmus, or an alkaline solution of indigo. Tincture of logwood furnishes a brown stain. Crimson stain consists of a solution of alkanet root in oil of turpentine. Flesh-color stain is produced by applying wax, tinged with alkanet root, to the marble hot enough to melt it. Gold-color stain is formed by a mixture of equal parts of white vitriol, sal ammoniac, and verdigris, all in fine powder, carefully applied. To stain marble red, use tincture of dragon's blood, alkanet root, or cochineal. For yellow stain use tincture of gamboge, turmeric, or saffron. An alkaline solution or tincture of sap-green, or wax strongly colored with verdigris, will produce a green color, or you can stain the stone blue first and then yellow.

Manure, To Dissolve Bones for.

Pulverize the bones if possible, if not break them in small pieces, and put them into a hole in the ground, or into a stone tank. Upon 100 lbs. of bones pour 40 lbs. of oil of vitriol. Stir the mixture with long poles until the mass is uniform. Let it remain 24 hrs., at the end of which time it will be perfectly dry. Instead of this process, you may fill an old barrel with alternate layers of wood ashes and fresh bones, occasionally wetting them with hot water.

Meat, Pickle for Salting.

To 1 gal. of water take 1½ lbs. of salt, ½ lb. of brown sugar, and ½ oz. of saltpetre; boil these until no more scum rises, and skim the liquor until the pickle is clear; pour it into a tub to cool. Keep the meat two days before packing it, and rub it with a quantity of the ingredients, finely powdered, 12 hrs. before leaving it to drain: then pack closely in the barrel or tub, sprinkling each layer with more of the powdered ingredients, and turn on the pickle cold. When the meat is used the pickle may be boiled, skimmed, strained, and kept for another season.

Gas Meters, To Keep from Freezing.

¼ pt. of good glycerine will prevent the freezing of 1 gal. of water, but at least double that proportion is preferable in the country. Water containing 40 per cent. of glycerine has little inclination to freeze. Pure glycerine is perfectly inert, and does not affect the metals of which the meter is composed. It should be used rather than whisky, that undergoes acetous fermentation, by which the alcohol is converted into acetic acid, which corrodes the meter so that it soon wears out.

Mildew, To Remove from Roses.

Dissolve 1 oz. of nitre in 1 gal. of water, and water the plants with it occasionally. This will successfully remove mildew from roses and pelargoniums. Instead of this, some wash the diseased parts with a decoction of elder leaves. Flour of sulphur dusted over the foliage by means of a dredging-box, with very fine holes, is considered the best remedy.

Mincemeat of Dried Apples.

When green apples cannot be had, dried apples make a very good substitute. For six pies take ½ doz. handfuls of dried apples, put them to cook in ½ gal. of water, and ½ teacup of vinegar. Let them soak for a day or two, then chop fine without cooking, using the same water in which they were soaked to thin the mincemeat with; add about 3 lbs. of meat (mostly lean), sweeten and spice to taste, using either currants or raisins; it is better after having been mixed about a week.

Mould in Mucilage, To Prevent.

A very small quantity of sulphate of quinia will keep gum mucilage from spoiling. Writing-ink may be preserved in the same way. Ammonia is also used for the same purpose.

Mouth, Wash for. (Myrrh and Borax.)

Take 1 oz. of borax and 1 of honey, and rub them well together in a mortar. To this, add gradually 1 qt. of spirit of wine (not above proof), and 1 oz. each of gum myrrh and red saunders wood. Macerate for 14 days and filter, and you will have an excellent wash for the gums and mouth.

Mucilage, To Adhere to Glass, etc.

1 or 2 drops of glycerine in a small bottle of mucilage will make it adhere to glass and polished surfaces. If too much glycerine is used the cement will not harden at all.

Mucilage of Tragacanth.

Macerate 1 oz. of tragacanth in 1 pt. of boiling water for 24 hrs. Triturate until uniform and smooth, and press through linen. This paste will keep pretty well without the addition of an antiseptic, if made pretty firm, but a little acetic acid or creosote will entirely prevent fermentation.

Onions, Grub in, To Prevent.

Add to some lime-water as much soot as will make it into a thin paint, and water the crop with it as soon as the maggot appears. This is so stimulating that it should be used to increase the weight of the crop. In the fall, the ground intended for a crop of large onions should be dug over and then watered with a mixture of sulphuric acid and water, made strong enough to burn the tongue. Every animal in the soil will thus be destroyed and the mixture will be entirely washed away by the winter rains.

Ornaments, Ivory, To Clean.

To clean the carvings wash them well in soap and water, with a small brush, and place while wet in the sunshine; keep them in the sun 2 or 3 days, wetting them several times a day with soapy water; after washing them once more they will be exceedingly white.

Paper, Magic Copying.

To make copying paper mix lampblack, Venetian red, Prussian blue, or chrome green with cold lard, according to the color you desire. Apply the mixture, which should be of the consistence of thick paste, to the paper with a rag. Then rub the paper with a flannel rag till the color ceases to come off. By alternating these papers with writing paper and using a solid pen, several copies of a letter can be produced at once.

Paper, To Make Fire-proof.

Dip the paper in a solution of alum and throw it over a line to dry. All kinds of paper, whether plain or colored, as well as textile fabrics, may be treated in this way. Try a slip of paper thus prepared in the flame of a candle, and if not entirely fire-proof, repeat the operation. To render newspapers fire-proof, dip them into a solution of soluble glass of 25° Baume; then neutralize the alkali by diluted muriatic acid of 10° Baume, while hot, and dry by the atmosphere. The texture of the paper cannot then be destroyed by fire.

Oiled Paper, a Substitute for Oiled Silk.

Take 1 gal. of boiled linseed oil and reboil it with 1 oz. each of litharge, acetate of lead, sulphate of zinc, and burnt umber. Lay the sheet of paper on a square board and cover it well with this mixture. Cover the first sheet on both sides; place the second on this, and cover the upper side with the mixture; continue the process until you have covered 20 to 50 sheets. Then separate them and hang them up to dry.

Printed Paper and Picture Prints, To Clean.

The print must first be fastened to a board with button drawing pins. Dissolve 1 oz. of carbonate of ammonia in a pint of water, and wash the print with this, using a camel's hair brush for the purpose. Rinse the print well with plenty of fresh water, and, when dry, repeat the process on the reverse side of the print. Next, wet the print with water made sour with white vinegar, and, lastly, wet the print with water containing a little bleaching powder, and again rinse with clean water. Dry by exposure to air and sunshine, and the print will be perfectly white, except where printed. A coat of parchment size will stiffen the print. Many very valuable prints have been thus restored.

Paper, To Make Waterproof.

Composition No. 1, is a mixture of 2 liquids. 30 ozs. of glue, gelatine or size, and 3 ozs. of gum-arabic melted in 10 pts. of hot water, and 20 ozs. of soap and 4 lbs. of alum, melted in 30 pts. of hot water. To make composition No. 2, heat together ½ gal. of benzole and 1 gal. of paraffine and melt with them 24 ozs. of resin. When the mixture has boiled long enough to attain a moderate degree of consistence, add to it resin, oil and copal, or mastic varnish. The article that you wish to render waterproof should be first dipped into composition No 1, in a heated state and then dried. Then apply composition No. 2 in a cooled state with a brush.

Parchment, To Make Transparent.

Make a strong lye of wood ashes, and soak the parchment in it, wringing it out frequently to see if it is transparent, then strain it on a frame and let it dry. After it is perfectly dry, cover both sides with a coat of pure mastic varnish, diluted with spirits of turpentine.

Paste for Petits.

Sift ½ lb. of flour on the board, and work in ¼ lb. of butter, ¼ lb. of fine sifted sugar, a pinch of salt, and the yolks of 2 eggs, with the white of one. This, when done, should be a light, but somewhat stiff paste. Put the paste in a cool place for an hour, then roll out to a quarter of an inch, and with cutters mark your shapes, or mould the paste into any forms you choose, but they must be small shapes, as this paste is not adapted for those of large size. Butter white paper, and lay it on a baking sheet, putting the biscuits on it as you cut them. Brush them over with egg, and bake until they become deep yellow; let them cool on a sieve. For ginger or cinnamon flavor, use enough of the freshly ground powder to give a delicate flavor; for lemon, either grated peel, or good extract of lemon peel; for vanilla, use sufficient of the extract to flavor slightly, instead of plain sugar. By way of ornament the cakes can be strewn with finely minced angelica, candied peel, or pistachios mixed with sugar.

Phosphate, for Manuring.

Take 2 parts of crushed bones and macerate for several days in 1 part of oil of vitriol and 3 parts of water, stirring frequently. In this way a superphosphate of lime is formed, which makes an excellent manure when mixed with water, dry earth or sand.

Phosphorus Paste, for Vermin.

Put 1 dr. of phosphorus into a Florence flask and pour over it 1 oz. of rectified spirits. The flask should then be immersed in hot water until the phosphorus is melted; then put a well fitting cork into the mouth of the flask and shake briskly till cold. After pouring off the spirit, take the phosphorus, which is now reduced to a finely divided state, and mix it in a mortar with 1½ ozs. of lard. To this add 5 ozs. of flour and 1½ ozs. of brown sugar, previously mixed together, and make the whole into a paste with a little water. If the paste is intended for rats or mice, substitute cheese for sugar. There need be no fear of spontaneous ignition, either during or after the preparation of the paste.

Pictures, To Apply Decalcomine.

Varnish the pictures carefully with the varnish which you can buy with the pictures, care being taken not to get any varnish on the white paper. The pictures will be ready to lay on the panel in a few minutes, and the paper can be removed by wetting it. When perfectly dry, varnish the picture as you would an oil painting. It is better to buy only those transfer pictures that are covered on the back with gold leaf,

as they will show plainly on any colored background. The plain pictures should be used only on white or light grounds.

Pills, for Constipation.

Equal parts in weight of best English calomel, Turkish rhubarb and aloes. Mix with a very little water, and roll the pills, after being made, in ginger.

Pain in the Stomach.

½ oz. of laudanum, ½ oz. of aromatic spirits of ammonia, 1 oz. of tincture of rhubarb. Dose—1 teaspoonful every 4 hours; children, ½ of a teaspoonful; very small children, ¼ of a teaspoonful.

Clothes Pins, To Preserve.

Once or twice a month, boil clothes pins a few moments and they will become more durable and flexible. If clothes lines are treated in a similar manner, they will keep in better condition and last longer.

Gas Pipes, To Bend.

Fill the pipe with melted resin, and when the resin becomes hard bend the pipe, and it will retain its round form. The resin may be removed by heating.

Water Pipes, To Manage in Winter.

Cover the pipes with hay or straw bands, twisted tight around them, when the frost first comes. Wash the cisterns and water-butts out occasionally to keep the water pure and fresh. Be very careful in winter time in pumping up water into the cistern for the water-closet. When done, let all the water out of the pipe; if this is forgotten, and it should be frozen, bore a hole in the pipe with a small gimlet, a short distance from the place where the water is let off, to prevent its bursting. A little peg must be put into the hole when the water is let off.

Plants, Cleanliness for.

The languidness of plants in the house, often is caused by want of care in cleansing the leaves. If the leaves are not kept perfectly clean, the respiration is interfered with, as plants breathe by their leaves. Simply watering the roots is not enough. As plants perspire by their leaves, dirt and dust retard this function; and as they also feed by their leaves, by absorbing carbonic acid from the air, dirt also interferes with their taking nourishment.

Frozen Potatos, Remedy for.

If potatos have been frozen, lay them in a perfectly dark place for some days after the thaw has commenced. They do not rot, and lose

very little of their natural properties if thawed in the dark, but if thawed in open day they will rot.

Poultry or Fish, Stuffing for.

2 cups of light bread or cracker crumbs, 1 cup of mashed potatos, 1 egg well beaten, butter the size of an egg, 1 small teaspoonful of sage and savory, 1 doz. clams or oysters, chopped; moisten with warm, rich, new milk, adding salt and pepper to the taste. This is nice for poultry and fish; for duck, goose, or wild game of any kind, an onion chopped fine and added is an improvement.

Imperial Punch.

The ingredients are a pineapple, a Seville orange, 4 lemons, 4 sweet oranges, an inch of vanilla split open, 1 dr. of stick cinnamon, ½ lb. of loaf sugar, a bottle of good hock, a bottle of champagne and a bottle of arrack. Peel the Seville orange, and put the peel with the vanilla and cinnamon to scald in 1 qt. of water by the fire; cover this closely while infusing. Into a punch bowl, cut the pineapple in thin slices; peel the sweet oranges very close, scraping all the white off; cut each one into 8 pieces, and add to the pineapple. Having rasped the rind off a lemon with some of the sugar lumps, add all the sugar to the fruit, and add, also, the juice of the 4 lemons; pour the flavored water through a strainer into the bowl and cover it close until quite cold, then add first the arrack, then the hock, and lastly the champagne, with half a bottle of good seltzer water; stir all together briskly and serve directly in champagne glasses.

Roses, Soot Water for.

The growth of the plants and flowers may be greatly increased and the plants be strengthened by the use of soot water. This is prepared by placing soot from the pipe or chimney of a wood fire in a pitcher and pouring hot water upon it. When cool, water the plants occasionally with the liquid.

Rubber, To Fasten to Wood and Metal.

A cement which fastens equally well to the rubber and to the metal or wood is made by a solution of shellac in ammonia. Soak some pulverized gum shellac in 10 times its weight of strong ammonia. A slimy mass will be obtained, which in 3 or 4 weeks will become liquid without the use of hot water. This softens the rubber, and, after the volatilization of the ammonia, becomes hard and impermeable to gases and fluids.

Saws, Band, To Solder.

Scarf the end of the saw to a taper, for a distance of two fine or one coarse tooth, fitting the edges of the scarf very true and level. Clean the joint with acid, and clamp the saw ends together with a suitable frame or clamp. Heat the joint with a pair of red-hot tongs, and place a small strip of jeweler's silver solder upon the joint; press it upon the same with the red-hot tongs. As soon as the solder has properly run or

flowed, remove the tongs and cool the joint with water, to restore as far as possible the temper of the saw. Then file the joint to an even thickness and level with the rest of the saw, using a wire gauge as a template.

Saws and Springs, Hardening.

The usual way of proceeding is to heat the saws in long furnaces, and then to immerse them horizontally and edgewise in a long trough containing the composition; two troughs are commonly used alternately. Part of the composition is wiped off with a piece of leather, when the articles are removed from the trough; they are then heated one by one over a clear coke fire until the grease inflames; this is called "blazing off." A greatly recommended composition consists of 2 lbs. of suet and ½ lb. of beeswax to every gallon of whale oil; these are boiled together, and will serve for thin articles and most kinds of steel. The addition of black resin, to the extent of about 1 lb. to the gallon, makes it serve for thicker pieces, and for those it refused to harden before; but the resin should be added with judgment, or the articles will become too hard and brittle. The composition is useless when it has been constantly employed for about a month; the period depends, however, on the extent to which it is used, and the trough should be thoroughly cleaned out before the new mixture is placed in it. The following recipe is commended: 20 gals. of spermaceti-oil, 20 lbs. of melted and strained beef suet, 1 gal. of neats'-foot oil, 1 lb. of pitch, 3 lbs. of black resin. These last two articles must be previously melted together, and then added to the other ingredients; the whole must then be heated in a proper iron vessel, with a close cover fitted to it, until the moisture is entirely evaporated, and the composition will take fire on a flaming body being presented to its surface; the flame must be instantly extinguished again by putting on the cover of the vessel. When the saws are wanted to be rather hard, but little of the grease is burnt off; when milder, a large portion; and for a spring temper, the whole is allowed to burn away. When the work is thick, or irregularly thick and thin, as in some springs, a second and third dose is burned off, to insure equality of temper at all points alike. Gun-lock springs are sometimes literally fried in oil for a considerable time over a fire in an iron tray. The thick parts are then sure to be sufficiently reduced, and the thin parts do not become the more softened from the continuance of the blazing heat. Springs and saws appear to lose their elasticity after hardening and tempering, from the reduction and friction they undergo in grinding and polishing. Toward the conclusion of the manufacture, the elasticity of the saw is restored principally by hammering, and partly by heating over a clear coke fire, to a straw-color; the tint is removed by very diluted muriatic acid; after which the saws are well washed in plain water and dried.

Perfumed Sealing-Wax, To Make.

Mix 1 per cent. of balsam of Peru, or liquid storax, with the ingredients of any fine sealing-wax, when considerably cooled. Essence of musk or ambergris will answer the same purpose. The sealing-wax melts easier if a little camphor or spirits of wine is added.

Seeds, How To Choose and Test.

There are certain signs by which to distinguish good from bad seeds, and old from new. A very good judge gives the following rules: When you want new seed peas, for example, put one from the stock into your mouth, and bite it. If it is very hard it is more than a year old; if the teeth enter it with moderate ease, it is new seed. New carrot seed always has a green shade on it; old seed loses this and is of a dead, pale brown, and has a less fragrant odor. New parsnip seed has a shade of green, which it loses if more than a year old. Onion seed is more difficult to prove than most other seeds, but if you take a single seed at a time, and carefully bite it, you will find that the old seed has a tough, dry skin, with a very white and harsh kernel, while new seed has a more tender, moist skin and the kernel possesses a greater degree of moisture, and is somewhat oily. Onion seed that has no vitality at all has no kernel, or one perfectly dry. Test this by pressing the seed on a piece of white writing-paper. If it leaves no moisture on the paper it is of no use, and has been tampered with, or has lost its vitality by age. The kernels of cabbage and of broccoli seed possesses a pale green shade when pressed out or cut, and a tinge of green in the brown skin also; but old seed loses this in proportion to its age, the kernels becoming of a dull, dark brown. The seeds of cabbage, broccoli, kales, &c., will retain their vitality longer than any other, and will grow well when 3 yrs. old, or even 6 yrs., if well kept. Beet seed has a faint tinge of pale green if new; but is a dull brown if old. New celery seed has a faint tinge of green, and is very aromatic; but it loses the green and becomes less fragrant if more than 1 yr. old, and its vitality is doubtful. Lettuce seed is of a bright silvery grey color, if new, and the kernel has a green tinge with it, both of which peculiarities it partially loses with age. Lettuce seed will grow very well 2 yrs. old, but above that age its vitality is doubtful. The black-seeded varieties can only be tested by the color of the kernel, which is the same as in the white-seeded. Radish seed always has a strong green color in the kernel up to 2 or 3 yrs. old, which changes to a dead, dirty whitish brown if past growing quality. Radish seed will, however, retain its vitality 4 or 5 years, although it will not do for early sowing at this age. New spinach seed is of a greenish-gray, but old seed is of a dead gray. Cucumber, melon and marrow seeds are of a bright creamy white when new, and the kernel of a pure white; while the outside becomes a dead pale brown, and the kernel a dead cream color when old. Either will grow very well up to 3 or 4 yrs. old; after that they are doubtful, unless they have been preserved very carefully.

Seeds, Storing and Preserving.

It is the decomposing elements in the surrounding air that destroy the vitality of seed; and, consequently, those which contain less oily matter, and have a porous shell, or skin, to the kernel, are the kinds that perish soonest. This does not matter so much for wholesale dealers, because they sell off their seeds and it is not so necessary for them to exclude the air, but for small seedsmen it is important. Those should keep their stocks in impervious canisters, bags or bottles, and then what stocks are left over at one season would be good for another. Tin canisters, such as those used by grocers for coffee and tea, are excellent for the storing of seeds—more convenient than bags or bottles, and quite as handy as

drawers. These canisters should be made of the very best tin, and have tightly-closing lids. A ring of vulcanized India-rubber at the lids would keep the air almost entirely excluded. For farmers who only keep them for their own use, the following directions are all that is necessary: A damp, close place is sure to injure most seed, especially salad and other kinds which are not good after the second year, while it impairs even those seeds like the melon and cucumber, and others which are usually good for several years. It is a bad practice to keep the seed in a tight, close box where they will generate moisture, while a hot and dry place is almost as bad. Before the seed is packed away in papers or bags, care should be taken that it is free from dampness, or else it will be sure to spoil. When it is dry—drying in the sunshine is best—and cool, it may be packed in paper or in bags carefully and properly labeled, and then put in the seed chest or box. Keep this seed receptacle in some cool, dry place and you will be reasonably sure of having your seed in good condition when you want it for planting, provided you keep the box or chest out of the reach of rats or mice, the latter being especially fond of such tempting food.

Sheep Feeding.

Every wool-grower will find it for his interest to provide warm, capacious and well-ventilated sheds for his flocks, with a convenient access to pure water. Racks that sheep are fed in should be made with tight bottoms, so that the chaff will not go through and be wasted, for that is the best part of the hay. By being made so, grain can be fed in them, thereby saving troughs. It is not well to winter too many in one flock. The size of the flock and convenience for keeping will determine their suitable classification. The strong and weak should be kept separately. A difference of opinion exists as to the number of times a day they should be fed, but the important thing is to feed them at regular intervals.

Sheep, To Wash.

The common method of washing is to select some favorable place in a brook where the water is about 3 ft. deep, the bottom hard and gravelly, and the current moderate, and then build a pen of rails sufficient to hold a large flock, and provided with a narrow opening toward the stream. Into this pen the sheep are driven through an opening, temporarily made for the purpose, at the rear. One man, perhaps aided by a boy, tends the flock and passes the sheep to the washers, who are standing in the stream. The sheep should have been previously tagged and freed from all soiled clots. The washing should not be done until the water has become so warm that the sheep may not be chilled and injured. Special care must be taken with old or sickly sheep, and ewes that are still with lamb. An exposure of the sheep to a warm rain the day previous to the washing is an advantage, as it softens and loosens the dirt and renders the washing easier and more thorough. As the sheep are washed they should pass out upon a clean, grassy slope that rises gradually from the stream; otherwise, the water-laden animals may fall and soil their fleeces. After washing, if the weather should suddenly turn cooler, the flock should be provided with shelter, to prevent their taking cold, as they would be very likely to do. From the time of washing to that of shearing, two weeks, or so, the sheep should be kept in a pasture that is

free from bare ground, overhanging banks, or steep side-hills, so that the wool may be kept clean.

A second method of washing, which is employed when the stream is small but somewhat rapid, is to arrange a spout for the passage of the water, and hold the sheep under the end—the water flowing upon the animal. In this way the washer does not go into the stream, and, if provided with rubber boots and apron, may keep himself comparatively dry. The washing by this method is very thorough, as the stream of clean water constantly flowing into and through the wool, carries off the impurities as they are removed from the sheep.

Shells, To Clean.

Boil strong ashes, and allow the lye to settle; pour this over the shells and boil them 6 or 7 hrs., or longer if they are large; then soak them, and wash them several times in fresh water.

Shells, To Color.

Dissolve, in a solution of chloride of tin, a little lac dye, boiling it first and then allowing it to stand to settle. Clean the shells thoroughly, and dip them in this solution until they are of the color desired.

Shirt Bosoms, Glossing for.

Put 2 ozs. of fine white gum arabic powder in a pitcher, pour on a pint or more of water, and having covered it, let it stand all night. The next day pour it from the dregs into a clean bottle, cork and keep it for use. Into a pint of starch, made in the usual way, stir a teaspoonful of the gum water, and it will give to lawns, either white or printed, a look of newness when nothing else can restore them.

French Silks, To Test.

Burn a small piece and see whether it turns to charcoal, as it should, or smoulders into a yellow, greasy mass, as it will, if heavily dyed.

Violet Silk, To Remove Acid Stain.

The discolored stain must first be brushed with iodine tincture. In a few seconds saturate the spot well with a solution of hyposulphite of soda. After drying gradually, the color will be perfectly restored.

Silks, To Wash.

Do not wring or crush silk when it is wet, for if the silk is thick and hard the creases thus made will remain in it always. The best way to wash silk is to spread it smoothly upon a clean board, rub white soap upon it; and then brush it until clean with a clean hard brush. Rub the silk until all the grease is extracted, then brush off the soap with clean cold water, applying it to both sides. If washed in hot suds, most colors, especially blue and green tints, will be extracted. To prevent the colors from running, dissolve a little alum in the last water that is

put on to the silk. For removing grease from silk, use a mixture of alcohol and camphene.

Smilax, To Raise.

With very little care this can be grown successfully as a house plant. The seed should be sown in a box, or in pots, in the house; they should be kept moist until the young plants appear. The seed being rather slow to germinate, you must not think it bad if it does not make its appearance in two weeks. The young plants should be potted off into three-inch pots as soon as they are three or four inches high. Once a year the bulbs should be allowed to dry off and rest; they will start into growth again in about six weeks. The vine does not require the full sun, but will grow in a partially shaded situation. It can be trained on a small thread across the window or around pictures. It is a climbing vine, and will attach itself to a string in about the right condition to use for wreaths, etc., or when required for lighter work the branches which become entangled can be separated.

Snails, To Protect Lettuce and Strawberry Beds from.

Surround the beds by a slate or board edging reaching 5 in. above the ground, and coat this frequently with a paste made of train oil and soot. In this way a barrier will be formed, over which the snails can not pass.

Asparagus Soup.

Take 50 stalks of asparagus, throw away the hard, woody part, and boil the remainder in a saucepan with 3 pts. of stock free from fat. When done remove the asparagus, pound it in a mortar, and pass it through a sieve. Melt about 1½ ozs. of butter in a saucepan on the fire, and mix with it 2 tablespoonfuls of flour, with a little sugar, pepper and salt in quantities proportioned to the asparagus pulp, which add with all the stock in which the asparagus was boiled. Let the whole boil up, adding as much more stock as will make the soup of the right consistence. Then put in a little spinach greening, and lastly a small pat of fresh butter, or stir in half a gill of cream. Serve over small dice of bread fried in butter. This is delicious.

Red Spiders, To Prevent Attacks of.

If the plants are well syringed a few times, the spiders will disappear. If this cannot be done with safety, the flues or pipes may be washed over with sulphur, and kept warm to raise an effluvia in the house, and the spiders will soon be eradicated. A little soft soap mixed with the water to syringe the plants with, will not injure the foliage of the plant, if it is not used when the scorching sun is upon them, but will destroy other insects as well as red spiders.

Stables, To Build.

Bricks, built in hollow walls, are better than any other material. Commence with a stone foundation—the bottom course of which is broader than the stone-work above it—laid in half cement mortar up to

the grade line, and then build the brick wall upon that, filling in all the space inclosed by the walls with concrete up to the line of the top of the water-table. Then pave with stones, firmly bedded to form a floor. On the outside there should be a stone water-table, 8 or 10 ins. high, projecting 1 or 2 ins. outside of the main walls above, and having the upper surface of the projection beveled off to shed the water. Just above the water-table, it is well to have a course of slate built in the full thickness of the walls, which will prevent any dampness rising up into them from the ground by capillary attraction. Above the water-table, the walls should be built up with a smooth face, and with close, neatly struck joints inside as well as out, so as to present a clean, even surface, which should always be kept painted or washed with a lime or cement wash. Above the wall-plate, the space should be filled in to the under side of the roof-boards. The ceilings over the main story should be lathed and plastered; partly for the sake of the neat appearance, partly to keep away cobwebs which infest exposed beams, and partly to prevent foul air rising from the room below, and tainting the hay-loft. The doors and windows inside should be trimmed with architraves, even if the latter be merely strips of the cheapest stuff. It may be desirable to fur out and lath and plaster the walls of a stable; but if this is to be done, it is better to wainscot with wood up to the height of, say 5 ft. and to fill in the space between the walls and the wainscot, as high as practicable, with broken glass and mortar, and then to lath and plaster from the wainscot up to the ceiling. A wooden stable, too, may with advantage be treated in the same way, but the space behind the wainscot being wider, may be packed with bricks and mortar, and made solid in that way.

Stains of Benzine, To Remove.

Apply a layer of gypsum to the stain, letting it extend a little beyond the moistened part. Shake and brush the powder off when dry, and the spot will have entirely disappeared. Spots left after removing grease from fabrics with benzine or petroleum, may be removed easily in this way.

Old Blood Stains, To Dissolve.

For this purpose use a solution of iodine of potassium in 4 times its weight of water.

Water-Proof Starch.

After properly starching the goods, pass them through a bath of chloride of zinc at about 60° Fahr. The clothes will retain the starch until after several successive washings.

Plant Sticks, To Prevent Rotting.

The bottoms of plant sticks can be kept from rotting for a long time by dipping them, as far as they are inserted into the ground, into hot asphaltum or tar 3 or 4 times, until a coating 1-16 in. thick is formed on them.

Oil Stones, To Face.

Scatter a little emery or fine sand, about as coarse as No. 1½ sand paper, on an iron plate with an even or straight face. Add a little water

to this and rub the face of the stone, renewing the supply of emery and water as often as necessary, and finishing with water without emery or sand. This will take only from 5 to 10 mins., and will make the stone perfectly straight and true.

Suffocation from Carbonic Acid Gas.

In these days of coal stoves danger often arises from escaping gas. The symptoms are difficulty in respiration, approaching suffocation, accompanied by drowsiness. There is a sensation of great weight in the head, and a loss of muscular power. Pour cold water over the head and back, placing the patient meanwhile where there is a free circulation of air. Rub the body, especially over the lungs, and apply strong stimulants to the mouth and nose. Finally inflate the nose by the mouth or bellows.

Sugar, To Clear All Kinds.

Dissolve a little gum arabic and a little isinglass in hot water; pour this into the sugar when boiling, and all sediment will rise to the top and can be skimmed off as it rises. To clear loaf sugar, use gum arabic, isinglass, or the white of an egg.

Sweetbreads, Fricasseed White.

Thicken some veal gravy with flour and butter mixed; add a little cream, a little mushroom powder, some white pepper, nutmeg and grated lemon-peel; stew these ingredients together a while; blanch and slice the sweetbreads and let them simmer in the above mixture 20 mins. Take from the fire, add a little salt and lemon-peel, stir well and serve.

Tortoise, Shell or Horn, To Polish.

Scrape the surface perfectly smooth and level, and rub it with very fine sand paper or Dutch rushes. Then rub it with a piece of felt dipped in very finely-powdered charcoal with water and after that with putty-powder or rotten-stone. Finish with a piece of soft wash-leather, dampened with a little sweet oil, or rub it with sub-nitrate of bismuth by the palm of the hand.

Moss on Fruit Trees, To Destroy.

Fruit trees should be well scrubbed with a scrubbing-brush, dipped in strong brine, in such a way as to moisten every part of the bark of the stem and branches, every second year. In this way all kinds of insects will be destroyed as well as the moss. The brine is beneficial to all trees, but lime applied to trees choke the respiratory pores and often causes canker.

Large Shade Trees, To Transplant.

Dig a trench around the tree and cut the roots, but not too near the tree, in the autumn before the first frost. In the winter, when the ground is frozen, remove the tree, taking with it the frozen ground that adheres to the roots. In this way trees from 20 to 30 ft. high can be

moved and will begin growing again in the spring. The tree, and earth around the roots, can be raised on to a strong sled with levers, and then drawn erect to the place where you wish to plant it.

Trees, Cleft Grafting of.

Trees may be grafted in the limb after they have grown to a large size, provided they are sound and healthy. Limbs from ½ in. to 2 ins. in diameter may be grafted. This is usually done by what is called "cleft grafting." The limb is sawed off at the place where the graft is to be set, and the top of the stub trimmed with a sharp pocket-knife; it is then split at the center by a sharp, slightly-curved grafting knife, and a wedge driven in the center of the split. The grafts are pared at the lower end into a wedge shape, the slope being an inch or more in length. It is inserted into the cleft, care being taken to have the sap avenue, between the bark and the wood, in the graft and stub, come in contact, and as much of the length of that part of the graft inserted as possible. The wedge is then removed, and the top of the stock covered with grafting-wax, as also the slits on each side of it, thoroughly, so as to effectually exclude air and moisture. Where the stub is more than ½ in. in diameter, 2 grafts should be inserted in each. This makes the pressure on the inserted part of the graft more even, and gives two chances instead of only one to have a living graft. It is well to cover the top of the graft with a thin coating of wax, this preventing the heat of the sun from damaging the upper part, and often from killing the upper bud. If both scions grow, one should be subsequently sawn off close to the stub, for if both are allowed to grow they will form a crotch that may in the future be as detrimental as it would be unsightly.

There is another method of limb grafting which may be employed when the season is far advanced, and the bark "slips" or fails to split at the cleft in the wood, so as to render cleft grafting difficult and often impracticable. It is to prepare the stock as in cleft grafting, then slit the bark, and if the stub be over an inch in diameter, on both sides downwards for the space of an inch or more. Raise the corners of the bark slightly with the point of a knife-blade; then insert a wedge made of iron or hard-seasoned wood, in the slit and loosen the edges of the bark. This being done, cover the top of the stub and the slits with wax. These methods of grafting may be practiced on apple, pear, plum, and some other fruit trees, but for peach trees budding should be done later in the season, usually in the months of August and September.

Wounds on Trees, Composition for Healing.

Mix 3 parts of powdered chalk and 1 part of common vegetable tar thoroughly, and boil them with a low heat till the composition becomes of the consistence of bees'-wax: in this state it may be preserved for use any length of time. Dry brickdust may be used instead of chalk. When a broken or decayed limb has been sawed off, the whole of the saw cut should be pared away, and the rough edges of the bark made quite smooth. The wounded place should then be covered with the above composition, about the thickness of half a dollar. It should be spread on hot with a hot trowel, the edges of the bark also being covered.

Old Veneers, To Raise.

To get rid of the blisters that appear on the surface of old cabinet furniture, try the following: Wash the surface with boiling water, removing all the dirt and grease with a coarse cloth; place it before the fire till dry; oil the surface with linseed oil, and place it again before the fire. The heat will make the oil penetrate the veneer and soften the glue underneath. While hot, raise the edge gently with a chisel, and the veneer will separate completely from the ground. If too much force be used the work will be spoiled. If during the operation the work gets cold, apply more oil and heat as before. When the veneer is entirely separated from the ground, wash off the glue, and lay it again as a new veneer.

New Wooden Vessels, To Remove Disagreeable Taste from.

After scalding them with boiling water, add to some pearlash or soda, dissolved in lukewarm water, a little lime, and wash the inside of the wooden vessel thoroughly with the solution. Before using, scald it well with plain hot water.

Gravel Walks, To Make.

Lay the bottom 8 or 10 ins. deep with lime rubbish, large flint stones, or any other hard material, to prevent the weeds growing through; over this the gravel should be laid 6 or 8 ins. thick. The gravel should be laid rounding up in the middle, so that the larger stones will run off to the sides and may be raked away. These walks should not be laid too round, as that makes them hard to walk on and lessens their apparent breadth. The rise in the middle should not be more than 1 in. in 5 ft.—a walk 20 ft. wide being only 4 ins. higher at the middle than at the edges. When the gravel has been laid, it should be raked and the large stones thrown away; then roll the walk, both crosswise and lengthwise. If the walks are rolled 3 or 4 times after very hard showers, it will bind them more firmly together than could be done in any other way.

Weeds in Walks, To Prevent Growth of.

The growth of weeds in walks may be prevented by sprinkling them with a weak solution of carbolic acid. As carbolic acid is a virulent poison, the solution should not be stronger than 1 part of pure carbolic acid to 1,000 to 2,000 parts of water. If the solution is too strong larger plants may suffer, but a very weak solution destroys only small plants and animals. Flies and mosquitos may be driven away by it, as they dislike its odor.

Warts.

Fungous growths frequently appear upon different parts of the body, but most frequently about the mouth, nose and lips. Upon colts they are often found in large numbers about the lips. Usually they will be rubbed off, or drop off themselves, but, if they do not, becoming larger

and more deeply rooted, they may be cut off by passing a needle through the center, with a double thread, which is then tied tightly around the neck on each side. This keeps the ligatures from being rubbed off. Sometimes they are removed by being painted over a few times with the permanganate of potash, and sometimes they are cut off with a knife.

Wash To Prevent Cattle from Barking Trees.

Mix ½ of cow dung and ½ of lime with some water, to the consistence of thick lime wash, and wash the stems of the trees as far up as the cattle can reach.

Washing, French Composition for.

To 1 lb. of hard soap, dissolved in 6 gals. of water, add ½ oz. of spirits of hartshorn, and ½ oz. of spirits of turpentine.

Javelle Water.

Small quantities of Javelle water will render the most soiled linen perfectly white. To make it, put 4 lbs. of sal soda in a vessel over the fire; add 1 gal. of boiling water, and after boiling 10 or 15 mins., add 1 lb. of chloride of lime, by throwing it, free from lumps, into the soda water. Pour into a jug or large bottle, and cork tightly when cold. If you wish to make a large quantity, stir 5 lbs. of chloride of lime into 2 pails of warm water; dissolve 4 lbs. of sal-soda in 1 pail of water, also 10 lbs. of glauber salt (sulphate of soda) in 1 pail of water. Pour the contents of the 4 pails together, and keep the mixture in a tight vessel. This will last a long time, as a dipper-full of the mixture will bleach a large quantity of cloth.

Artificial Sea Water for Aquaria.

Mix 100 ozs. of fresh water with 3 ozs. of common salt, 1 oz. of Epsom salts, 200 grains of chloride of magnesium, and 40 grs. of chloride of potassium. This is a rough imitation of sea water, the real constitution of which may be imitated as follows: Mix 27,000 grs. of chloride of sodium, 3600 of chloride of magnesium, 750 of chloride of potassium, 2300 of sulphate of magnesia, 1400 of sulphate of lime, 35 of carbonate of lime, 5 of iodide of sodium, and 29 of bromide of magnesium, with 970,000 grs. of rain water. The solid ingredients should be finely powdered and mixed before they are stirred into the water. The water must not be boiled or heated, but a stream of air may be caused to pass through it from the bottom until the whole is dissolved. The rocks and seaweeds may be placed in the water as soon as it is clear, and when they are in a flourishing condition the animals may be introduced. Of these there must be but few, and any that die must be immediately removed. Clean water should be added occasionally to take the place of that which has evaporated. Whether the water be fresh or salt, the aquarium will sometimes require artificial aeration. To do this, blow through a glass tube which reaches near the bottom of the aquarium, or having filled a glass syringe with water, hold it with the nozzle about 2 ins. above the surface of the water, into which discharge the contents quickly, and

with a sort of jerk. In this way a multitude of small bubbles will be forced down into the fluid. Repeat the operation a number of times.

A Cheap Well.

Dig down to a depth of 5 or 6 ft. a hole 4 ft. in diameter; brick it up—using water-lime mortar. Below this dig your well in diameter a little less than the bricked top, and, as you go down, plaster the dirt or sand on the sides with water-lime mortar. A well dug and plastered in this way costs one-half the price of an ordinary well of the same depth and diameter, and is proof against all kinds of vermin, nor can any dirt wash down from the sides. There is no need of cleaning such a well, as there is no accumulation of filth in it. The bricking at the top is done to avoid injury from frost, as the plaster peels off where the ground behind it has frozen.

Wells or Chimneys, To Examine.

To examine the bottom of a well, hold a mirror so as to reflect the sun's rays in the water in such a way that anything floating on the surface can be plainly seen. The smallest object on the bottom can also be distinguished if the contents of the well are not turbid. Objects dropped in wells 60 ft. deep, and that contained 20 ft. of water, have been found in this way. If the objects are very small, or you wish to make a minute examination of the bottom, you may use an opera glass. When the top of the well is not exposed to sunlight, you can place a mirror outside, even at some distance, so as to reflect the light over the top of the well, where a second mirror may be so placed as to reflect it downward. The above method is much better than using any artificial light, as the latter is weak compared with sunlight, and its glare prevents distinct vision. Employing two mirrors, one outside to reflect the solar rays into a room and a smaller one in its path to reflect the rays into a dark cavity, is used by physicians for examining the cavities of the body. If you wish to examine a chimney, hold a piece of looking-glass at an angle of 45°, in the hole in the chimney into which the stove-pipe is to go, or in the open fire-place. If you can see the sky, you can also see the whole interior of the chimney, and if there is any obstruction in the way it also will be visible.

Whetstones, Kerosene Oil for.

Kerosene oil keeps the whetstone in better condition than any other liquid, and assists in the operation of sharpening. In fact it is superior to any other liquid for the purpose.

White-wash, Treasury Department.

Slack ½ bush. of lime with boiling water, and keep it covered during the process. Strain and add 1 pk. of salt dissolved in warm water; 3 lbs. of ground rice put in boiling water and boiled to a thin paste, ½ lb. of powdered Spanish whiting, and 1 lb. of clear glue dissolved in warm water. These should be well mixed, and the mixture allowed to stand for several days. This wash should be kept in a kettle or portable fur-

nace, and when used put on as hot as possible with painters' or whitewash brushes.

Wood, To Cement Emery to.

For this, equal parts of shellac, white resin, and carbolic acid in crystals are required. Melt together the shellac and the white resin, and then add the carbolic acid, the effect of which is surprising. This forms a cement that is wonderfully tough.

RULES TO REMEMBER.

THE SWINDLER, HOW TO AVOID HIM.

Never sign any contract with a stranger who has not good recommendations. Book agents, nursery agents, etc., require names in columns headed by the leading men of your vicinity. If a book can not be indorsed by intelligent leading men it is not worth buying. When a stranger wants to make an agent of you, and presents you with a printed contract, ask to be excused. If you will take the pains to read two-thirds of each line, omitting one-third, (the right hand), you will find that he wants you to sign a note. Such a man ought to be dealt with as you would deal with a man who attempts to pull down the United States flag.

Never sign an order for a lightning-rod, or for any other work that is to be done, for which you are to pay money. Allow the person to finish the work and then pay him.

Never believe any traveling agent or any advertisement that promises you something for nothing. In other words, do not imagine that you are going to get an article worth a good many dollars by the payment of 25 or 50 cents. Be sure there is some humbug about it. People do business to make money, and not to give away things for the accommodation of the public. But there are thousands of such traps set to catch the unwary.

Pay no attention to circulars which promise you some article at greatly reduced price if you will simply show it to your neighbors. Especially be on the lookout if it is claimed that it is sent to you because the proprietors have had you favorably recommended to them. You are sure to be humbugged and lose your money if you forward it in response to such a circular.

Do not purchase goods of any pedlar which you know to be far below the market price. It is certain you are getting swindled in some way in the quality, or it is damaged, or he has not obtained them honestly.

Never buy a note of a stranger against your neighbor without full investigation. Be not over anxious to be an "innocent purchaser." You may exhibit too much innocence.

Be not hasty to hire a traveling doctor, who can cure anything from a sore toe up to consumption.

An old farmer worked 20 hrs. in a day in his younger days to clear up his farm. Now he is still ambitious, but unable to work. An itinerant doctor comes along, and promises a certain cure for wasted energies and shattered nerves. The old man only needs rest and healthy food, a temperate and quiet life, that he may enjoy all of life that belongs to him. The stranger makes him believe to the extent of $25 or $50, one-half to be paid down, and the balance to be paid when health is restored. The old man's money is gone, and he never sees the doctor again; though he

has one satisfaction—he can keep the other half. Is it not singular that this swindle is repeated every few years, and the rascals never fail to find new victims?

Never send money to a stranger through the mail, expecting a sure cure for anything. Better call on your family physician.

Never send for a recipe advertised by some benevolent person who offers to send it gratis. You will learn that your druggist does not keep the article, and you must send to the advertiser. After you have parted with your money, you will find that you have been swindled. Better go to your recipe book.

When you have an important instrument of writing to be drawn up, be sure that you employ an attorney who understands his business, even though another man offers to do it for nothing. Most of the litigation among farmers comes from a want of form in papers, or in a loose way of making bargains.

Farmers should do a cash business, as far as possible. Many a farmer trusts out the profits of forty acres of land to irresponsible persons, in small quantities. Trust only those whom you know to be reliable.

Be careful about paying money to a stranger on a verbal order. "Madam," says the stranger, "your husband told me to call on you for $2, which I loaned him a few days ago." The good wife pays the money, and afterward learns that she is short $2, and the scamp cannot be found.

Never buy patent-rights of any kind with the intention of selling territory to make money. It is not a farmer's business. Manufacturers and machinists should buy them. Be not too hasty in buying even farm-rights. Sixteen years ago an acquaintance of the author made $20 a day by selling farm-rights to make a gate. Not one of those gates has ever been made by either of his dupes. Better have the gate put up and pay for it when finished.

Never allow yourself to be persuaded to sell your farm and go into mercantile business if you were brought up a farmer, nor swap your farm for a store full of goods. Do you think you could go into a wagon shop and make a wagon? Could you make or clean a watch? Could you succeed as a lawyer without preparation? No? Then what makes you think you could be a merchant? Many a farmer has tried this to his sorrow.

Further: It is not safe to quit farming for any business you do not understand. Swapping a farm for a steam saw-mill is quite common. Not one man in twenty ever succeeds. A friend of mine once disputed this, and boasted that he learned the business readily, and would have done well except that he was swindled out of a few thousand dollars by dealers. Yes, truly; but he had to learn that dealing in lumber is a part of the trade. Stick to your farm, or that "if" may come up in some unexpected form.

Finally: Keep clear from all speculations. The most unlucky hour of your life may be when you decide to live without manual labor.

Business Law.

The following brief compilation of business law is worth a careful preservation, as it contains the essence of a large amount of legal verbiage:

It is not legally necessary to say on a note "for value received."

Contracts made on Sunday cannot be enforced.
A note by a minor is void.
A contract made with a minor is also void.
A contract made with a lunatic is void.
A note obtained by fraud, or from a person in a state of intoxication, cannot be collected.
If a note is lost or stolen, it does not release the maker; he must pay it, if the consideration for which it was given, and the amount, can be proven.
An endorser of a note is exempt from liability if not served with notice of dishonor within 24 hrs. of its non-payment.
Notes bear interest only when it is so stated.
Principals are responsible for the acts of their agents.
Each individual in a partnership is responsible for the whole amount of debts of the firm.
Ignorance of the law excuses no one.
It is a fraud to conceal a fraud.
The law compels no one to do impossibilities.
An agreement without consideration is void.
Signatures made with a lead pencil are good in law.
A receipt for money is not always conclusive.
The acts of one partner bind all the rest.
A note made on Sunday is void.
If the time of payment of a note is not inserted, it is held payable on demand.
An oral agreement must be proved by evidence. A written agreement proves itself. The law prefers written to oral evidence, because of its precision.
The time of payment of a note must not depend upon a contingency. The promise must be absolute.
A bill may be written upon any paper, or substitute for it, either with ink or pencil.
The payee should be distinctly named in the note, unless it is payable to bearer.
The loss of a bill or note is not sufficient excuse for not giving notice of protest.
If two or more persons as partners are jointly liable on a note or bill, due notice to one of them is sufficient.
If a note or bill is transferred as security, or even as payment of a pre-existing debt, the debt revives if the bill or note be dishonored.
An indorsement may be written on the face or back.
An indorser may prevent his own liability to be sued by writing "without recourse," or similar words.
No consideration is sufficient in law if it be illegal in its nature.
Checks or drafts must be presented for payment without unreasonable delay.
Checks or drafts should be presented during business hours, but in this country, except in the case of banks, the time extends through the day and evening.
If the drawee of a check or draft has changed his residence, the holder must use due or reasonable diligence to find him.

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