

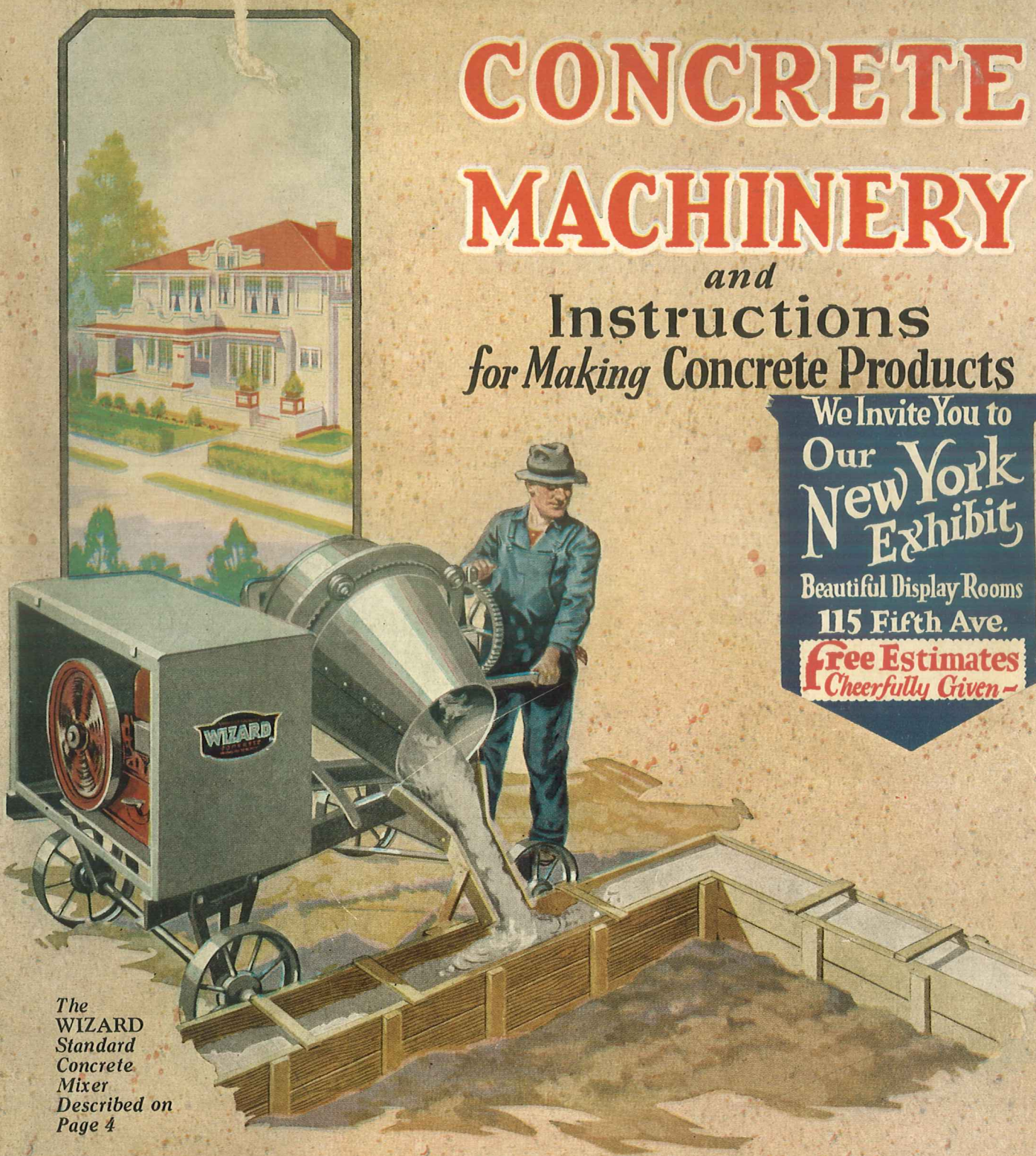
CONCRETE MACHINERY

and
Instructions
for Making Concrete Products

We Invite You to
Our
New York
Exhibit

Beautiful Display Rooms
115 Fifth Ave.

Free Estimates
Cheerfully Given



The
WIZARD
Standard
Concrete
Mixer
Described on
Page 4

Sears, Roebuck and Co.

Chicago - Philadelphia - Minneapolis - Kansas City
Atlanta - Memphis - Dallas

A GUARANTEE

Backed By \$100,000,000.00

DALLAS STORE
LOS ANGELES STORE
CHICAGO STORE
MINNEAPOLIS STORE
MEMPHIS STORE
SEATTLE STORE
KANSAS CITY STORE
ATLANTA STORE
PHILADELPHIA STORE

Certificate of Guarantee

WE GUARANTEE ALL CONCRETE MACHINERY ILLUSTRATED AND DESCRIBED IN THIS CATALOG TO BE EXACTLY AS REPRESENTED AND TO SATISFY YOU PERFECTLY IN QUALITY AND SAVING.

WE GUARANTEE THAT AFTER THE SHIPMENT HAS BEEN EXAMINED, IF IT DOES NOT COME UP TO YOUR EXPECTATIONS IN EVERY RESPECT, BY NOTIFYING US IN WRITING IT CAN BE SHIPPED BACK AT OUR EXPENSE AND WE WILL PROMPTLY RETURN THE ENTIRE PURCHASE PRICE AND ANY FREIGHT CHARGES THAT MAY HAVE BEEN PAID BY YOU.

THIS GUARANTEE IS BACKED BY THE ENTIRE RESOURCES OF OUR WHOLE INSTITUTION AMOUNTING TO OVER ONE HUNDRED MILLION DOLLARS AND BY THE TESTIMONY OF ELEVEN MILLION SATISFIED CUSTOMERS.

Sears, Roebuck and Co.

QUALITY GUARANTEED

A PLAIN, easily understood Guarantee tells you exactly what your protection is when you buy Sears Concrete Machinery. Just an honest statement that says—if, for any reason the machine fails to come up to expectations, if it does not perform as efficiently as other machines, or if you do not believe that you have saved money, you can return it and we will refund the full price together with all transportation charges.

This is the guarantee that has gone with every Sears Concrete Machine for the past 25 years. Guarantees like this are easy to make. To live up to them is something entirely different. Look behind the guarantee, for here you will find its real value. This guarantee that is given to you is backed by the entire resources of this vast company—one hundred million dollars. This is the protection that safeguards your purchase.

We want you to be the sole judge of the genuine built-in quality and faithfulness of Sears concrete machinery. We want you to make a thorough comparison with machines of other make. Consider the sturdiness of Sears machines, with no excess parts and the speed and thoroughness of the work that it does. We believe that you will then be convinced that you have a better machine than you could buy any place else for the money.

Make This Ten-Day Test at Our Expense

ORDER the machine you need, in the regular way, and when it reaches you, give it a thorough ten-day test on the job. Don't spare it any work; give it full capacity loads at full rated speeds and watch the results that you will get. If, at the end of the ten-day trial period you are not entirely satisfied with your purchase, you may return it at our expense and we will refund to you the full price together with any transportation charges that you have paid. You be the judge. We want you to be convinced that dollar for dollar you can't buy better concrete machinery.

Sears power mixers are built so that their capacities are in accordance with specifications established by the Associated General Contractors of America. In order to comply with these standards, a machine must be capable of efficiently mixing a certain specified batch of materials. All Sears machines approved by the association bear a metal tag which states the capacity load and various proportions of mix. This means added protection and an additional guarantee to the purchaser of Sears concrete machinery—the safest kind of machinery for the contractor, products manufacturer or farmer to invest in.

NOW!

The WORLD'S Biggest Bargain~

Made in
4-Wheel
Standard
and
2-Wheel
Trailer
Types

WIZARD
CONCRETE
MIXER

POWERFUL
1 $\frac{3}{4}$ -H.P.
GASOLINE
ENGINE

FULL
3 $\frac{1}{2}$ -S
CAPACITY

10 DAYS'
FREE
TRIAL

SATISFACTION
GUARANTEED

See
Pages
4 and 5

for a REAL GOOD
CONCRETE MIXER

Contractors
Concrete Products Manufacturers
AND
Users of Concrete in General

Now! the biggest bargain ever offered on mixers of such quality as this. Check carefully the specifications on pages 4 and 5! Compare them if you will with others. Look again at the price! This is the most remarkable value ever offered in the light mixer field.

Frankly—you could not buy a better mixer or one better suited for its purpose at anywhere near this low price. In design, material, construction, speed, capacity and ease of operation it offers the results of a quarter of a century of experience in the manufacturing of high grade concrete mixing machines.

Other Big Values

Nor is the Wizard Mixer the only big value we offer you in this new book. Here is the most complete line of concrete machinery in existence. You will find here Concrete Machinery that is sturdy and ruggedly built for the severest kind of service. You can depend upon it for day in and day out service the year round. All are big values at the prices quoted. Nowhere else can you buy as good equipment for as little money. The fact that we ship direct to you from the factory makes our low prices possible.

10 DAYS' FREE TRIAL

Make your selection now. Our guarantee assures you satisfaction. All machinery is shipped with the understanding you can give it a thorough trial for 10 days. Just send our low price with your order and we will send you this wonderful concrete mixer, then if you are not satisfied you may send it back, and we will return your money including all transportation charges you may have paid.

Only
\$164⁴⁵

Sears, Roebuck and Co.
The World's Largest Store

INDEX CONCRETE MACHINERY INDEX

Here YOU WILL FIND the SIZE MACHINE YOU NEED

FOR THE FARMER or SMALL MANUFACTURER



TRIUMPH Handy Fellow Concrete Mixer
Capacity, 1½-2 Cu. Ft.

A full tilting drum type of mixer. For power or hand operation. The ideal small size mixer for concrete, feed, etc. Can also be furnished with 4-wheel truck mounting. **See Page 7**



WIZARD Junior Concrete Mixer
Capacity, 3 Cu. Ft.

Full tilting drum type of mixer. Can be operated by hand or power. Mixes mortar, plaster, concrete or feed. Can also be furnished with 4-wheel truck mounting. **See Page 6**



SPARTAN Concrete and Feed Mixer (With Tray)
Capacity, 3 Cu. Ft.

Box drum type of mixer with tray that hooks underneath the drum and catches concrete. For small batches of concrete and feed. Mixes perfectly with 8 turns of drum. **See Page 8**



SPARTAN Concrete and Feed Mixer (Without Tray)
Capacity, 3 Cu. Ft.

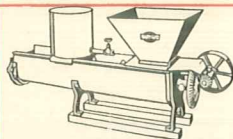
Same as the mixer shown at the left, only without tray. The ideal machine for all around general farm use. A good mixer for fertilizer, feed, etc. **See Page 8**

FOR THE SMALL CONTRACTOR and MANUFACTURER



WIZARD Concrete Mixer Junior
Capacity, 2½ Cu. Ft.

Hand or power tilter. For foundations, walks, etc.; also with truck. **See Page 6**



HARVARD Concrete Mixer (Paddler-On Skids)
Capacity, 2 Cu. Ft.

For batch or continuous concrete mixing. **See Page 8**



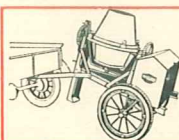
HARVARD Concrete Mixer (Paddler-On Truck)
Capacity, 2 Cu. Ft.

The same mixer as shown at the left, only mounted on a 4-wheel truck. **See Page 8**



WIZARD Standard Concrete Mixer
Capacity, 3½ and 2½ Cu. Ft. (Slush)

A light, strongly constructed and inexpensive mixer for the small or medium size job. Quickly and easily moved; also furnished in 2½ Cu. Ft. (Slush) capacity. **See Page 4**



WIZARD Trailer Concrete Mixer
Capacity, 3½ and 2½ Cu. Ft. (Slush)

The same machine as our Standard model, except that it is equipped with rubber tired trailer chassis. Can also be had in the 2½ Cu. Ft. (Slush) size. **See Page 5**

FOR THE LARGE CONTRACTOR and MANUFACTURER



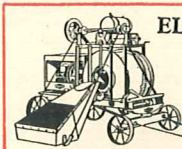
ELLIS Mixing Unit (Powerless-On Skids)
Capacity, 3 to 5 Cu. Ft. (Dry)

Non-tilting type drum. A well built machine. Pulley can be fitted for power drive. **See Page 13**



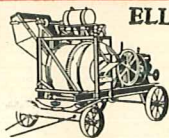
ELLIS Mixing Unit (Powerless-On Truck)
Capacity, 3 to 5 Cu. Ft. (Dry)

The same type machine as the one shown on the left, only fitted with 4-wheel truck. **See Page 13**



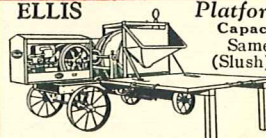
ELLIS Giant Concrete Mixer (Side Loading)
Capacity, 3½ Cu. Ft. (Slush)

Non-tilting drum type mixer. Quick mixing and rapid discharge features. **See Page 10**



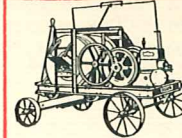
ELLIS Giant Concrete Mixer (Side Loading)
Capacity, 7 Cu. Ft. (Slush)

The same mixer as the 3½ Cu. Ft. (Slush) model, only double capacity. **See Page 11**



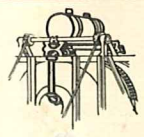
ELLIS Platform Concrete Mixer
Capacity, 3½ Cu. Ft. (Slush)

Same as Ellis 3½ Cu. Ft. (Slush) Giant but has heavy, hinged loading platform. **See Page 12**



ELLIS Platform Concrete Mixer
Capacity, 7 Cu. Ft. (Slush)

Same as Ellis 7 Cu. Ft. (Slush) Giant, but has strong loading platform. **See Page 13**



ELLIS Automatic Water Tank

Automatically measures the proper amount of water needed for every batch of concrete. Insures uniformly good concrete. For all Ellis mixers. Cap., 20 gal. **See Page 11**

All Articles in This Book Are Shipped From OHIO Factory

from which point customer pays the transportation charges. This is in accordance with our policy of paying postage only on items which can be conveniently handled by Parcel Post.

ELLIS Plant Equipment Mixer, Tamper and Block Machine

Time and labor saving equipment for the up to date products plant. New model, large capacity. **See Pages 24 and 25**



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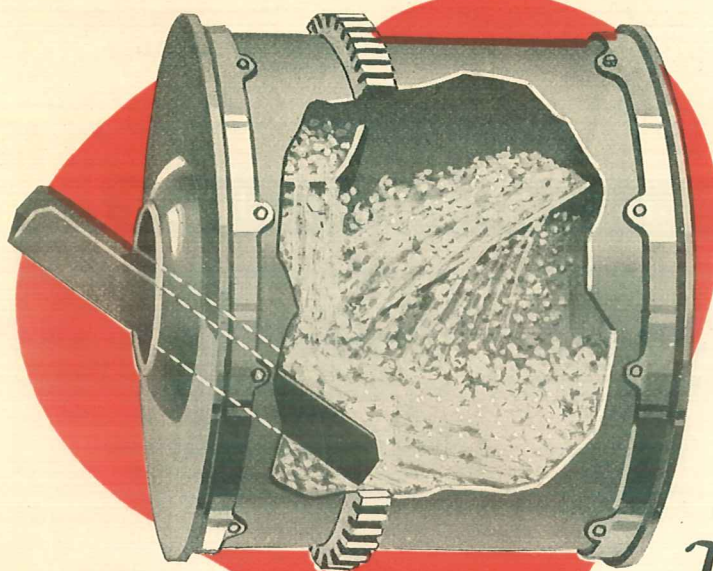
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The 2 of THOROUGHLY MIXING Best Ways GOOD CONCRETE

The heart of your mixer is the drum, for here lies the secret of uniformly good concrete. Contractors, concrete products manufacturers, and other makers of concrete have long known this fact. Today, for all general purposes, there are but two accepted ways in which good concrete can be mixed: With the tilting and non-tilting types of drums. Each method has its own field where it is superior to any other method of making concrete. The WIZARD Mixing Machines use a drum of the tilting type, because it has been proved that on

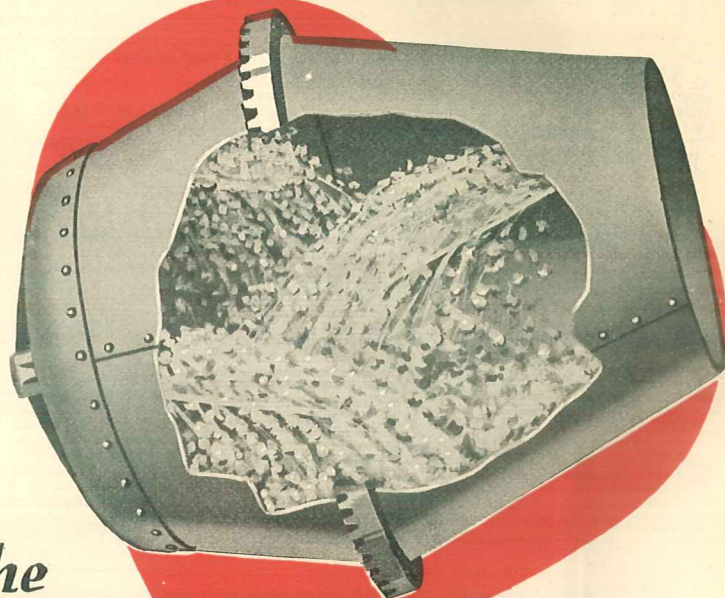
machines of the WIZARD style this type of drum action is the best. The ELLIS Mixing Machines use a drum of the non-tilting type, because they have proved superior on machines of heavier construction. Concrete, mixed with either of these methods is uniformly high in strength. The mix is quick and easy, and every batch is of the same thoroughly mixed quality. Each is so designed that the mixture is folded, kneaded and agitated until every particle is thoroughly covered with cement and has become a uniform mass of concrete.



The HEART of the MIXER

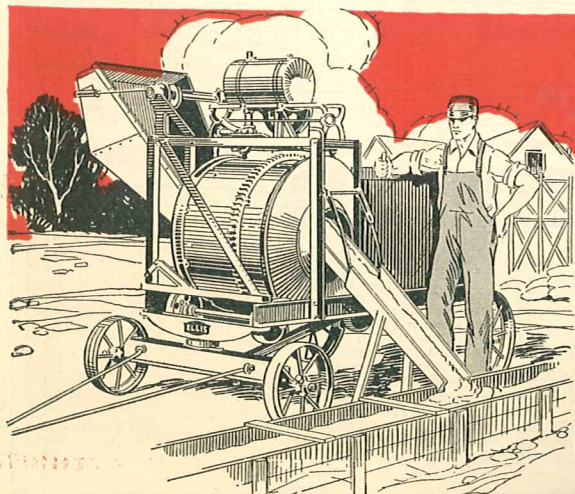
Non-Tilting Drum Action

The action employed in the ELLIS non-tilting type of drum action is one of the most complete known. The mixing is carried on through the revolving of the drum and the action of five buckets, placed at intervals around the inside of the drum on one side, and five diagonally placed blades on the other side. The mixture is carried up by the buckets, and through the force of gravity falls to the bottom of the drum, where it is forced again into the buckets by the action of the mixing blades. The falling of the mixture, kneading, folding and repetition of this action produce a quick, easy and thorough mix.

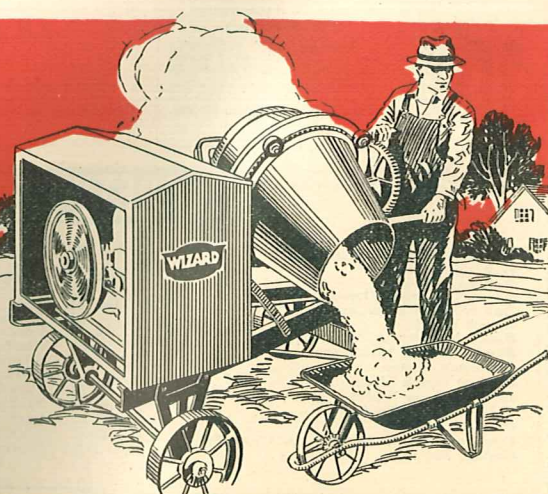


Tilting Drum Action

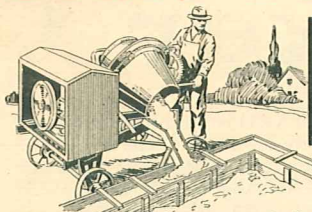
The mixing action employed in the tilting type of drum is what is known as the end to center action. The inside of the double cone drum is constructed with three double sets of paddles. These are placed at scientifically correct angles so that as the drum revolves, as shown in the illustration, the mixture is forced to the center of the drum, where it is folded, kneaded and then gradually, through the action of the paddles and gravity, worked to the outside of the drum, to be forced again toward the center. This action is complete and, in a surprisingly short time, thoroughly mixes the entire batch.



RAPID LOADING, fast mixing and quick discharge. These are the things that spell economy for the manufacturer of concrete. In WIZARD and ELLIS mixers wide openings permit rapid loading of material. Scientifically correct placing of buckets and blades in the drum insure fast and thorough mixing. The ELLIS non-tilting drum empties itself thoroughly and rapidly through the scoop-like action of its buckets, which pick up the concrete and dump it into the wide discharge chute. The WIZARD tilting drum pours its contents out in the same manner as water is poured from a bucket. Both are fast and self cleaning.



Sears Concrete Machinery-Its Hidden Value



Good machinery is something more than just so much cold steel. It may operate perfectly and do a job better than any other machine. This is not enough, though. There is something else that is of greater importance. The careful buyer wants to know what kind of a company made the machine, if it will give satisfactory service, how long it will last and whether it will always be easy to get repair parts. The fulfillment of these represents the hidden value—the things about a good machine that can't be seen. Sears concrete machinery has a far greater hidden value than the price you pay.



25 Years' Manufacturing Experience

Twenty-five years as specialists in the marketing of high grade concrete machinery. In this course of time designs have continually been brought up to date. Purchasers have been able to feel that every model embodies the very latest improvements. In all these 25 years our concrete machinery has been manufactured by the same factory. This is a record

Sears Absolute Guarantee

In guaranteeing our concrete machinery we leave nothing to your imagination. Just a simple statement of facts that constitutes the most liberal guarantee that could possibly be given. In years to come, this guarantee is just as valuable to you as it is the day you buy your machine. It is a thorough protection to you for back of it lies the character, honesty and integrity of the entire Sears, Roebuck and Co.

that can stand only as long as the quality of the product and the policy of selling are both of the highest type. Sears concrete machinery has stood the tests of time. Every machine is the product of 25 years of concentrated manufacturing experience, during which time it has been our pleasure to serve thousands of users with better concrete machinery.

10 Days' FREE Trial

To our knowledge we are the only company selling concrete machinery on the "10-Day FREE Trial" basis. Consider what this means to you. You take no risk. Order the machine that you think will fill your needs, in the regular way. Put it to work for 10 days. Give it your hardest jobs and if it does not come up to expectations send it back and we will return your money with any transportation charges you have paid.

24-HOUR SERVICE in Shipping REPAIR PARTS

The machine that will run year after year and perform hard grueling service without needing an occasional repair part has never been made. We claim of Sears concrete machinery that it is as good as any and a great deal better than most machines that are on the market selling at much higher prices. And while these machines will run with very little upkeep expense you are bound to have an occasional accident and

some wear. Breakdowns are troublesome and expensive. Sears repair part service has reduced this to a minimum by guaranteeing to ship parts within 24 hours. Five, ten, fifteen, twenty years from now we will still be able to furnish repair parts for the machine you buy today. This is just a part of Sears unexcelled repair part service, which constitutes a portion of the hidden value behind all Sears machines.

Outstanding Features That Make SEARS MIXERS the Most Economical for You to Buy

There are many reasons why Sears are in a position to sell concrete machinery to you at prices that are considerably lower than anywhere else. When you buy from Sears, Roebuck and Co., your machine is

Improved Principles of Construction

All the latest, worthwhile improvements will be found in Sears concrete machinery. In addition, you will also find many labor saving devices on Sears machines that are not on others. When you select a model from this line of concrete machinery you buy with the full assurance that your machine represents the very highest in engineering development. Up to date labor saving designs.

Ease and Speed of Operation

The most economical concrete mixing machine for you to operate is the one that mixes most thoroughly, most quickly and dumps the fastest. For the job that must be done in a hurry, the one that calls for the fullest capacity of day's work, or for the steady day in and day out grind—in all these you will find Sears machines in all parts of the United States giving their owners more than an honest day's work. Ease and speed of operation is part of the makeup of these machines—it is one of the reasons why so many owners buy their second and third Sears machine.

shipped direct to you from the factory. All excess charges for warehousing, freight, handling and dealer's profits are eliminated. You get the most in high quality concrete machinery that your money could buy.

Simplicity of Mechanical Design

In designing concrete machinery Sears engineers have sought to build machines that would be free from a great number of small parts. However, this had to be accomplished without sacrificing any part of the machine's usefulness. Men who have worked with other machines have but to look at Sears machinery to know that the absolute minimum number of parts have been used.

Economical Operating Expense and Upkeep

Simplicity of design, fewer moving parts, perfect lubrication and the use of a reliable power unit that will run on a low fuel consumption—these are the things that make Sears Powered Concrete Mixers the cheapest for you to operate. The engine is Sears famous Economy model, an engine that has rightly earned the name of Economy because of its economical use of gasoline. The built-in magneto that this engine is fitted with means that you do not have to be troubled with buying batteries—just another point of economy.

What Others Say About Our WIZARD Mixers

Reduces Job Cost

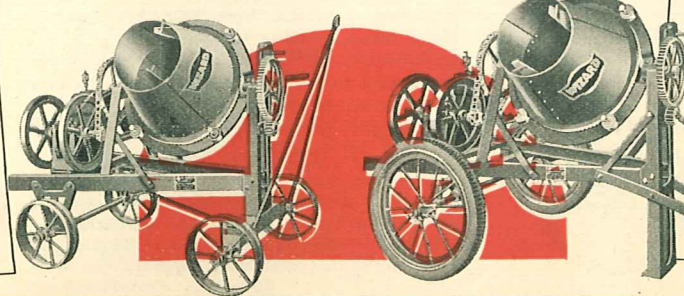
Sears, Roebuck and Co.

I bought one of your Concrete Mixers eight months ago. I can save on any ordinary job from 50% to 60% on the actual cost of the job, if I had to do the mixing by hand. It is the most convenient thing I ever saw for light underpinning and walk making.

L. A. RIDGELL

(Address furnished on request)

Owners in general have found so much satisfaction in the ability of WIZARD Concrete Mixers to do a good job quickly and without trouble or worry, that they have written us many letters telling of the wonderful performance their machines are giving. Two such letters are printed here. They are typical of the many that we get. These men have found that with WIZARD machines they can depend on heavy duty, day in and day out service with real money saving economy.



Mixer Gives Entire Satisfaction

Sears, Roebuck and Co.

The Concrete Mixer I purchased from you has given me entire satisfaction. I cannot recommend it too highly. One of its main features: Saving in time and being able to take it with you wherever needed.

J. G. PITMAN

(Address furnished on request)



WIZARD Standard Concrete Mixer

One of the biggest features of the famous End-to-Center mixing action employed in the WIZARD type of drum is the ease of running operation. Vibration is less—life of machine is longer. Full tilting. Can be loaded on one side and dumped on the other.

The small or medium size job often offers greater profits than the larger ones. In handling jobs of this nature it is essential to the contractor that his equipment be easily, quickly and cheaply moved from place to place, otherwise his overhead moving expense will take away his profits from these profitable little jobs. Here is where the WIZARD proves

its value. For the WIZARD is a genuine thoroughbred mixing machine that will stand the strain and service of years of hard gruelling work. Yet, the WIZARD is the very machine that you can easily move from job to job with little expense. No bother, no trouble, on one job today and another tomorrow. The ideal small sized concrete mixer.

Standard
2½ Cu. Ft. Capacity
\$157.30

Well lubricated bronze encased bearing.

Famous easy starting Wico Built-In Magneto.

3-inch channel steel frame. Bolts fitted with lock washers.

1¼-inch cold rolled steel axles. Track measures 4 feet 2 inches between wheels.

Illustration shows 63B5975 3½-S WIZARD Standard Concrete Mixer with engine housing removed.

Locking device—holds drum in any position.

Large reduction gear, 4 to 1 ratio, makes dumping easy.

Constructed of heavy steel—strongly riveted to one-piece cast bottom.

Well lubricated—cold rolled steel trunnion rollers.

Specifications

Capacity—63B5975, 3½ cubic feet mixed concrete per batch; 63B599, 2½ cubic feet mixed concrete per batch.

Mixing Drum—63B5975, 38 inches deep; 30½ inches in diameter; 17½-inch opening. 63B599, 33 inches deep; 26 inches in diameter; 17¼-inch opening. Both constructed of heavy steel with one-piece cast bottom.

Bearings—All main bearings are fitted with babbitted or bronze bushings.

Tilting Gears—4 to 1 ratio, making it easy to tilt drum when loaded. Will turn drum so that it can be loaded on one side and discharged on the other.

Transmission—Chain drive No. 62, malleable iron, with sprockets and gears of semi-steel. Drive shaft, 1¼-inch cold rolled steel.

Trunnion Rollers—Chilled face. Well lubricated with hard grease cups.

Power—Sears famous 1¼ Horse Power Economy Gasoline Engine with built-in Wico magneto, which eliminates all battery trouble. This engine is one-third larger than generally used on this type and size of mixer.

Frame—3-inch channel steel with strong cast iron standards for supporting the mixer drum. All bolts fitted with lock washers.

Wheels—Steel, truck type, 18 inches in diameter with 3-inch grooved tread. Cast hub. **Axles**—1¼-inch cold rolled steel.

Track—4 feet 2 inches between wheels.

Engine Housing—Made of heavy steel plate. Measures 36 inches long, 18 inches wide and 25 inches high. Easily removed by loosening four bolts. Hinge top makes easy access to engine.

The WIZARD Standard Concrete Mixer has a great many advantages. The tilting drum of this machine permits loading on one side and discharging on the other. Material can be piled directly in front of the mixer without interference. The WIZARD drum is always in gear, even while in tilting position. This allows for quicker and cleaner dumping. The chain and sprocket drive of the WIZARD has proved most flexible, thereby eliminating hard wear that results from a more direct drive. Handy loading and discharging height. Mixing is done in a position that can always be watched by the operator.

63B599—2½-Cubic Foot WIZARD Standard Concrete Mixer, complete with engine.

Shipping weight, 1,065 pounds \$157.30

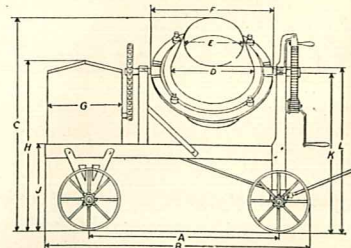
63B5975—3½-Cubic Foot WIZARD Standard Concrete Mixer, complete with engine.

Shipping weight, 1,150 pounds \$164.45

The 3½-S WIZARD Standard Concrete Mixer shown on this page bears the official plate of the Associated General Contractors of America. Mixes according to standards as established by the association. See page 9 for full details of this machine's capacity.



Illustration shows 63B5975 WIZARD Standard Concrete Mixer with engine housing.



Dimensions of 3½ Cu. Ft. Cap.

A	B	C	D	E	F
57 in.	74½ in.	60 in.	30½ in.	18 in.	43½ in.
G	H	J	K	L	
18 in.	48 in.	22 in.	42½ in.	44 in.	

3½-S MIXER			
THIS MACHINE COMPLES WITH A.G.C. STANDARDS			
GUARANTEED WORKING CAPACITY			
MIX	BAGS	MIX	BAGS
1-1½-3	1	1-2½-4	½
1-1½-3	1	1-2-5	½
1-1½-3	1	1-2-5	½
1-1½-3	1	1-3-6	½
1-1½-3	1	1-3-6	½

WIZARD Trailer Concrete Mixer

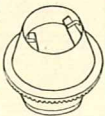
The WIZARD Trailer Concrete Mixer has been especially designed for contractors and other concrete manufacturers who desire to make quick, easy hauls of their mixers. The mixer itself is exactly the same as the Standard Model shown on the opposite page, except that it is fitted with two cushion tired wheels and is built for attaching be-

hind a truck, automobile or wagon, in the manner shown in the lower right hand corner of this page. A trailer model, such as the WIZARD, makes it possible for a contractor to handle the many small and profitable jobs of foundations, sidewalks, driveways, silos, tanks, etc., that would be out of the question with a heavier and harder to move machine.

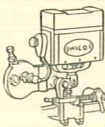


One of the chief advantages of the WIZARD tilting drum is the quick method of discharging. It is the fastest known. A few turns of the tilting handle throws the drum over in position so that the always revolving drum completely empties itself of concrete.

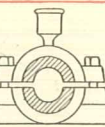
Constructed of heavy steel, strongly riveted to one-piece heavy cast bottom.



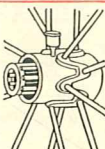
Famous easy starting Wico Built-In Magneto.



Well lubricated hardened bronze encased bearings.

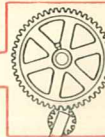


Roller bearing wheels. For speedy and easy moving.



1 1/4-inch cold rolled steel axle. Track measures 4 feet 2 inches between wheels.

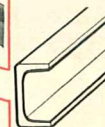
Illustration shows 63B5977 3 1/2-S WIZARD Trailer Concrete Mixer with engine housing removed.



Large reduction gear 4 to 1 ratio — makes dumping easy.



Well lubricated cold rolled steel trunnion rollers.



3-inch channel steel frame. Bolts fitted with lock washer.

Specifications

Capacity—63B5977, 3 1/2 cubic feet mixed concrete per batch; 63B5974, 2 1/2 cubic feet mixed concrete per batch.

Mixing Drum—63B5977, 38 inches deep. 30 1/2 inches in diameter. Has 17 1/2-inch opening. 63B5974, 33 inches deep, 26 inches in diameter. 17 1/4-inch opening. Constructed of heavy steel with one-piece cast bottom.

Bearings—All main bearings are fitted with babbitted or bronze bushings.

Tilting Gears—4 to 1 ratio, making it easy to tilt drum when loaded. Will turn drum so that it can be loaded on one side and discharged on the other.

Transmission—Chain drive No. 62 malleable iron, with sprockets and gears of semi-steel. Drive shaft, 1 1/4-inch cold rolled steel.

Trunnion Rollers—Chilled face. Well lubricated. Fitted with hard grease cups.

Power—Sears famous 1 1/4 Horse-Power Economy Gasoline Engine with built-in Wico magneto, which eliminates all battery trouble. This engine is one-third larger than generally used on this type and size of mixer.

Frame—3-inch channel steel with strong cast iron standards for supporting the mixer drum. All bolts fitted with lock washers.

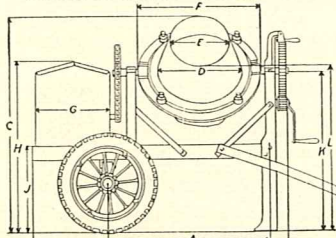
Wheels—Strong construction with well lubricated roller bearings.

Tires—Rubber cushion type size (27x3 1/2 inches).

Axle—1 1/4-inch cold rolled steel.

Track—4 feet 2 inches between wheels.

Engine Housing—Made of heavy steel plate. Measures 36 inches long 18 inches wide and 25 inches high. Easily removed by loosening four bolts. Hinge top makes easy access to engine.



Dimensions of 3 1/2 Cu. Ft. Cap.

A	B	C	D	E	F	G
50-Inch	71-Inch	60-Inch	30 1/2-Inch	18-Inch	43 1/2-Inch	18-Inch
H	J	K	L			
48-Inch	22-Inch	42 1/2-Inch	44-Inch			

3 1/2-S MIXER			
THIS MACHINE COMPLIES WITH A.G.C. STANDARDS			
GUARANTEED WORKING CAPACITY			
MIX	BAGS	MIX	BAGS
1-1/2"	1-2 1/2-4	1-2 1/2"	4
1-1/2"	1-2 1/2-5	1-2 1/2"	5
1-1/2"	1-2 1/2-6	1-2 1/2"	6
1-1/2"	1-2 1/2-7	1-2 1/2"	7
1-1/2"	1-2 1/2-8	1-2 1/2"	8
1-1/2"	1-2 1/2-9	1-2 1/2"	9
1-1/2"	1-2 1/2-10	1-2 1/2"	10

The WIZARD Trailer Concrete Mixer has all the desirable features of the Standard model together with the added advantage of the trailer type of chassis. This is so designed that the rubber cushioned tires take up the road shock, saving jolting, jarring wear of the mixer. The wider track of the trailer model and broad strong front post provide a sturdy foundation for this machine while in operation. The mixer is so evenly balanced that it can easily be lifted by one hand while attaching the trailer tongue to truck or wagon. The busy contractor will soon find that his WIZARD Trailer is indispensable to him. It is light, efficient, easily handled. The saving in transportation costs alone will soon pay for the machine.

63B5974—2 1/2 Cubic Foot WIZARD Trailer Concrete Mixer, complete with engine. Shpg. wt., 1,100 lbs. **\$173.00**

63B5977—3 1/2 Cubic Foot WIZARD Trailer Concrete Mixer, complete with engine. Shpg. wt., 1,125 lbs. **\$178.00**

The 3 1/2-S WIZARD Trailer Concrete Mixer shown on this page bears the official plate of the Associated General Contractors of America. Mixes according to standards as established by the association. See page 9 for full details of this machine's capacity.



Illustration shows 63B5977 3 1/2-S WIZARD Trailer Concrete Mixer with engine housing.

The WIZARD Trailer Model Concrete Mixer is one of the most compact machines on the market. It is neat and trim in design, and is finished in a battleship gray paint. One of the first things that will strike you when you look at this sturdy little machine is the simple, compact method of construction. WIZARD Concrete Mixers have been simplified without interference to working qualities.



WIZARD Junior Concrete Mixer

The mixing drum employed in the WIZARD Junior Concrete Mixer is the same type of End-to-Center action as used on the Standard and Trailer models. For hand or power operation this type has proved unusually efficient. Mixes thoroughly.

The Wizard Junior Concrete Mixer is built in two sizes—2 and 2½ cubic foot capacities. It is of the same general high grade construction as the Standard and Trailer models shown on pages 4 and 5. Fitted with a large pulley with handle so that it can be operated either by hand or belt power. This is a full tilting type of mixer. Material can be piled on one side

for convenient loading, while the finished batch can be discharged on the other side without interference. Especially suited for general use on small jobs, such as floors, driveways, foundations, etc. An excellent mixer for concrete, mortar, plaster, feed and fertilizer. Mixes either wet or dry batches with equal speed and efficiency. An excellent machine.

2-Cubic-Foot Capacity

\$40⁹⁵

Well lubricated — cold rolled steel trunnion rollers.

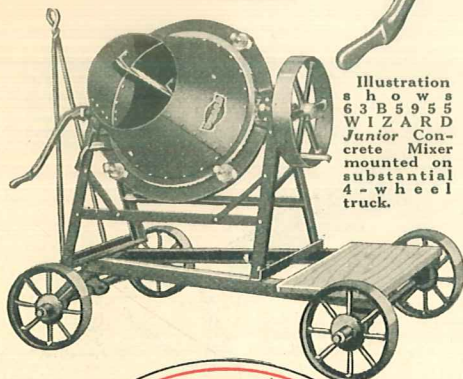
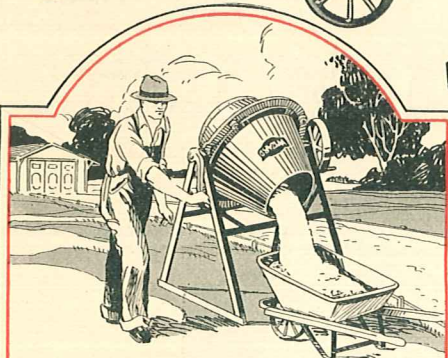


Illustration shows 63B5955 WIZARD Junior Concrete Mixer mounted on substantial 4-wheel truck.



Sears, Roebuck and Co.

The Concrete Mixer I received from you some time ago has proved very satisfactory. I feel I would be safe in saying that it saves two men's work when turning it by hand, and three men's work when using power. It mixes more uniformly than can be done by hand. I have only had the mixer a short time, but it has more than paid for itself already.

It is very surprising to know how much material the little mixer will handle. I would only be too glad to recommend it to anyone.

C. J. SHAFFER

Sears, Roebuck and Co.

I find that your WIZARD Junior Concrete Mixer is better than I had expected. It works fine, and can turn out work at a big saving. It will pay for itself in the time saved on a job.

H. M. UMBARGER

(Addresses furnished on request)

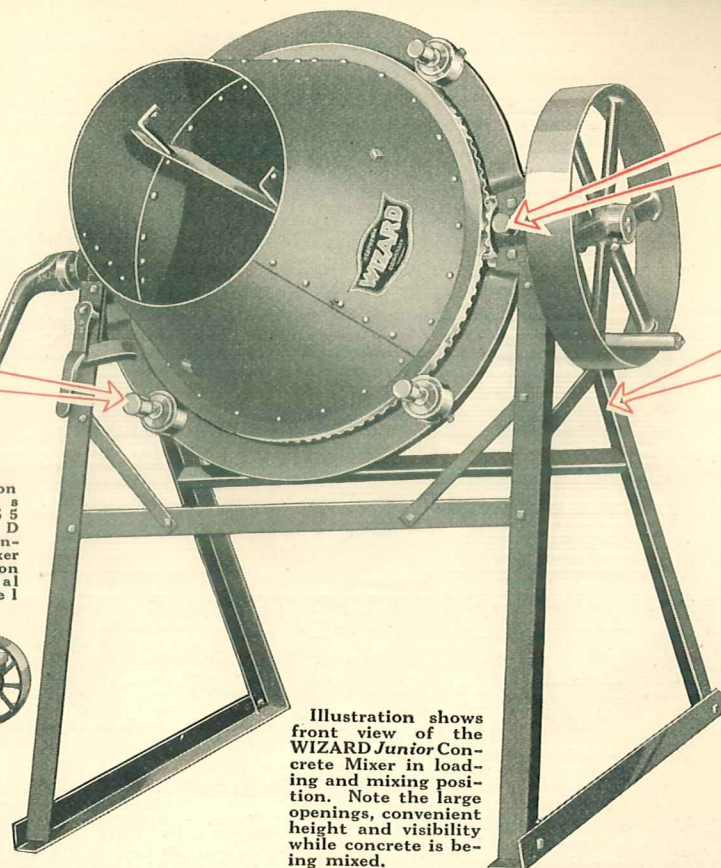
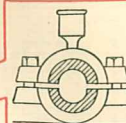
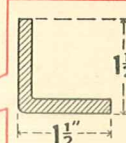


Illustration shows front view of the WIZARD Junior Concrete Mixer in loading and mixing position. Note the large openings, convenient height and visibility while concrete is being mixed.



Well lubricated bronze encased bearings.



Frame sturdily constructed of 2x2x¼-inch angle iron.



Illustration shows side view of the WIZARD Junior Concrete Mixer in loading and mixing position. Note the long handle for tilting drum—makes turning easy.

Specifications

2-Cubic-Foot Mixer on Stand or Mounted on 4-Wheel Truck

Capacity—2 cubic feet of mixed material per batch. Will mix 25 to 35 cubic yards per day.

Power—Equipped with 20x3-inch tight pulley. Can be operated with 1 horse-power engine.

Drive Shaft—1¼-inch cold rolled steel.

Bearings—All main bearings are fitted with babbitted or bronze bushings and hard grease cups.

Frame—Made of 2x2x¼-inch angle iron.

Mixing Drum—22 inches in diameter, 33 inches deep, with a 16-inch opening.

General Dimensions—Length, 38 inches; width, 47½ inches; height, 54 inches. Charging height, 39 inches. Discharging height, 24 inches.

63B5995—2-Cubic-Foot WIZARD Junior Concrete Mixer on stand. Shpg. wt., 300 lbs... **\$40.95**

2½-Cubic-Foot Mixer on Stand

Capacity—2½ cubic feet of mixed material per batch. Will mix 30 to 40 cubic yards per day.

Power—Equipped with 20x3-inch tight pulley. Can be operated with 1½ horse-power engine.

Drive Shaft—1¼-inch cold rolled steel.

Bearings—All main bearings are fitted with babbitted or bronze bushings and hard grease cups.

Frame—Made of 2x2x¼-inch angle iron.

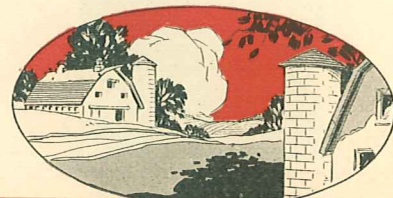
Mixing Drum—26 inches in diameter; 33 inches deep, with a 17½-inch opening.

General Dimensions—Length, 45 inches; width, 40 inches; height, 57 inches. Charging height, 39 inches. Discharging height, 24 inches.

63B5996—2½-Cubic-Foot WIZARD Junior Concrete Mixer on stand. Shipping weight, 390 pounds... **\$50.80**

63B5955—2-Cubic-Foot WIZARD Junior Concrete Mixer mounted on substantial 4-wheel truck. Shipping weight, 470 pounds... **\$64.50**
2½-Cubic-Foot WIZARD Standard Concrete Mixer mounted on 4 or 2-wheel truck. See pages 4 and 5.

A great many farmers find it quite economical to use the WIZARD Junior Concrete Mixer for mixing their own fertilizers. The WIZARD is especially well suited for this kind of work. It also makes a very fine feed mixer as the efficient End-to-Center action of its mixing drum mixes dry, semi-wet and wet batches with equal speed and thoroughness.



TRIUMPH Handy-Fellow Concrete Mixer

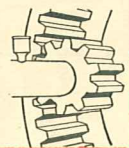
The low price and general utility of the TRIUMPH Handy-Fellow Concrete Mixer makes it the logical machine for farm use. Can be used every day of the year for mixing concrete, mortar, plaster, fertilizer and feed. It is an exceptionally well built machine with a mixing drum that closely resembles the WIZARD in its mixing action. The mixing

process is rapid and thorough. Materials being mixed are turned over easily and smoothly. The pull is even and free from drag. Full tilting type—can be loaded from one side and discharged from the other. Fitted with power pulley and handle for either power or hand drive.



The mixing action employed in the TRIUMPH style of drum is but slightly different from the WIZARD End-to-Center action. Three diagonally placed blades fold, knead, cut and perfectly mix the contents as they tumble around the drum.

Direct drive to mixing drum. Babbitted bearing.



Low, convenient discharging height.



Lock firmly holds drum in loading and mixing position.

Complete Concrete Mixer
\$25.75

Illustration shows 63B5962 TRIUMPH Handy-Fellow Concrete Mixer mounted on substantial 4-wheel truck.

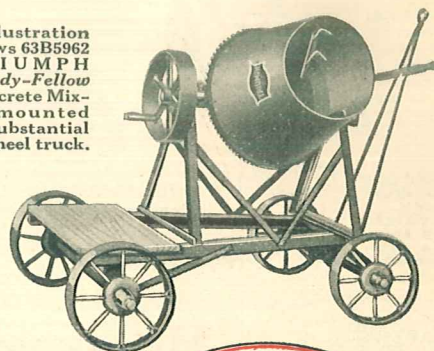


Illustration shows side view of TRIUMPH Handy-Fellow Concrete Mixer in discharging position. Notice the low dumping height.

Illustration shows view of the TRIUMPH Handy-Fellow Concrete Mixer in loading and mixing position. Note the angle drum is in while mixing.

The TRIUMPH Handy-Fellow Concrete Mixer is one of the most popular models that we have ever sold. Small contractors, farmers and other manufacturers of concrete have been quick to see that the TRIUMPH offered a great many features that were not to be found in any other machine at the same low price. Operation of the TRIUMPH has been made easy through the application of direct drive gears. This has meant fewer wearing parts and less friction than are in most machines of this type. The TRIUMPH machine is easy and smooth running. Easily operated by hand. The mix is thoroughly accomplished after but a few turns of the drum. The TRIUMPH Handy-Fellow is the machine you need.

Specifications

Capacity—1½ to 2 cubic feet unmixed material per batch.

Power—Belt drive equipped with 12-inch pulley, 3-inch face; can be operated with 1 horse-power engine; also handle furnished for hand power.

Bearings—All main bearings are fitted with babbitted bushings. All main bearings equipped with hard grease cups.

Frame—Made of 1½x1½-inch angle steel.

General Dimensions—Length, 50 inches; width, 38 inches; height, 54 inches; shoveling height, 35 inches.

Drum—Heavy 18-gauge sheet steel, with steel reinforcing band at edge, and with cast iron bottom, 22 inches deep, 18 inches in diameter at top, 23 inches in diameter at bottom, inside measurements.

63B5998—TRIUMPH Handy-Fellow Concrete Mixer, on stand. Shipping weight, 215 pounds.....\$25.75

63B5962—TRIUMPH Handy-Fellow Concrete Mixer mounted on sturdy 4-wheel truck. Shipping weight, 375 pounds.....\$41.75

The farmer who is using his own patented fertilizer, which he prefers to mix himself, will find that with the TRIUMPH Handy-Fellow Mixer he can more easily and economically obtain a thorough mixture. The same thing applies to all kinds of special stock and poultry feeds. No matter whether they are wet or dry the TRIUMPH Handy-Fellow Mixer will do it for you quicker and better than any other method.



Sears, Roebuck and Co.

I have been using the Little Triumph Concrete Mixer since April in building houses and pavements. It mixes as fast as one man can shovel in the material. I use a ¼ H-P. Electric Motor to run it.

I set the mixer so that it empties direct into the forms, moving to different positions as it fills it.

I am sure I save \$5.00 a day on this mixer.

F. F. DREIBELBIS.

Sears, Roebuck and Co.

The Concrete Mixer I bought from you has proved entirely satisfactory and is a pleasant surprise as a time and money saver.

CHARLES OLIVER.

(Addresses Furnished on Request)





-SPARTAN- Concrete and Feed Mixer

The SPARTAN Mixing Machine shown below has been purposely designed to most efficiently handle the number of small jobs on a farm that must be done with a mixer. The box type of drum, with its wide opening, permits easy handling of a number of separate batches.

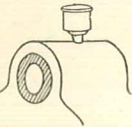
In the SPARTAN Concrete and Feed Mixer the small contractor or farmer will find a very efficient, well built and easy running mixing machine at an unusually low price. The SPARTAN is strictly a hand operated machine and thoroughly mixes three cubic feet of material for concrete, feed or fertilizer with but eight or ten revolutions of the

drum. The mixture is loaded into the box type of mixing drum in the ordinary manner and the door securely locked by handles on either side of the drum. After the mixture is thoroughly agitated the door is opened and the drum given another revolution, which dumps the contents. Furnished either with or without tray, which fits underneath drum.

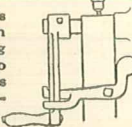
SPARTAN Mixer
With Tray

\$2670

Well lubricated bearings, fitted with hard grease cups.



Lock holds drum in loading position so materials can be easily put in.



Solid cast iron drum heads. A very rigid and long life construction.

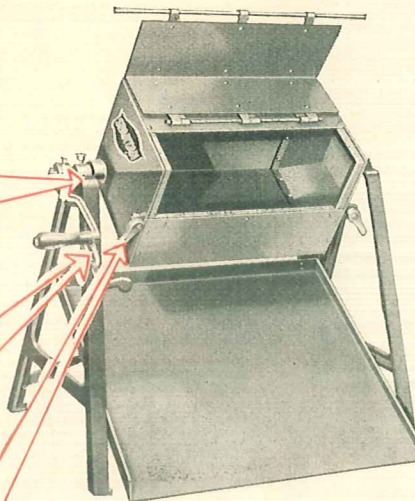


Illustration shows 63B5749 SPARTAN Concrete and Feed Mixer with tray. Note the large opening, which permits rapid loading and quick discharge of completed mixture.

Capacity—The SPARTAN Concrete and Feed Mixer is designed to take batches up to 3 cubic feet of unmixed materials per batch.

Drum—Box type of drum durably constructed with strong cast iron heads and sheet steel shell. Measures 14 inches square and is 31 inches long inside.

Loading Opening—Extends the entire length of the drum. The opening is constructed so that it takes in one complete half of two sides of the drum. This permits contents to dump quickly and cleanly. Two simple latches, one on either side of the drum, securely holds the door shut while machine is in operation.

Stands—Made of solid cast iron with flat steel braces. This makes a very rigid and well balanced frame.

Tray—Fastens to the rear braces of the frame by means of two hooks on back of tray. This part of the SPARTAN Concrete and Feed Mixer can be furnished if desired. It is especially convenient if the mixer is to be used for mixing concrete, as it throws the mixed material out from under the drum. Tray is well constructed of heavy sheet steel.

63B5748—SPARTAN Concrete and Feed Mixer, without tray. Shipping weight, 175 pounds.....\$21.50

63B5749—SPARTAN Concrete and Feed Mixer, with tray. Shipping weight, 200 pounds.....\$26.70

SPARTAN Mixer
Without Tray

\$2150

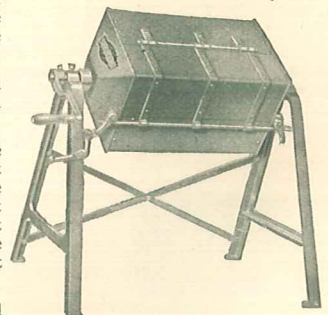
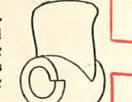


Illustration shows 63B5748 SPARTAN Concrete and Feed Mixer without tray. The machine in this position is locked and ready for mixing.

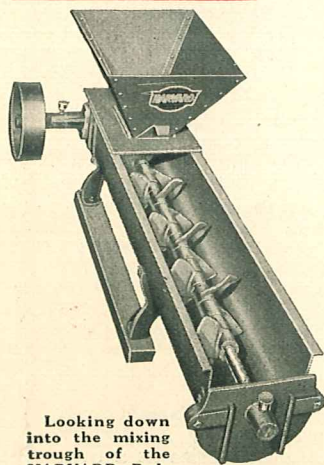
HARVARD Mixer
On Skids

\$3675

Manganese steel mixing paddles give long life.



Harvard Paddler Concrete Mixer



Looking down into the mixing trough of the HARVARD Paddler showing position of paddle blades.

Illustration shows 63B5674 HARVARD Paddler Concrete Mixer on skids. Note the strong mixing drum and hopper. Gears protected.

The HARVARD Paddler Concrete Mixer is especially adapted for the small contractor, the farmer or the products manufacturer. Used either as a batch or continuous mixer.

Hopper—16-gauge steel. 20 inches square at top, 15 inches deep. Capacity, 2 cubic feet. Well made with steel slide at bottom for control of materials.

Mixing Drum—16-gauge hard rolled sheet steel. 4 feet long, 1 foot wide. Discharge is at bottom of drum.

Water Tank—3-gallon capacity made of galvanized iron. Fitted with brass water valve. Can be moved forward or backward merely by sliding along mixing drum.

Transmission—11-inch pulley with 3-inch face through strong bevel gears to shaft. Operates best at 125 to 175 revolutions per minute. Well lubricated with hard grease cups.

Bearings—Fitted with bronzed or babbitted bushings.

Mixing Blades—Removable manganese steel connected to 1 1/4-inch steel shaft.

Mounting—Well constructed, heavy skid supported by cast iron stands. 4-wheel truck has heavy steel wheels and platform for mounting engine.

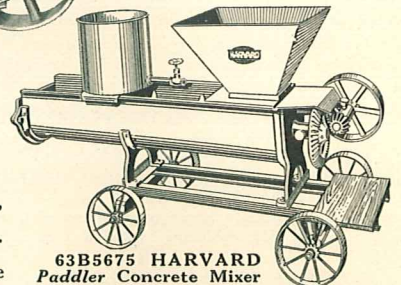
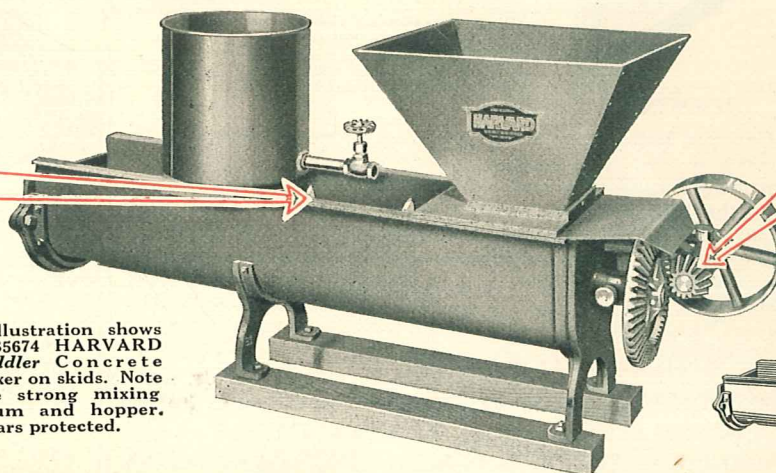
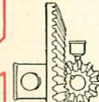
63B5674—HARVARD Paddler Concrete Mixer on skids. Shipping weight, 240 pounds.....\$36.75

63B5675—HARVARD Paddler Concrete Mixer on 4-wheel truck. Shipping weight, 325 pounds....\$54.25

HARVARD Mixer
On Truck

\$5425

Powerful bevel gear drive—well lubricated. Gears specially hardened and machined.



63B5675 HARVARD Paddler Concrete Mixer on 4-wheel truck.



Sears Power Mixers Conform to A.G.C. Standards

The WIZARD and ELLIS Concrete Mixers that are shown in this catalog are built to handle guaranteed working capacities that are in accordance with standards adopted by the Associated General Contractors of America. Each machine carries an official plate that is supplied by the association, and which shows the working capacity and the proportions of mix.

Both the WIZARD and ELLIS machines have always been manufactured full working capacity sizes. When the association established their standards we were quick to apply for tags that could be attached to our machines, because we wanted WIZARD and ELLIS owners to have the benefit of this added guarantee.



Bridges, foundations, retaining walls, roads, drives, dams, piers, dikes, for everything that requires a steady, hard working machine, you will find Sears AGC Standard WIZARD and ELLIS Concrete Mixers, the country over, performing never failing, faithful service.

A. G. C. Concrete Mixer Ratings

Adopted by Associated General Contractors of America in Conjunction With Concrete Mixer Manufacturers.

Maximum Capacity of Standard Machines in Full Bags per Batch

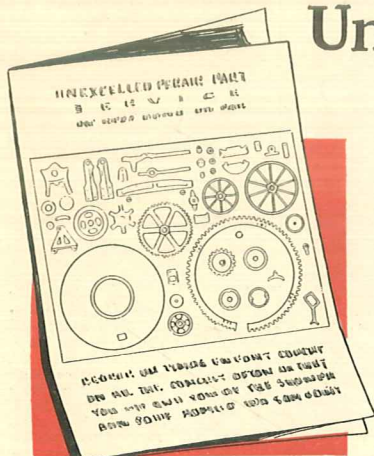
Mix Proportions	Bags per Batch	
	3½-S	7-S
1-1½-3	1	2
1-1½-3½	1½	1
1-2-3	1	1
1-2-3½	1½	1
1-2-4	1½	1
1-2½-4	1½	1
1-2-5	1½	1
1-2½-5	1½	1
1-3-5	1½	1
1-3-6	1½	1

Resultant Concrete of Full Sack Batches as Shown at Left.

Mix Proportions	Cubic Feet of Mixed Concrete	
	3½-S	7-S
1-1½-3	3.55	7.10
1-1½-3½	1.93	3.86
1-2-3	1.95	3.89
1-2-3½	2.10	4.20
1-2-4	2.26	4.52
1-2½-4	2.43	4.85
1-2-5	2.57	5.13
1-2½-5	2.74	5.47
1-3-5	2.92	5.83
1-3-6	3.25	6.50



Unexcelled Repair Part Service



We realize the loss of time and money that results for the contractor because of breakdowns in his machinery. Occasional breakdowns are inevitable because of wear and minor accidents that cannot be prevented. The best that any manufacturer can hope to do toward remedying this breakdown evil is to render the very best repair part service possible. A good repair part service cuts down the time that a machine is out of commission because of a broken or worn part. It is the service that in the face of accidents makes it possible for you to get the utmost in day in and day out duty from your machine. Sears Repair Part Service is 100 per cent efficient. A complete list, showing photographs, of all repair parts is shipped with each machine. We carry in stock, at all times, parts for all models of our machines. No matter how old your machine may be we have the parts you want. Moreover, the part will fit. And we make shipment of every repair part within 24 hours after the order is received.



If an accident should happen to your machine while you are on a rush job and it looks as if your work may be held up do not hesitate to wire us. We will put through a special order so you will get the quickest service.

It is a well known fact that Sears Concrete Machinery requires less service and attention than the average. This is mainly due to the fact that the designs have all been simplified. All excess parts have been eliminated. Necessary parts have been strengthened, they have been made of stronger metal and redesigned so as to stand up under greater

strain. Everything possible has been done to reduce the possibilities of breakdown and wear. It is true that Sears machines are seldom idle because of broken parts. This, combined with the excellent service that is maintained, when an accident does happen, gives you the best kind of protection when you buy Sears Concrete Machinery.

The ELLIS Giant Mixer for the Big Job Contractor

Does Better Work Than Higher Priced Mixer

Sears, Roebuck and Co.
The concrete mixing outfit I bought from you some time ago has proved way beyond my expectations. It does the work as good as one which I have used before, costing nearly twice as much.
The engine will run nearly all day on less than one gallon of gasoline.
W. R. AUGSTIN

ELLIS Concrete Mixers are constructed with the non-tilting type of drum. Some contractors prefer a mixer that is built with the skip loading devise on the side, others prefer the platform and hopper style. ELLIS machines are built in two sizes of each model. For the products plant owner or contractor who wants a powerful mixing unit of the non-tilting drum type we manufacture the ELLIS in a smaller size.

Sears, Roebuck and Co.
Gentlemen:

The Concrete Mixer I received from you has saved me time and hard labor:

I run the mixer with a gasoline engine which I received from Sears, Roebuck and Co. about 12 years ago.

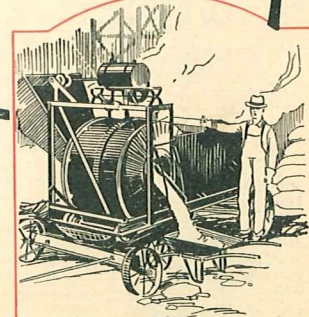
I would recommend a machine of its kind to any person.

JOSEPH F. BONENBERGER

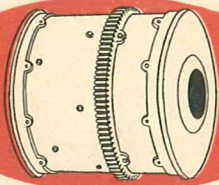
Addresses Furnished on Request

Recommends Mixer for Good, Quick Work

Sears, Roebuck and Co.
The mixer I purchased from you has proved satisfactory. I have saved half the time by using it. I can say that your machine can be recommended to anyone for good mixing and quick work, or as a good time saver.
GUSTAV F. RUH



ELLIS Giant Concrete Mixer



The ELLIS non-tilting type of drum employs one of the most thorough methods of mixing known. By the rolling, tossing action the mixture is completely kneaded, cut, folded and agitated by five buckets and five blades.

**3½-Cubic Foot
ELLIS
With
3½ H.-P.
ENGINE**

Worm threaded spool—prevents cable piling up.

Extra large opening—makes loading easy.

The ELLIS Giant Concrete Mixer is of the non-tilting drum style, employing the skip method of side loading. Contractors know that the real value of a mixer lies in its ability to load quickly, mix thoroughly and rapidly and to discharge fast. The ELLIS performs all these with speed and thor-

oughness. Strictly a high grade machine in every detail, with every desirable feature, yet, because of the money saving methods of manufacturing and selling, we have been able to bring the price down to where the complete machine costs less than a great many manufacturers ask for a much smaller type.

3½ Cu. Ft.
With Side Loader
\$398.75

Main bearings well lubricated, bab-bitted or bronze bushed.

Heavy, hot riveted channel steel chassis.

Illustration shows 63B5980, 3½ - Cu. Ft. ELLIS Giant Concrete Mixer.

The 3½-Cubic Foot ELLIS shown on this page and the 7 cubic foot ELLIS shown on the opposite page are exactly the same machines, except for size. The illustration at left shows the loader side of the machine, while the illustration at the top of the opposite page shows discharging side.

Specifications

Drum—Measures 36 inches in diameter and is 30 inches wide. Made of 10-gauge steel with cast iron heads. Openings into drum are 14 inches in diameter.

Side Loader—Made of heavy sheet steel. Well balanced. Holds one batch. Raises, to dump into drum, by means of cable operated by internal expansion ring clutch, automatically disengaged when skip reaches top. Leather faced brake controls skip, so it lowers without noise or jar.

Trunnion Rollers—Drum revolves on these rollers. They are made with chilled face and measure 10 inches in diameter and have a 2-inch face. Well lubricated.

Track—Standard, 4 feet 8 inches, so wheels will follow road track.

Power—Equipped with our famous 3½ Horse-Power Economy Gasoline Engine. Has built-in magneto, which eliminates all battery trouble. Engine furnished with 8x4-inch pulley, so it can be used to furnish power for other machinery. Lubricator, grease cups, can of oil and a can of grease also included. The Economy Gasoline Engine is a very reliable power unit.

Bearings—All main bearings fitted with bab-bitted or bronze bushings.

Lubrication—All important bearings provided with compression grease cups, which enable you to force clean, new grease into bearing at the same time old grease is forced out.

Capacity—3½ cubic feet of mixed materials per batch.

Automatic Water Tank—Capacity, 10 gallons. Automatically measures correct amount of water to be supplied to the batch. A great many large contracts now specify concrete of a specified mix. Insures uniform concrete. Not included in price of Mixer. Priced separately below.

63B5980—3½-Cubic Foot ELLIS Concrete Mixer, complete with 3½ H.-P. Engine and Side Loader. Without water tank. Shipping weight, **\$398.75**, 2,700 pounds.

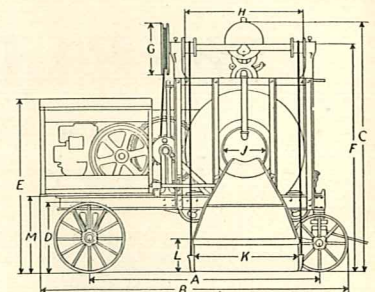
63B5982—Same as above, but without side loader. Shipping weight, 2,350 pounds. **364.00**

63B5990—Ten-Gallon Capacity Automatic Water Tank. Fitted to above mixer. Shipping weight, 70 pounds. **26.95**

The 3½-Cubic Foot ELLIS Giant Concrete Mixer shown on this page bears the official plate of the Associated General Contractors of America. This is your guarantee that this machine is capable of mixing batches according to the 3½-S standards as established by the association. See chart on page 9 for details of machine's capacity.

The skip side-loading device is heavily constructed. Well supported by cable that winds on worm threaded spool. Skip raises and lowers evenly and smoothly.

Transmission construction showing internal expansion clutches. One clutch operates mixing drum, the other the side loader. Reliable and long wearing construction.



Dimensions

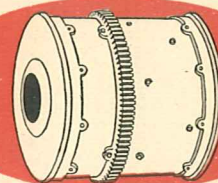
	A	B	C	D	E	F
3½ Cu.Ft.	71-in.	104-in.	74-in.	24-in.	56-in.	71-in.
7 Cu.Ft.	85-in.	119-in.	88-in.	24-in.	68-in.	84-in.
	G	H	J	K	L	M
3½ Cu.Ft.	16-in.	38-in.	14-in.	34-in.	9-in.	25-in.
7 Cu.Ft.	16-in.	51-in.	21-in.	45-in.	12-in.	27-in.

3½-S MIXER	
THIS MACHINE COMPLIES WITH A.G.C. STANDARDS	
GUARANTEED WORKING CAPACITY	
MIX	BAGS
1-1/2-3	1-2-4
1-1/2-3	1-2-5
1-1/2-3	1-2-6
1-1/2-3	1-2-7
1-1/2-3	1-2-8
1-1/2-3	1-2-9
1-1/2-3	1-2-10
1-1/2-3	1-2-11
1-1/2-3	1-2-12
1-1/2-3	1-2-13
1-1/2-3	1-2-14
1-1/2-3	1-2-15
1-1/2-3	1-2-16
1-1/2-3	1-2-17
1-1/2-3	1-2-18
1-1/2-3	1-2-19
1-1/2-3	1-2-20
1-1/2-3	1-2-21
1-1/2-3	1-2-22
1-1/2-3	1-2-23
1-1/2-3	1-2-24
1-1/2-3	1-2-25
1-1/2-3	1-2-26
1-1/2-3	1-2-27
1-1/2-3	1-2-28
1-1/2-3	1-2-29
1-1/2-3	1-2-30

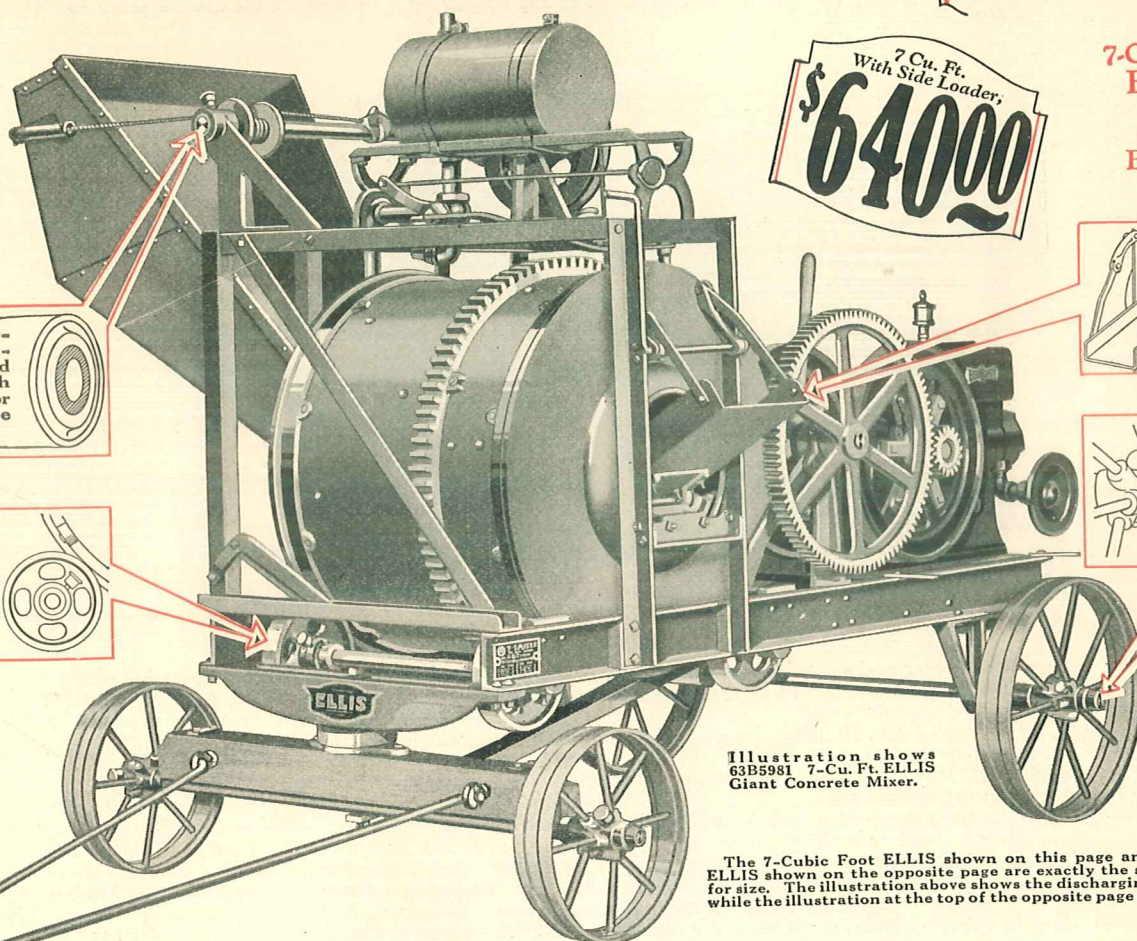
ELLIS Giant Concrete Mixer

The ELLIS Giant Concrete Mixer is complete with many new and proved features. Notable among these is the advanced method of attaching the cable to the skip. This is not attached to a permanent fixture on the side of the skip, but rather is supported through a hollow pipe bracket arrange-

ment that allows for play in the pull from the cables. This permits the scoop to align itself. This uniform raising and lowering of the skip is also aided by the improved worm threaded spool that the skip cable winds on. These are but a few of the many up to date ideas that have been incorporated in the ELLIS.



The ELLIS non-tilting type of mixing drum is exceedingly popular because of its thorough cleaning features. The continual raising, falling and sliding action of the material in the drum, when flushed with water, makes it self cleaning.



7 Cu. Ft.
With Side Loader,
\$640.00

**7-Cubic Foot
ELLIS
With
6 H.-P.
ENGINE**

Main bearings well lubricated and fitted with babbitted or bronze bushings.

Large, strong trunnion rollers with chilled face.

Wide, well supported, discharging chute.

Solid cast hub with staggered spokes.

Illustration shows 63B5981 7-Cu. Ft. ELLIS Giant Concrete Mixer.

The 7-Cubic Foot ELLIS shown on this page and the 3½-Cubic Foot ELLIS shown on the opposite page are exactly the same machines, except for size. The illustration above shows the discharging side of the machine, while the illustration at the top of the opposite page shows the loading side.

Specifications

Drum—Measures 46 inches in diameter and is 33 inches wide. Made of 10-gauge steel with cast iron heads. Openings into drum are 25 inches in diameter. This large size opening permits rapid and economical charging of material.

Side Loader—Made of heavy sheet steel. Well balanced. Holds one batch. Raises, to dump into drum, by means of a cable that is operated by an internal expansion ring clutch, that is automatically disengaged when skip is at top. Leather faced brake controls skip so that it lowers without noise or jar.

Bearings—All main bearings fitted with babbitted or bronze bushings.

Lubrication—All important bearings provided with compression grease cups which enable you to force clean, new grease into bearing at the same time old grease is forced out.

Capacity—7 cubic feet of mixed materials per batch.

Automatic Water Tank—Capacity, 20 gallons. Automatically measures correct amount of water to be supplied to the batch. Insures uniform concrete. Not included in price of Mixer. Priced separately below.

63B5981—7-Cubic Foot ELLIS Concrete Mixer, complete with 6 H.-P. Engine and Side Loader. Without water tank. Shipping weight, **\$640.00** 4,000 pounds.

63B5983—Same as above, but without side loader. Shipping weight, 3,700 pounds. **554.00**

63B5991—Twenty-Gallon Capacity Automatic Water Tank. Fitted to above mixer. Shipping weight, 110 pounds. **41.95**

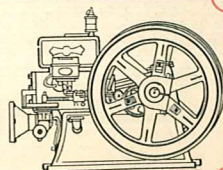
The 7-Cubic Foot ELLIS Giant Concrete Mixer shown on this page bears the official plate of the Associated General Contractors of America. This is your guarantee that this machine is capable of mixing batches according to the 7-S standards as established by the association. See chart on page 9 for full details on this machine's capacity.

Trunnion Rollers—Drum revolves on these rollers. They are made with chilled face and measure 10 inches in diameter with 2-inch face. Well lubricated.

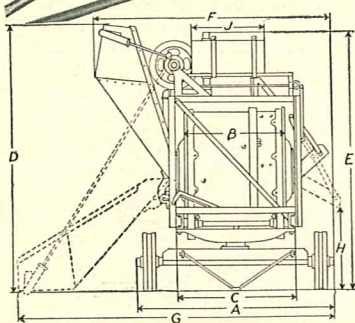
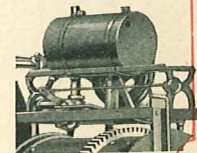
Track—Standard, 4 feet 8 inches, so wheels will follow road track on unpaved roads.

Power—Equipped with our famous 6 Horse-Power Economy Gasoline Engine. Has built-in magneto, which eliminates all battery trouble. Engine furnished with 12x6-inch pulley, so it can be used to furnish power for other machinery, lubricator, grease cups, can of oil and can of grease.

The Economy Gasoline Engine. Made with built-in Wico magneto. Develops full rated 3½ and 6 horse-power.



The ELLIS Water Tank is fitted with a three-way valve and lever, which controls water. Admits proper amount to tank, and discharges into the drum.

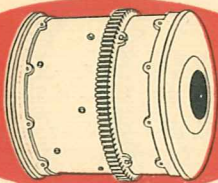


Dimensions

	A	B	C	D	E
3½ Cu. Ft.	66-in.	30-in.	38-in.	88-in.	74-in.
7 Cu. Ft.	66-in.	39-in.	46-in.	90-in.	87-in.
	F	G	H	J	
3½ Cu. Ft.	68-in.	110-in.	28-in.	23-in.	
7 Cu. Ft.	81-in.	112-in.	30-in.	46-in.	

7-S MIXER			
THIS MACHINE COMPLIES WITH A.G.C. STANDARDS			
GUARANTEED WORKING CAPACITY			
MIX	BAGS	MIX	BAGS
1-1/2	3	1-2/3	4
1-1/4	3	1-1/2	4
1-3/4	3	1-1/4	4
1-1/2	3	1-1/2	4
1-1/4	3	1-1/4	4
1-3/4	3	1-3/4	4
1-1/2	3	1-1/2	4

ELLIS Platform Concrete Mixer



For a heavy duty machine such as the ELLIS Platform Concrete Mixer, shown on this page, there is no type of mixing action that equals the non-tilting drum. It is a more rigid type that lessens possibilities of wear and breakdown.

Heavy cast iron construction of drum heads.

Engine housing well constructed of heavy sheet steel.

Heavy hot riveted channel iron chassis. Sturdy construction.

Illustration shows 63B5984 3½-cubic foot ELLIS Platform Concrete Mixer.

Heavy 2-inch plank construction with 4x4-inch legs.

3½-Cubic Foot ELLIS With 3½ H. P. Engine

3½-Cu. Ft. With Platform
\$383.90

The 3½-cubic foot ELLIS shown on this page and the 7-cubic foot ELLIS shown on the opposite page are exactly the same, except for size. Illustration above shows loading side. Top of opposite page shows discharging side.

Specifications

Drum—Measures 36 inches in diameter and is 30 inches wide. 10-gauge steel with cast iron heads. Openings into drum, 14 in. in diameter.

Capacity—3½ cubic feet of unmixed materials.

Loading Platform—Size, 5 feet wide, 5 feet 10 inches long. Height, 26½ in. Height, from platform to mouth of charging hopper, 19½ in.

Hopper—Heavy steel construction with well protected corners and edges. All corners rounded so material will not stick.

Trunnion Rollers—Drum revolves on these rollers. Made with chilled face, 10 inches in diameter with 2-inch face. Well lubricated.

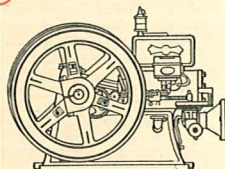
Track—Standard, 4 feet 8 inches. Wheels will follow road track.

Power—Equipped with our famous 3½ Horse-Power Economy Gasoline Engine. Has built-in magneto. Engine furnished with 8x4-inch pulley, so it can be used to furnish power for other machinery, lubricator, grease cups, can of oil and can of grease.

Bearings—All main bearings fitted with babbitted or bronze bushings.

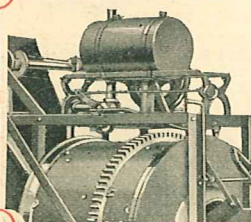
Axles—Strong, cold rolled steel.

Two of the many important features of ELLIS Concrete Machinery are the Economy Gasoline Engine and the Automatic Water Tank shown below.



The Economy Gasoline Engine

The Economy Gasoline Engine, made with built-in Wico Magneto develops full rated 3½ and 6 horsepower. Known for fuel saving and easy starting qualities.



The ELLIS Water Tank is fitted with a three-way valve and lever, which controls water. Admits proper amount to tank and discharges this water into the drum.

The ELLIS Platform Concrete Mixer is made in two sizes, the 3½-cubic foot capacity, which mixes according to the 3½-S standards of the Associated General Contractors of America, and the 7-cubic foot capacity machine, which mixes according to the 7-S standards. The machines are identically the same, except that the one is built large enough to handle just double the capacity of the smaller one. The general construction is exactly the same as that of the ELLIS Giant Concrete Mixers that are shown on pages 10 and 11. Wheels, frame, platform, drum and engine mounting are all of well built, heavy construction. Built to stand the rough use and duty to which a heavy duty machine of this type is subjected.

The 3½ cubic foot and 7-cubic foot ELLIS Platform Concrete Mixers shown on this and the opposite page bear the official plate of the Associated General Contractors of America. This is your guarantee that these machines are capable of mixing batches according to the 3½-S and 7-S standards as established by the association. See chart on page 9 for full details of these machines' capacities.

Truck Wheels—Cast hubs with staggered steel spokes. Front wheels measure 18 in. diameter, rear 24 in., 4-in. reinforced tires.

Lubrication—All important bearings provided with compression grease cups, which enable you to force clean, new grease into bearings.

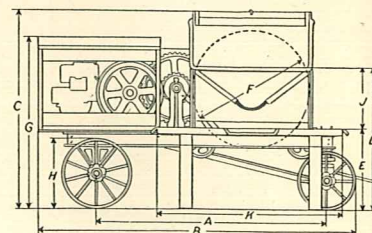
Automatic Water Tank—Capacity, 10 gallons. Automatically measures correct amount of water to be supplied to the batch. Only with an automatic tank of this kind can you depend on uniform concrete.

Frame—Made of heavy 5x1¼-inch channel steel, hot riveted. Made strong and sturdy with three cross pieces of the same size channel iron.

63B5984—3½-Cubic Foot ELLIS Concrete Mixer, complete with 3½ H.-P. Engine and Wood Loading Platform. Without water tank. Shpg. wt., 2,700 lbs. **\$383.90**

63B5982—Same as above, but without Wood Loading Platform. Shpg. wt., 2,350 lbs. **364.00**

63B5990—Ten-Gallon Capacity Automatic Water Tank. Fitted to above mixer. Shpg. wt., 70 lbs. **26.95**



Dimensions

	A	B	C	D	E
3½ Cu. Ft.	71-in.	104-in.	59-in.	42-in.	27-in.
7 Cu. Ft.	84-in.	119-in.	71-in.	48-in.	29-in.
	F	G	H	J	K
3½ Cu. Ft.	38-in.	55-in.	24-in.	15-in.	72-in.
7 Cu. Ft.	50-in.	68-in.	24-in.	19-in.	72-in.



ELLIS Platform Concrete Mixer

Drum—Measures 46 in. in diam. and is 38 in. wide. Made of 10-gauge steel with cast iron heads. Openings into drum are 25 in. in diameter. Wide openings permit rapid loading of materials.

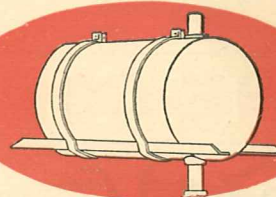
Loading Platform—Size, 5 feet wide, 5 feet 10 in. long. Height above ground, 26½ in. Height from platform to mouth of charging hopper, 19½ in.

7-Cubic Foot ELLIS With
6 H.-P. Engine

7-Cu. Ft.
With Platform
\$58000

Hopper—Heavy steel construction with well protected corners and edges. All corners rounded.

Trunnion Rollers—They are made with chilled face and measure 10 inches in diameter and have a 2-inch face. Well lubricated. Drum revolves on these rollers. Well balanced and free from wearing vibration and shocks.



The ELLIS Automatic Water Tank is one of the most advanced improvements in concrete mixing. Contracts now call for a mix of specified amounts of water and other ingredients. Only with an automatic tank is it possible to do this.

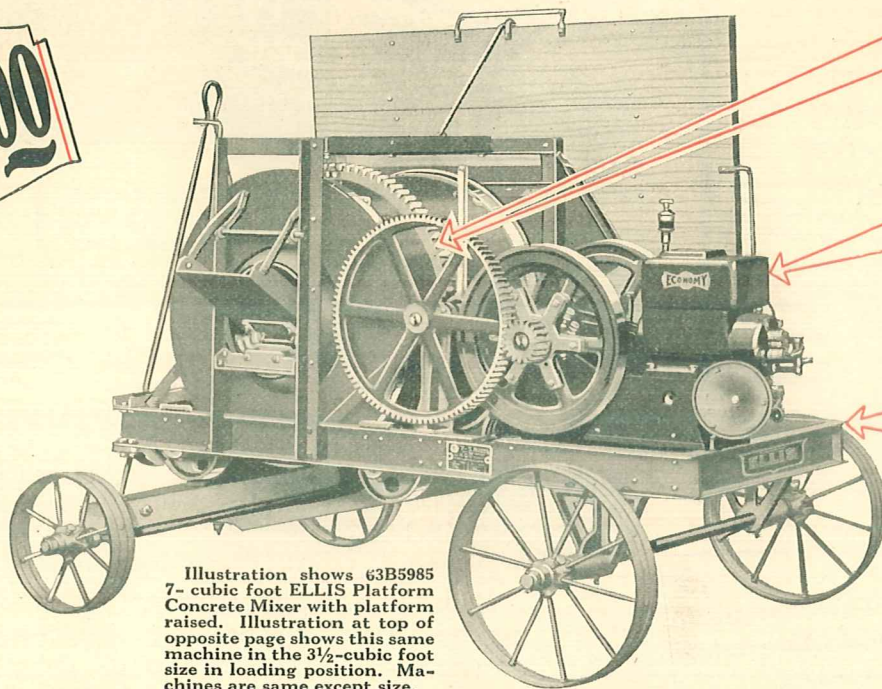
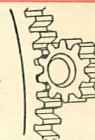
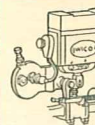


Illustration shows 63B5985 7-cubic foot ELLIS Platform Concrete Mixer with platform raised. Illustration at top of opposite page shows this same machine in the 3½-cubic foot size in loading position. Machines are same except size.



Heavy, specially hardened steel gears. Carefully machined and fitted.



Famous Wico built-in magneto—easy starting.



Heavy, hot riveted channel steel chassis. Extra sturdy construction.

It is easy for one man to raise the loading platform of the ELLIS. Legs fold back out of the way and platform hooks to side of machine. Out of the way—no trouble—no unwieldy platform to load on truck.

Track—Standard, 4 feet 8 in. Wheels follow road track.

Power—6 Horse-Power Economy Gasoline Engine. Built-in Wico magneto. With 12x6-inch pulley, lubricator, can oil and grease.

Bearings—Main bearings with babbitted or bronze bushings.

Lubrication—Important bearings have compression grease cups.

Automatic Water Tank—Capacity, 20 gallons.

Frame—Same as 3½ cubic foot. **Truck Wheels and Axles**—Same as 3½ cubic foot model.

63B5985—7-Cu. Ft. ELLIS Concrete Mixer, with 6 H.-P. Engine and Wood Loading Platform. Shpg. wt., 4,000 lbs. **\$580.00**

63B5983—Same as above, but without Wood Loading Platform. Shipping wt., 3,700 pounds. **\$554.00**

63B5991—Twenty-Gallon Capacity Automatic Water Tank. Fitted to above mixer. Shpg. wt., 110 lbs. **\$41.95**

ELLIS Powerless Mixing Unit

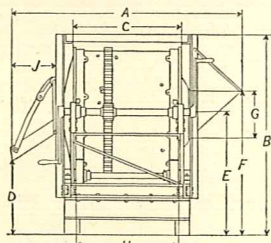
The ELLIS Powerless Mixing Unit is practically the same as the Power ELLIS Mixers that are shown in this catalog. A reliable machine for the products plant or small contractor. Can be operated by hand or power.

Drum—Measures 36 inches in diameter and is 30 inches wide. Made of 10-gauge steel with cast iron heads. Openings are 14 inches in diameter.

Capacity—When hand operated, capacity up to 2½ cu. ft. mixed materials; when machine operated, up to 3½ cu. ft. of mixed materials per batch.

Frame—3-inch channel steel.

Trunnion Rollers—Drum revolves on these.



Dimensions

A	B	C	D	E
54-inch	53-inch	30-inch	20-inch	33-inch
F	G	H	J	
38-inch	15-inch	29-inch	9-inch	

Measure 10 inches in diameter and have a 2-inch face. Well lubricated.

Mounting—Skids (as illustrated) for stationary use. Wheels (as illustrated) for portable use.

Wheels—16-in. with 3-in. tires, 48-in. wheel base.

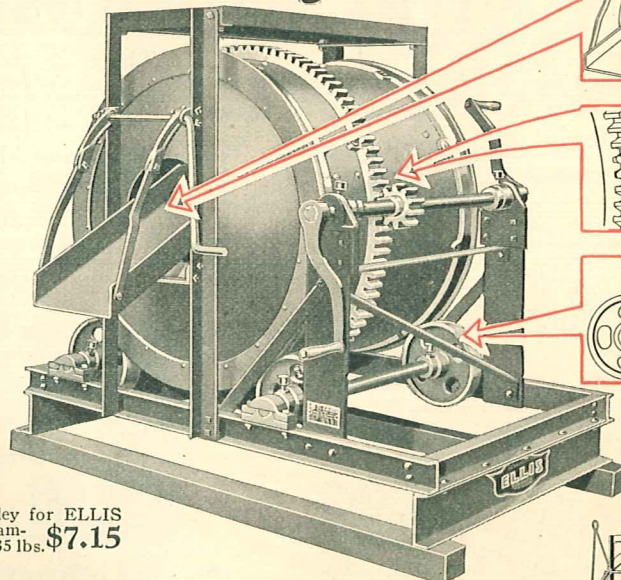
Lubrication—Important bearings fitted with compression grease cups.

Bearings—Main bearings all fitted with babbitted or bronze bushings.

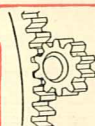
63B5976—ELLIS Mixer, on skids. Shipping weight, 860 lbs. **\$112.75**

63B5978—ELLIS Mixer, on truck. Shpg. wt., 1,250 pounds. **\$147.95**

63B5979—Power Pulley for ELLIS Concrete Mixer, 20-inch diameter, 3-inch face. Shpg. wt., 35 lbs. **\$7.15**



Wide, well supported, fast discharge chute.



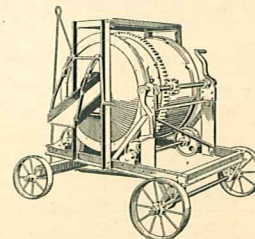
Heavy, specially hardened steel gears. Carefully machined and fitted.



Large, strong trunnion rollers with chilled face. Well lubricated.

The 3½-cubic foot ELLIS Powerless Mixing Unit illustrated above bears the official plate of the Associated General Contractors of America. This is your guarantee that this machine is capable of mixing batches according to the 3½-S standards as established by the association. See chart on page 9 for full details of this machine's capacity.

Illustration above shows 63B5976 ELLIS Powerless Mixer on skids. Illustration at right shows this same machine mounted on a substantial 4-wheel truck. Order 63B5978 if this type of machine is desired.



3½-S MIXER			
THIS MACHINE COMPLIES WITH A.G.C. STANDARDS			
GUARANTEED WORKING CAPACITY			
MIX	BAGS	MIX	BAGS
1-1/2"	3	1-2"	4
1-1/4"	3	1-1/4"	4
1-1/2"	3	1-1/2"	4
1-3/4"	3	1-3/4"	4
1-1/2"	3	1-1/2"	4
1-1/4"	3	1-1/4"	4
1-1/2"	3	1-1/2"	4
1-3/4"	3	1-3/4"	4

THE CONCRETE PRODUCTS BUSINESS

What It Offers to You

Simple and Convenient to Operate

Sears, Roebuck and Co.

The concrete machine is just what I wanted. It has proven satisfactory and I have saved much time and money. It is most simple and convenient and deserves wide advertising. I have made quite a few blocks in spare time and they will equal any I have ever seen.

George William Hoffman
(Address furnished on request)

Makes Great Saving in Time and Material

Sears, Roebuck and Co.

I am now using the second concrete machine purchased from your company. It makes a great saving on time and material. I would not be without it for three times the price of it if I could not get another one.

J. W. ALLEN
(Address furnished on request)

Well Pleased With His Block Machine

Sears, Roebuck and Co.

The cement block machine which I bought from you has proven very satisfactory in every respect. I am well pleased with the results I have gotten from it. I can make an average of from fifteen to twenty blocks per hour at a cost of about 10 cents per block for labor and material. Will recommend machine to anybody.

FRED LEWIS
(Address furnished on request)



The Roman Pantheon—Concrete Dome
Nearly 2,000 Years
Old—Rome, Italy

Concrete for permanence Surely there is no better example of this fact than will be found in the famous Roman Pantheon. Built almost 2,000 years ago with a concrete roof, today finds it in excellent condition and with hardly a sign of its 2,000 years of exposure to weather. Proof that there is practically no deterioration to properly made concrete.

With the perfection of cement and modern machinery for mixing concrete its use has grown by leaps and bounds. Its growth in the past 25 years has been tremendous and the end has, by no means, been reached. Every year finds new uses for concrete, more ways in which this material is proving its value.

Opportunities in Every Locality

There is an urgent demand in practically every community for reliable manufacturers of good concrete products. This is a field especially adapted to the man who desires to go into business for himself but finds his capital limited. It is a business that requires very little money to start. Besides, good concrete products are easily made, no previous training or experience is needed.

Large Profits—Small Overhead

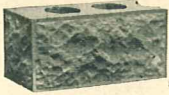
The profits in this business are large, the overhead small. Your customers are everywhere, because concrete is now being used for practically everything. There are hundreds of different concrete products that could be sold right in your community if people just knew about them, and could buy them from some reliable manufacturer.

Let Us Offer Our Help

This is your opportunity. If you are looking for a business to which you can devote your entire time, or possibly just your spare time, we know of no other that offers the many advantages that this does. Let our department of concrete advisers help you to establish a business of your own. Just address your letter to the Concrete Machinery Department, Sears, Roebuck and Co.

Any Kind of a Block Desired Can Be Made on Sears Machines

The illustrations shown below are reproduced from actual photographs of blocks made on Sears machines. These very attractive and realistic designs are only possible because the patterns for these plates are made direct from stones which were prepared by expert stone cutters. Face plates for making any of these designs can be furnished for all of Sears block machines.



Design No. 1. Shallow Rock Face.

These three designs are reversible, so only one endgate is required for either right or left return corner. Design No. 1 Endgate can be used with Design No. 2, and Design No. 2 Endgate with Design No. 3. Fractional plate can be furnished in any division.



Design No. 2. Medium Rock Face.



Design No. 3. Heavy Rock Face.



Design No. 4. Standard Plain Face.

Fractional plates can be furnished in all divisions. Only one endgate needed.



Design No. 5. Cobblestone Face.

A fine foundation block. Not in Division D. One endgate needed.



Design No. 6. Panel Face.

Fractional plates not made in Division D. But, one endgate is required.



Design No. 7. Rock Face With 1 1/2-Inch Tooled Edge.

Not made in Division C and D. One endgate needed.



Design No. 8. Bushhammer Face With 1 1/2-Inch Tooled Edge.

Not made in Division C and D. One endgate needed.



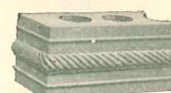
Design No. 13. Ornamental Wreath Face.

Fractional plate not made in Division D. Right and left endgates are required.



Design No. 14. Ornamental Scroll Face.

Fractional plates not made in Division D. Both right and left endgates required.



Design No. 15. Ornamental Rope Face.

Fractional plate not made in Division D. Both right and left endgates required.



Design No. 16. Pressed Brick Face.

Fractional plates not made in Division D. Both right and left endgates required.



Design No. 9. Horizontal Tooled Face.

Fractional plates can be furnished in any Division. But one endgate required. An excellent design for foundations — also shows well when used as a belt course.



Design No. 10. Broken Ashler Face.

Block made with groove between sections for beading or tuck pointing when wall is completed. For fractional blocks order desired division in Design No. 2, which matches this design perfectly.



Design No. 17. Broken Ashler Face.

Block made with bead between sections. Does not require tuck pointing when laid up in wall. For fractional blocks order desired division in Design No. 2, which matches this design perfectly.



Design No. 12. Water Table Face.

No fractional face plate needed for fractional blocks in this design. Endgate is not fastened in but sets in place and rests against any plain endgate in machine. Used as dividing plate for making fractional blocks.

SEARs block making machines come complete with all supplies necessary. You can have your choice of sixteen attractive designs—any of which can be made on all machines. These different designs are shown at the top of this page. Just make your selection, and then tell us in your order which design you want. Face plates of different design will quickly convert any machine so that you can easily make blocks of that pattern.

Information About Fractional Blocks

We carry supplies on every machine for the making of fractional blocks. A fractional block is one that is molded in a single operation, the same as any ordinary block, but which comes out of the machine divided into two or three well proportioned units. We furnish fractional face plates for making blocks of the following divisions.

Division Style A

Divided to make one half and two quarter blocks.

Division Style B

Divided to make two half blocks.

Division Style C

Divided to make one quarter block and one three-quarter block.

Division Style D

16-inch plate divided to make one 2-inch, one 6-inch and one 8-inch block; 24-inch plate in Division D is divided to make one 8-inch block and one 16-inch block.

Division Style E

Divided to make full size block, with half of face smooth for inside corners.

Division Style F

Full size plate, with special division line for outside angle bay window blocks.

In the list of supplies shown on each machine you will find that we give the different fractional block divisions that we furnish.

A Shape for Every Purpose

You will see from the great variety of different shaped blocks that it is possible to make practically any kind of a block on Sears machines. In fact, all these shapes can be made on any machine. The special parts required are listed on the page opposite

the machine, under the heading of "Supplies." In ordering supplies bear in mind that "Right" and "Left" are always determined when standing in front of the machine, ready to operate it. Be sure to mention the design and size block you desire to make.



Rock Face and End Corner Block with double air space.



Rock Face Whole Block made with core endgates.



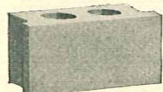
One Half and Two Quarter Block. Has rock design.



Rock Face Block with opening on ends for joists.



Rock Face Inside Corner Block. Has one half plain.



Plain Face Block with opening at either end for joists.



Plain Face and End Outside Corner Block. Two air spaces.



Plain Face Solid Block with single core endgates.



One Half Block and Two Quarter Plain Face Blocks.



Plain Face Whole Block with single core endgates.



Rock Face Whole Block with single air space—made on Triumph Block Machine only.



Rock Face Corner Block with single air space—made on Triumph Block Machine only.



One filling of the mold makes One Half Block and Two Quarter Blocks.



Rock Face Solid Block, to be used where an exceptional strong block is required.



Rock Face Block for joists with single air space—made on Triumph Machine only.



Rock Face Gable Block.



Outside Angle Block.



Inside Angle Block.



Plain Face Gable Block.



Rock Face Gable Block.



TRIUMPH

Concrete Block Machines

The advantages of the concrete block, as a building unit, are many. To the man who is planning to build his own home, barn, shed, wall or foundations the TRIUMPH machines shown on this page offer him the opportunity to manufacture his own concrete blocks.

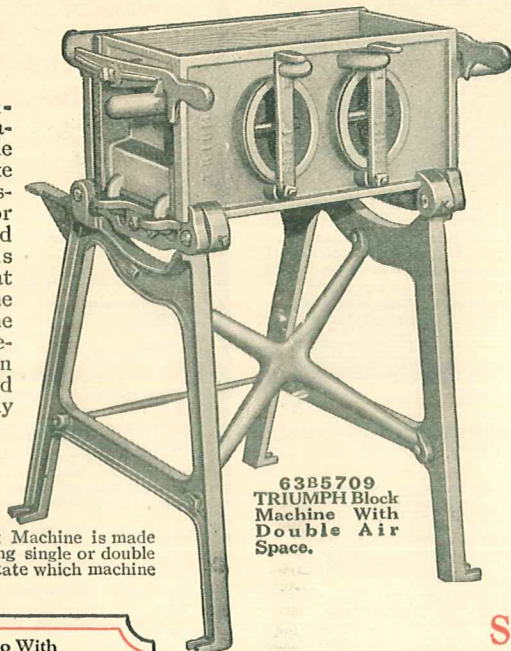
For the man who wants to make his own blocks we recommend the TRIUMPH machine. If you are planning to build we urge you to buy one of these inexpensive outfits. No matter how small a building you may be figuring on putting up, you will save money by making your own blocks on one of these machines. Its operation is simple and easy, so that anybody without practice or experience can

make best quality blocks. The blocks are made face down, which enables you to make the face of a better material than the body of the block. This is oftentimes desirable because of the better appearance that it gives. It also permits waterproofing and coloring the surface of blocks. The TRIUMPH machine uses wooden pallets, which you can make yourself.

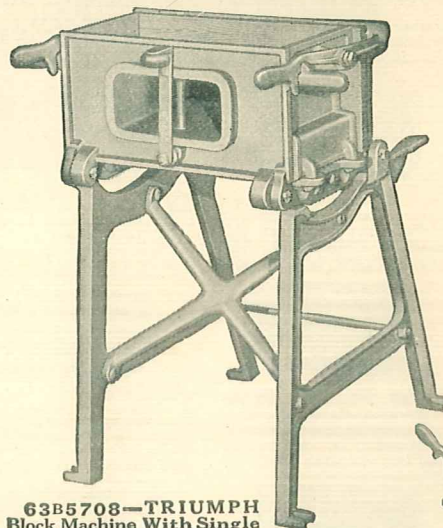
Ease of Operation

The simple construction of this machine makes it possible for anybody to make blocks quickly and easily. The mold box or flask is easily opened and locked by means of simple latches that are attached to the endgates. Close the box, pour in the material, tamp down, open up the mold box and you have a perfectly formed block.

The TRIUMPH Block Machine is made in two styles—for making single or double core blocks. Be sure to state which machine is desired.



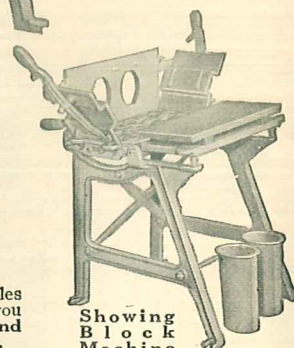
63B5709
TRIUMPH Block
Machine With
Double Air
Space.



63B5708—TRIUMPH
Block Machine With Single
Air Space.

Sturdy Construction

This machine is mounted on a substantial cast iron stand that is securely braced by crosspieces, which prevent all side play and makes a very solid and rigid machine. Sturdy construction throughout—nothing to wear.



Showing
Block
Machine
With Mold
Box Open.

Specifications

Equipment—With the parts shown at the left you will be able to make all the different styles of Rock Face blocks that are shown on page 15. If you do not care for the Rock Face Pattern you may have any of the others shown at the top of page 15. **State design you wish us to send with your machine, otherwise we will send the Medium or No. 2 Rock Face pattern.**

Size of Blocks—Blocks measure 7 3/4 in. high by 15 3/4 in. long. 1/4 in. mortar joint allowance.

Capacity—Two men can make from 100 to 125 blocks a day on the TRIUMPH machine.

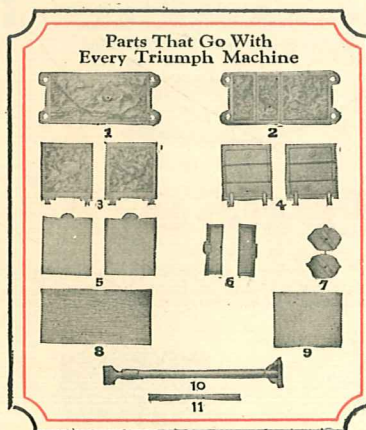
Cores—The core, which forms the air space, withdraws vertically after it is turned over, making it possible to use a wetter mixture, which makes a better block.

Single Air Space

	Size of Blocks	Shipping Weight	Each
63B5708	8x 8x16 inches	155 pounds	\$25.95
63B5710	8x10x16 inches	200 pounds	31.00
63B5712	8x12x16 inches	225 pounds	36.60

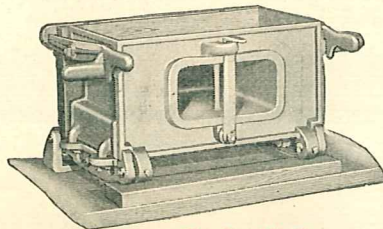
Double Air Space

	Size of Blocks	Shipping Weight	Each
63B5709	8x 8x16 inches	165 pounds	\$25.95
63B5711	8x10x16 inches	210 pounds	31.00
63B5713	8x12x16 inches	235 pounds	36.60



- 1—One Rock Face Plate for whole blocks.
- 2—One Rock Face Plate for half and quarter blocks.
- 3—Two Rock Endgates.
- 4—Two Core Endgates.
- 5—Two Dividing Plates.
- 6—Two Joist Block Attachments for making opening in block for floor joists.
- 7—Plugs for making solid blocks.
- 8—One Sample Wood Pallet.
- 9—One Gable Block Dividing Plate for making gable blocks.
- 10—One Double End Tamper.
- 11—One Striker.

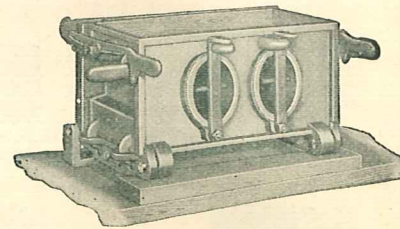
TRIUMPH Block Machines for Bench Use



Single Air Space

	Size	Shpg. Wt.	Each
63B5716	8x 8x16 inches	130 pounds	\$19.95
63B5717	8x10x16 inches	140 pounds	24.95
63B5718	8x12x16 inches	155 pounds	30.50

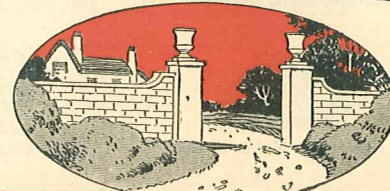
These outfits are the same as the TRIUMPH Block Machine described above, but instead of the iron stand we furnish a pair of hinge lugs to fasten the machine to a bench. Illustration at the left is the Single Air Space Type, while that shown on the right is the Double Air Space Style.



Double Air Space

	Size	Shpg. Wt.	Each
63B5704	8x 8x16 inches	140 pounds	\$19.95
63B5705	8x10x16 inches	150 pounds	24.95
63B5706	8x12x16 inches	160 pounds	30.50

The TRIUMPH machine shown above has been primarily designed for the man who wants to make blocks for his own use. The manufacturer, who wants to start out on a small scale and add to his equipment as his business grows will, however, find that the TRIUMPH is the ideal machine for him to use. Because, with the TRIUMPH, practically any kind of a block can be made, while the original investment is unusually low. For a larger capacity machine, however, we recommend the WIZARD machine shown on page 18.



TRIUMPH Block Machine Supplies



On this page are shown additional parts and attachments for the TRIUMPH Concrete Block Machine. These are provided for those who want to make a more complete line of blocks than can be made with the regular equipment that is sent with each machine.

Face Plate for TRIUMPH Block Machine



Whole Block Face Plate

Plates can be used in any TRIUMPH Block Machine. Rock design Number 2 shown in illustration. See page 15 for the different designs we can furnish.

Whole Block Plates are used for making regular 16-inch blocks. Order return endgate if corner block is desired.

Circle Block Plates are curved plates in 16-inch length and make a block with curved face conforming to circles of 12 feet, 16 feet, 20 feet or 24 feet in diameter. We always

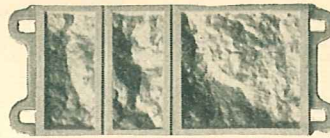
furnish plate for 16-foot circle unless ordered differently. These blocks are used for any circular wall which does not have to withstand a bursting strain, such as tanks or silos.

Fractional Face Plates are used to make less than a full 16-inch block and can be furnished with dividing lines for fractional blocks in Divisions A, B, C and E (see page 15).

Plate divided to make one half block and two quarter blocks furnished unless specified differently.

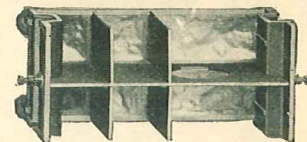
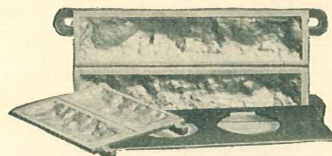
All plates weigh 15 pounds. State design wanted. (See page 15).

	Article	Each
63B5721	Whole Block Face Plate.....	\$2.35
63B5722	Fractional Block Face Plate.....	2.35
63B5728	Circle Block Face Plate.....	2.80



Fractional Block Face Plate

Four-Inch Course Block Attachment



The 4-Inch Course Block Attachment is used for making blocks 4 inches high instead of the regular 8 inches. Two of these blocks are made with one filling of the mold box. The 4-inch blocks are used for lattice and porch work, and for belt courses around a building to break up the monotony of one style or size of block. The attachment consists of a face plate for making two whole blocks, one face plate for making two half and four quarter blocks, one pair core endgates, one return endgate to match the face plate, two dividing pallets and a set of four dividing plates for making half and quarter blocks. It is necessary to have one dividing pallet for every two course block you intend to make in a day. One of the course blocks rests on the regular pallet in the machine and the other on the dividing pallet. Be sure to order enough additional pallets for a day's output. This attachment is complete for making the regular blocks and return corner blocks in whole, half and quarter sizes.

We can furnish 4-Inch Course Block attachments only in the following designs: Plain, rock panel and tooled. Be sure to tell us whether your machine has one or two cores, what design you want and the correct size.

Course Block Attachments

	Size, Inches	Shpg. Wt.	Each
63B5726	8x 8x16	46lbs.	\$10.30
63B5736	8x10x16	53lbs.	11.80
63B5746	8x12x16	60lbs.	13.30

Course Block Pallets

	Size, Inches	Shpg. Wt.	Each
63B5727	8x 8x16	6lbs.	68c
63B5737	8x10x16	8lbs.	68c
63B5747	8x12x16	10lbs.	73c

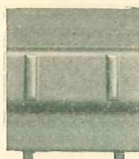
Endgates for TRIUMPH Block Machine



Rock Design Endgate

To make blocks for corner use it is necessary to have endgates that match the face plates. In many cases but one gate is needed, as the blocks can be turned either way for right or left hand corners. Some designs are not reversible, however, and for these you require both right and left ends. Right and left are determined by facing the block machine in working position.

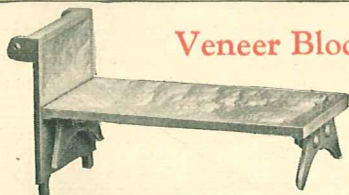
Be sure to tell us what size and design you want when you write your order.



Core Endgate

	Size	Shipping Weight	Each
63B5723	8x 8 inches	7 pounds	\$1.65
63B5733	8x10 inches	9 pounds	1.65
63B5743	8x12 inches	11 pounds	1.65

Veneer Block Attachments

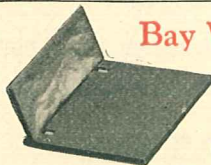


Our veneer block attachment consists of a special face plate mounted on a set of brackets which raises it up within 4 inches of the top of the mold box.

The plain or rock face plate and plain endgates must be used in the machine in connection with the veneer block attachment to make regular blocks, and a special endgate is provided for corner blocks. If your machine is not equipped with plain endgates, be sure to order them with the veneer block attachment. Price includes face plate for whole blocks, face plate for half and quarter blocks, two brackets on which face plate is supported and a special endgate for corner blocks. Be sure to mention design (see page 15) and order the proper size.

	Size	Shipping Weight	Each
63B5725	8x 8x16 inches	35 pounds	\$ 7.75
63B5735	8x10x16 inches	40 pounds	8.50
63B5745	8x12x16 inches	45 pounds	8.75

Bay Window Attachments



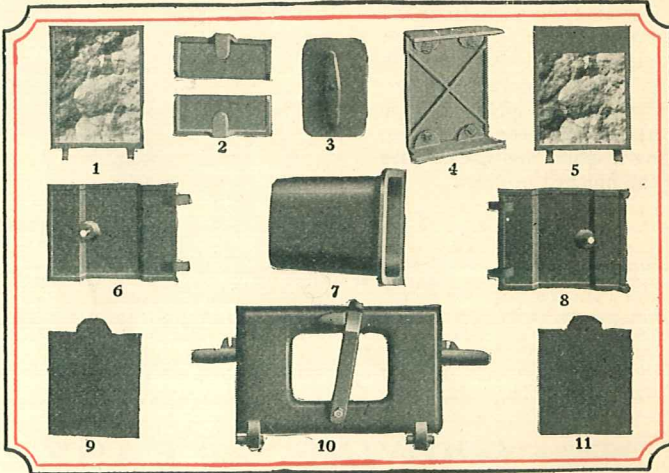
To make blocks for bay window construction you require a special attachment as illustrated. The attachment consists of a special face plate and a special angle plate for making outside corner blocks. The angle plate is adjustable to any angle commonly used for bay windows. Nearly all bay windows are built at an angle of 45 degrees, and the attachment is therefore set for this angle. Inside corner blocks are made by using the regular half and quarter plates in the machine, in connection with the gable dividing plate, making block as shown on page 15. Be sure to state design wanted (see page 15) and order the proper size.

	Size	Shipping Weight	Each
63B5724	8x 8x16 inches	30 pounds	\$4.75
63B5734	8x10x16 inches	35 pounds	5.20
63B5744	8x12x16 inches	40 pounds	6.10

Beautify and protect your property with walls made of concrete blocks. They will add dignity and charm, and increase the value of your home. They are easy to build, attractive and cost little. Blocks can be made and the wall built in your sparetime.



Flask Attachments to Change Machine Size



The Above Parts Go to Make Up One Complete Flask Attachment

Should you desire to make another size of block on your TRIUMPH Block Machine you can do so at small additional cost for a flask attachment of the proper size. The attachment consists of a back wall (10) with core (7), sample wood pallet (not illustrated), two-core endgates (6 and 8) and two rock (or other design) endgates (1 and 5), two dividing plates (9 and 11), two joist block attachment (2) and core plug (3). The 8x10x16-inch and 8x12x16-inch attachments include a special endgate (4) and plate for making blocks with 8x8-inch return end for turning corners. This breaks joints exactly in the center. This flask attachment is not a complete mold and cannot be used alone to make blocks. State whether single or double core style is desired and design wanted (see page 15). For adjustable Block Machines see page 22.

Price List of Flask Attachments

	Size of Attachment	Shipping Weight	Each
63B5757	8x 8x16 inches	110 pounds	\$13.50
63B5758	8x10x16 inches	135 pounds	16.55
63B5759	8x12x16 inches	165 pounds	20.40



The WIZARD is one of the easiest of all machines to operate. The series of pictures that are shown at the bottom of this page will give you a very good idea of the simplicity of operation. Just four easy steps after the concrete is tamped down. An excellent machine.

Makes Blocks
8x8x16 Inches
\$68.90

Operation

Machine makes blocks face down, which enables you to make the face of a better material than the backing of the block, improving the quality and appearance. The cores are automatically withdrawn when flask is turned over. One spreading movement of operating handles opens entire flask. Very simple and fast in operation. Just five easily accomplished steps in making the completed block.

Capacity

One man can make from 150 to 200 blocks per day, two men can make 250 to 300 blocks per day. These figures are conservative. This includes entire work of mixing concrete, operating machine and taking care of the finished product.

Cores are elliptical in shape and, being automatically withdrawn as flask is turned over, permit using a wetter mixture than when cores are withdrawn horizontally, which insures a stronger block and shortens the curing process.

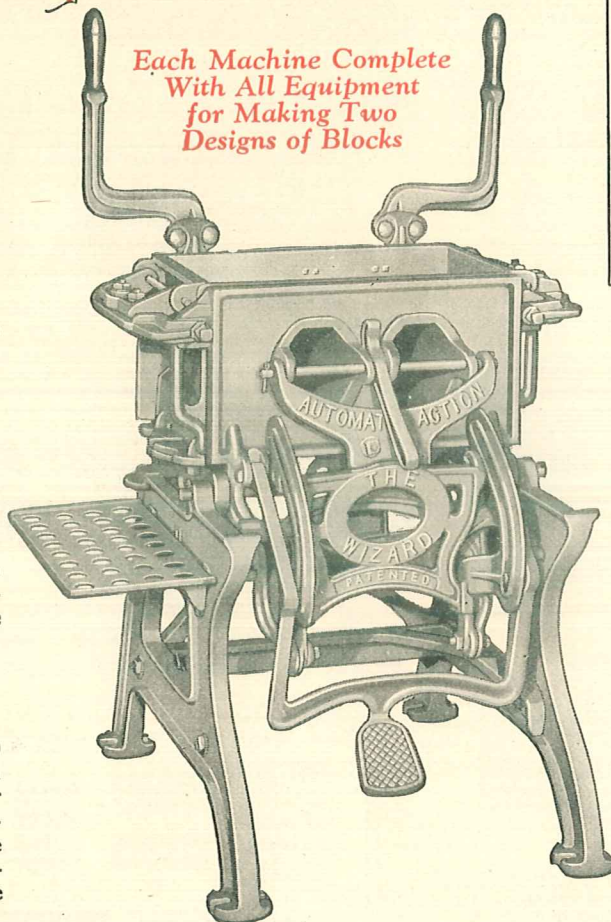
Pallets—Iron pallets are used, as they are easy to handle, do not split, warp or swell and with ordinary care will last forever. Regular equipment includes one pallet only. Additional pallets are listed on next page.

All Blocks measure $7\frac{3}{4}$ inches high by $15\frac{1}{4}$ inches long, allowances being made for $\frac{1}{4}$ -inch mortar joint.

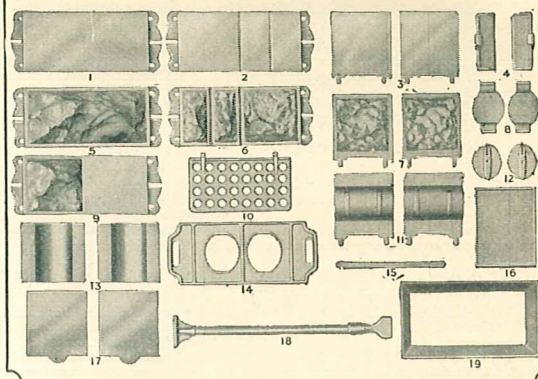
WIZARD Concrete Block Machine

For those who want to manufacture blocks in large quantities, we recommend the WIZARD Machine. It makes blocks face down, is automatic and very quick in action. Cores are automatically withdrawn as the mold box is turned over—allowing use of wetter mixture.

Each Machine Complete
With All Equipment
for Making Two
Designs of Blocks



These Parts Go With Every WIZARD Block Machine



Equipment

Each outfit is complete in every respect and includes all parts listed below and shown above. The regular equipment will make all of the blocks shown on page 15. You have your choice of any two designs of Face Plates shown on page 15. Unless otherwise specified we will ship machines with complete sets of face plates and endgates for making rock face design No. 2 and plain face design No. 4 blocks. Remember to order as many pallets as the number of blocks you intend to make per day.

1 and 5—Two Face Plates for making whole blocks, your choice of designs. See page 15.

2 and 6—Two Face Plates for making half and quarter blocks, your choice of designs. See page 15.

3 and 7—Four Return Endgates to match the face plates for making corner and pier blocks.

4—Two Joist Block Attachments for making space for joists in the wall so joists can be put in position without cutting blocks.

8—Two Pallet Plugs for making solid blocks.

9—One Face Plate for making inside corner blocks.

10—Tray for holding tools and parts.

11—Two Core Endgates for making core ends on the blocks.

12—Two Wall Plugs for making solid blocks.

13—Two Core Dividing Plates for making core ends on half and quarter blocks.

14—One Cast Iron Pallet.

15—One Strike-Off Tool for removing excess material when block is finished.

16—One Dividing Plate for making gable blocks.

17—Two Plain Dividing Plates for making plain ends on half and quarter blocks.

18—One Double End Tamper.

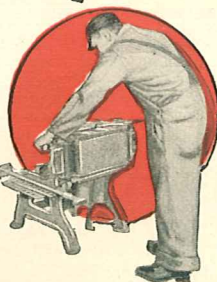
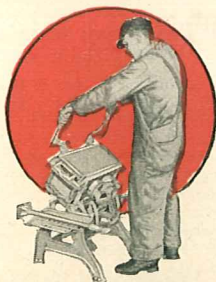
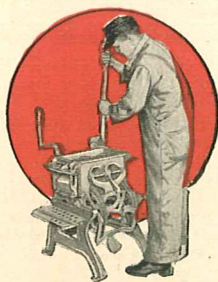
19—One Hopper.

Specifications

Prices WIZARD Block Machines

	Size of Blocks	Shpg. Wt.	Each
63B5515	8x 8x16 inches	420 pounds	\$69.90
63B5516	8x 9x16 inches	470 pounds	77.95
63B5517	8x10x16 inches	525 pounds	83.95
63B5518	8x12x16 inches	645 pounds	89.95

SHOWING the EASE of WIZARD OPERATION

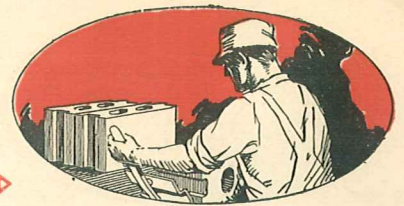


After the concrete is poured into the form the first operation is to thoroughly tamp the material face down. The second operation is to turn the flask. As this is done the cores automatically fall out of the mold box. The third operation of spreading the endgates is a simple

pulling apart of the two handles, and is accomplished with one quick, easy movement. Continuing with the spreading of the handles completes the fourth operation—that of releasing the block. The fifth and last operation is to lift the finished block from the machine.



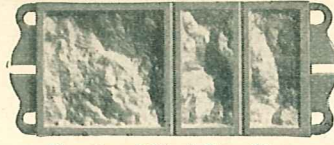
WIZARD Block Machine Supplies



Face Plates for the WIZARD Block Machine



Whole Block Face Plate



Fractional Block Face Plate

A few extra face plates in various designs form a valuable addition to every concrete plant. These plates can be used in any WIZARD Block Machine. See page 15 for the different designs we can furnish.

WHOLE BLOCK PLATES are used for making regular 16-inch blocks. If block is to be used on a corner, a return endgate must be ordered separately as listed below.

CIRCLE BLOCK PLATES are curved plates and make a block with curved face, conforming to circles of 12 feet, 16 feet, 20 feet or 24 feet in diameter. We always furnish plate for 16-foot circle unless ordered differently. These blocks are used for circular bay windows, towers or any circular wall which does not have to withstand a bursting strain, such as tanks or silos. For building tanks or silos which must be reinforced see our silo block attachment on this page.

FRACTIONAL FACE PLATES are used to make less than a full 16-inch block and can be furnished with dividing lines for fractional blocks in Divisions A, B, C and E (see page 15).

We always furnish plate divided to make one half block and two quarter blocks unless you order otherwise.

Be sure to state design wanted. (See page 15.) Shpg. wt., 17 lbs.

	Article	Each
63B5521	Whole Block Face Plate.....	\$3.05
63B5522	Fractional Block Face Plate.....	3.05
63B5523	Circle Block Face Plate. (Not illustrated).....	3.05

Endgates for the WIZARD Block Machine



Rock Endgate

To make blocks for corner use it is necessary to have endgates that match the face plates. In many cases but one endgate is needed, as the blocks can be turned either way for right or left hand corners. Some designs are not reversible, however, and for these you require both right and left ends. Right and left are determined by facing the block machine as you make a block.

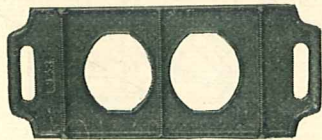
Be sure to tell us what size and design you want.



Core Endgate

	Size	Shipping Weight	Each
63B5531	8x 8 inches	9 pounds	\$2.05
63B5541	8x 9 inches	10 pounds	2.05
63B5551	8x10 inches	11 pounds	2.05
63B5561	8x12 inches	16 pounds	2.05

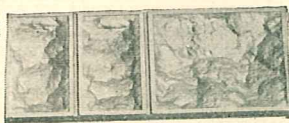
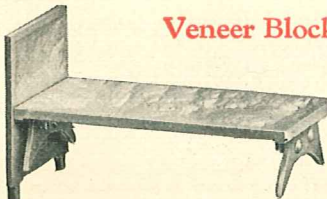
Extra Pallets for WIZARD Block Machine



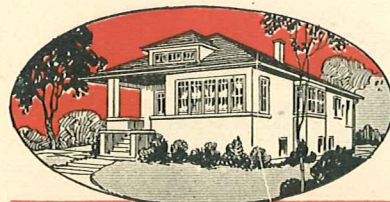
Iron pallets only can be used with the WIZARD Block Machine. You must have as many pallets as the number of blocks you intend to make in one day. The blocks must rest on the pallet until hard enough to move, which is usually one day.

	Size	Shipping Wt.	Each	Per 100
63B5537	8x16 inches	7 pounds	60c	\$58.00
63B5547	9x16 inches	9 pounds	66c	64.00
63B5557	10x16 inches	11 pounds	79c	77.00
63B5567	12x16 inches	16 pounds	93c	91.50

Veneer Block Attachments

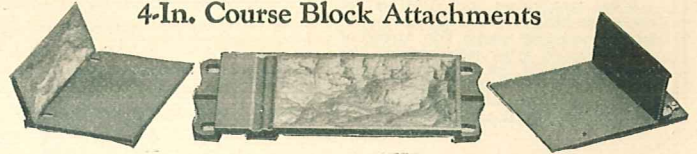


There is often a demand for blocks 4 inches thick for veneering frame or brick buildings or for building a two-piece wall with air space between. Our attachment consists of a special face plate mounted on a pair of brackets, a face plate for half and quarter blocks and a special endgate for corner blocks. The plain or rock face plate and plain endgates as furnished with the machine must be used in connection with the veneer block attachment. If your machine is not equipped with plain endgates be sure to order them with the veneer block attachment. Be sure to mention design. (See page 15.)



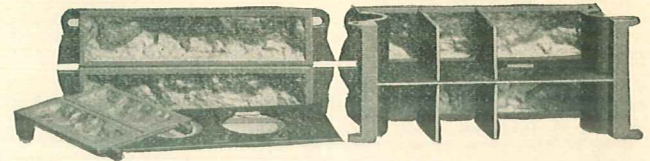
	Size, Inches	Shpg. Wt., Lbs.	Each
63B5534	8x 8x16	50	\$9.00
63B5544	8x 9x16	55	9.35
63B5554	8x10x16	60	9.60
63B5564	8x12x16	70	9.95

4-In. Course Block Attachments



To make blocks for bay window construction you require a special attachment as illustrated. The attachment consists of a special face plate and a special angle plate for making outside corner blocks, and an angle plate for inside corner blocks. The angle plate is adjustable to any angle commonly used for bay windows. Be sure to state design wanted (see page 15) and order the proper size.

	Size	Shipping Weight	Each
63B5533	8x 8x16 inches	35 pounds	\$6.30
63B5543	8x 9x16 inches	40 pounds	6.50
63B5553	8x10x16 inches	45 pounds	6.60
63B5563	8x12x16 inches	50 pounds	6.65



The 4-Inch Course Block Attachment is used for making blocks 4 inches high instead of regular 8 inches. Two of these blocks are made with one filling of the mold box. The attachment consists of a face plate for making two whole blocks, one face plate for making two half and four quarter blocks, one pair core endgates, one return endgate to match the face plate, two dividing pallets and a set of four dividing pallets for making half and quarter blocks. It is necessary to have one dividing pallet for every two course blocks you intend to make in a day. One of the course blocks rests on the regular pallet in the machine and the other on the dividing pallets. Be sure to order enough additional pallets for a day's output. This attachment is complete for making the regular blocks and return corner blocks in whole, half and quarter sizes.

4-Inch Course Block Attachments furnished only in plain, rock, panel and tooled designs. State design and size.

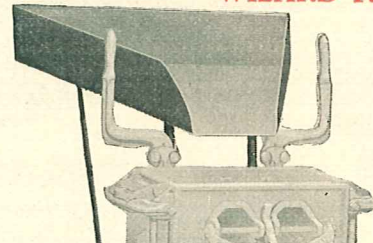
Course Block Attachments

	Size, Inches	Shpg. Wt., Lbs.	Each
63B5535	8x 8x16	70	\$12.55
63B5545	8x 9x16	75	13.15
63B5555	8x10x16	95	13.20
63B5565	8x12x16	115	13.50

Course Block Pallets

	Size, Inches	Shpg. Wt., Lbs.	Each
63B5536	8x16	7	\$0.68
63B5546	9x16	8	.75
63B5556	10x16	10	.90
63B5566	12x16	11	1.07

WIZARD Facing Table



The WIZARD Facing Table is designed expressly for attachment to our WIZARD Block Machine. If your machine has the old style straight handles, we can furnish the offset handles at price shown below. This facing table measures 28 inches wide at the back, 11 inches wide at the front and is 7 1/2 inches deep. It will hold about 2 cubic feet, which is as much facing material as it is advisable to mix at one time.

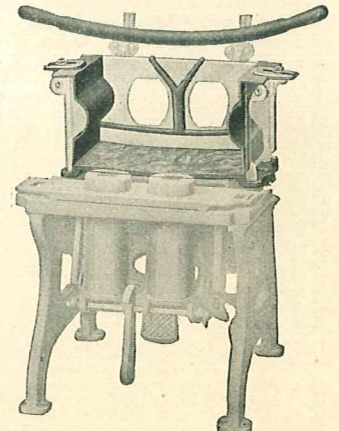
63B5525—WIZARD Facing Table, without Block Machine. Shipping weight, 40 pounds.....\$6.85

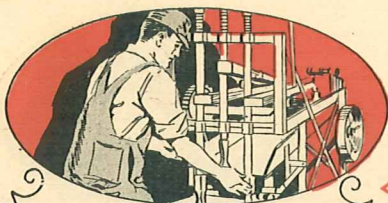
63B5526—Offset Handles for WIZARD Block Machine. Shipping weight, 10 pounds. Per pair.....\$1.00

Silo Block Attachment

Our WIZARD Block Machine can be used for making blocks with curved face and back. To make these blocks the special silo attachment illustrated is needed. Consists of a curved face plate, a pair of adjustable end plates to be used in connection with the plain endgates on the machine for regular building blocks, a yoke to hook over the back wall for forming groove in top of block, and a special strike off tool for striking off the back wall with a curve to match the face plate. This attachment is suitable only for the 8x8x16-inch WIZARD Block Machine. Silo blocks are made on the same pallets used for building blocks. Shipping weight, 40 pounds.

63B5539—WIZARD Silo Block Attachment for WIZARD Block Machine.....\$9.85





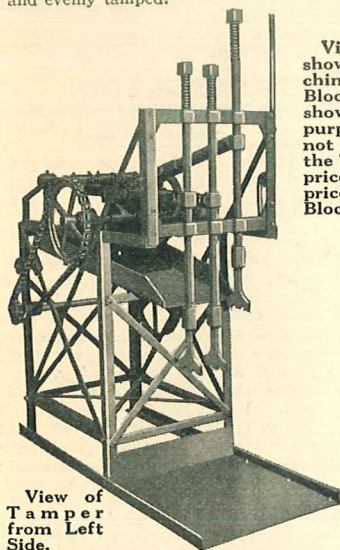
The profitable production of concrete blocks on a big scale depends entirely upon the speed of operation of your equipment, the uniformity of your product and the conservation of labor. This can best be accomplished by the use of automatic tampers.

Tamper Complete
\$184.00

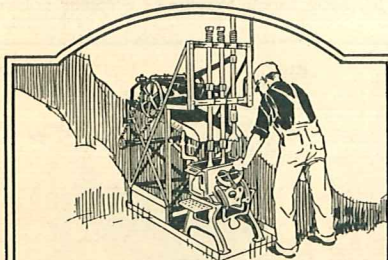
The WIZARD Automatic Concrete Block Tamper was designed purposely for use with the WIZARD Concrete Block Machine that is shown on page 18. However, it may be used with any other block machine of the same type. One big advantage of fast tamping, such as you are able to get with this machine, is that blocks can be made with a much wetter mixture, because the concrete is not stirred as in the case of slow tamping, but is uniformly and firmly packed. This produces a block of better quality than is possible to produce by hand tamping.

Each tamper weighs 18 pounds. This weight is raised and lowered 110 times a minute, insuring a block that is uniformly and evenly tamped.

View of Tamper showing Block Machine in position. Block Machine is shown for illustrative purposes only, and is not included with the Tamper or in the price. See page 18 for prices on WIZARD Block Machines.



View of Tamper from Left Side.



Sears, Roebuck and Co.

I know that I can make all the blocks necessary for any purpose needed here for the same amount of money it costs to haul the blocks to me, and will have the blocks right at hand. I am very satisfied with my purchase and a little later will add more to what I have already bought.

WILBERT BAPPOLD.

(Address furnished on request.)

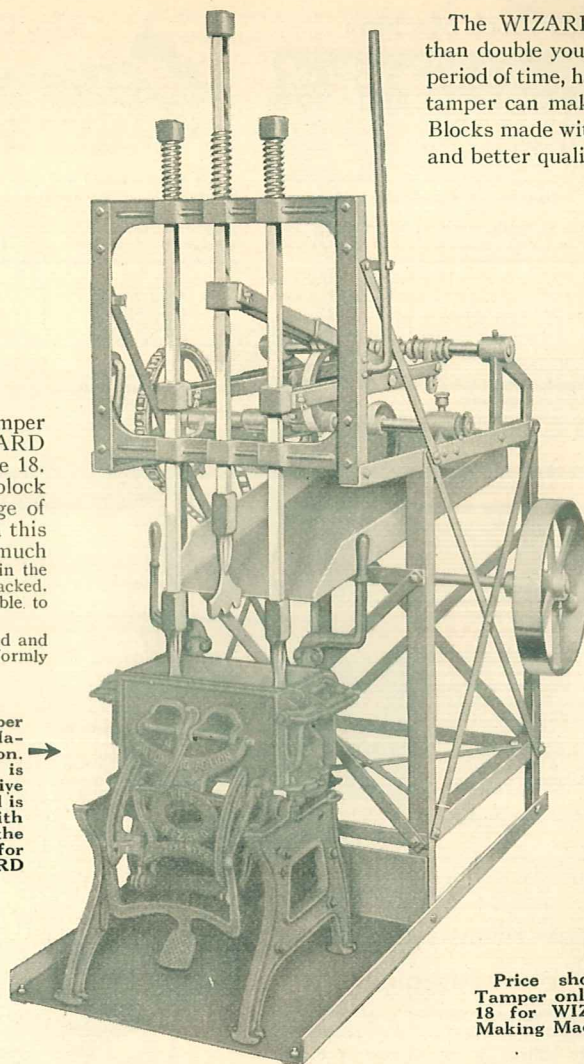
WIZARD

Automatic Concrete Block Tamper

The WIZARD Automatic Block Tamper will more than double your output of blocks. Tests, made over a period of time, have shown that two men with a WIZARD tamper can make blocks at the rate of **one a minute**. Blocks made with a WIZARD tamper are more uniform and better quality than hand tamped blocks.

No extra man is required to operate the WIZARD Tamper, as the workman who operates the mold box can throw it in or out of operation in a second's time. All that is required is the lifting or lowering of a lever. The tamper does the work while the mold box is being filled, requiring no additional time for the tamping operation.

WIZARD Tampers require but $1\frac{1}{2}$ horsepower to operate. The tamping rods are raised at regular, timed intervals, and lowered by their own weight, insuring uniformity in tamping, which is the most essential feature in making concrete blocks.

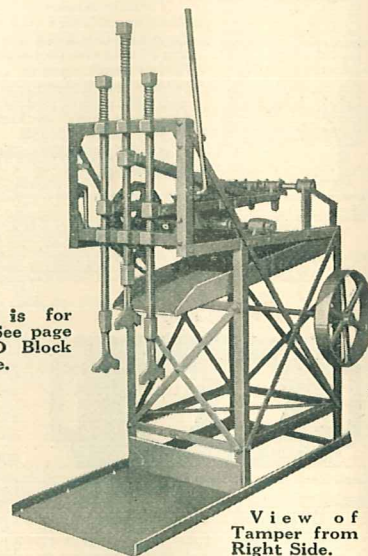


Price shown is for Tamper only. See page 18 for WIZARD Block Making Machine.

Specifications

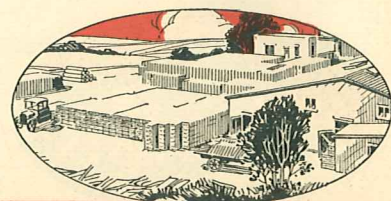
Height, over all, 7 feet 2 inches.
Length, over all, 5 feet 10 inches.
Width, over all, 3 feet 6 inches.
Frame made of 2-inch steel angle iron.
Tampers made of cast iron.
Arms of tampers made of 1-inch square cold rolled steel.
Sprocket wheel is cast iron.
Sprocket chain is malleable iron.
Weight of each tamper, 18 pounds.
Tampers drop a distance of 11 inches.
The three tampers strike 110 blows per minute.
CAPACITY—A Block a Minute.
All bearings babbitted.
All boxings fitted with Babbitted or Bronze Bushings and hard grease cups.
Pulley, 20-inch diameter, 3-inch face.
Speed, 110 revolutions per minute.
Drive and lifter shafts made of $1\frac{1}{4}$ -inch steel.
All bolts equipped with lock washers.
Tamper guides and lifter arms are reinforced with cast iron.
Shipping weight, 750 pounds.

63B5575—WIZARD Automatic Concrete Block Tamper.....**\$184.00**



View of Tamper from Right Side.

The WIZARD Automatic Concrete Block Tamper is of very rugged construction. It is built to stand hard wear. All boxings are fitted with Babbitted or Bronze Bushings and hard grease cups. Parts are well fitted together so there is a minimum of vibration when in operation. An exceptionally well built machine on which there is a positive material and workmanship guarantee.



TRIUMPH

Concrete Silo Block Machines



The TRIUMPH Concrete Silo Block Machine is constructed to meet the demands of the farm owner, who wishes to make his own silo at very little cost. This machine will make blocks that bind each other together and, at the same time, bind one course or tier to the one below it. This makes a stronger silo than can possibly be built with the plain, curved

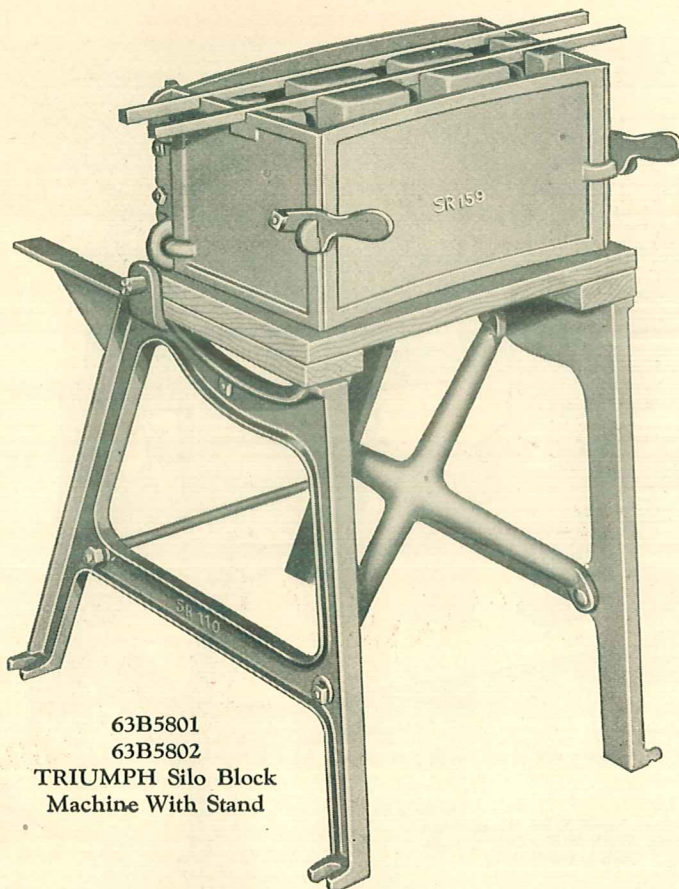
concrete block. It puts the concrete*block style of silo on a par with the very costly monolithic or poured silo, which must necessarily be built up with costly reinforcements. The average farmer cannot build a monolithic silo, but he can build a concrete block silo by using our TRIUMPH Machine. These blocks are quickly and easily laid.

To insure long life at low cost a silo must be windproof, vermin-proof, reasonable in first cost, practically free from maintenance, and fireproof. The concrete block offers a style of silo construction that combines all these desirable advantages at a very low cost.



A groove is formed in the top of each block in which the reinforcement wire is laid. A cement mortar is used to lay up the blocks, and the groove containing the wire is filled up with this cement mortar to protect the reinforcement from rust. The key openings between the blocks are filled with this cement mortar, which binds the blocks together and makes the silo just as strong as any expensively built monolithic silo.

Each machine is furnished complete with a sample wood pallet, tamper, face plates for whole blocks and for two half blocks, and dividing plate. There are no extras to buy for the machine and additional pallets can be made of any smooth lumber.

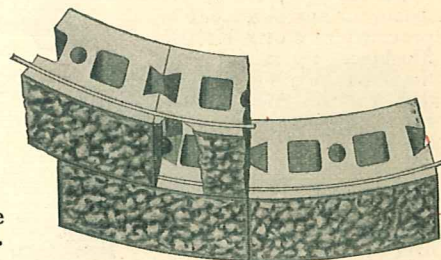


63B5801
63B5802
TRIUMPH Silo Block
Machine With Stand



The ideal silo is one which, besides keeping silage perfectly, gives its owner the longest period of service at the lowest cost. To keep silage in good condition the silo must be built so that the natural moisture of the silage will be retained. Air must be excluded and the silage must be able to settle freely and uniformly, thus preventing the formation of air pockets. In order that the silage may settle freely and to utmost compactness, the cylindrical form of silo (most readily constructed in concrete) is preferable. Concrete is the ideal building material for silo construction.

The illustration below shows how the reinforcement is placed in the groove formed at the time the block is made, and how the mortar poured in the key openings at the end of the blocks binds the blocks together and also binds the layers of tiers of blocks by going down into the depression formed in the top of the openings.



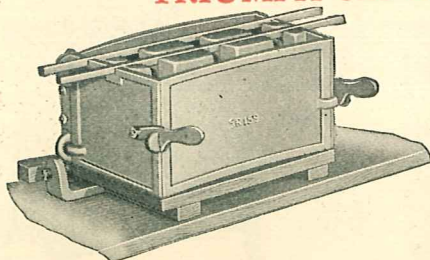
TRIUMPH Silo Block Machines With Stand

The blocks can be used for a silo of any diameter from 10 to 18 feet; 8x10x16-inch blocks should be used for the first 20 feet of silos more than 36 feet high. We furnish rock or panel design as desired. Please mention which you want, otherwise we send rock design.

63B5801—TRIUMPH SILO Block Machine, complete. Size of block, 8x8x16 inches. Shipping weight, 130 pounds. **\$21.30**

63B5802—TRIUMPH SILO BLOCK Machine, complete. Size of block, 8x10x16 inches. Shipping weight, 140 pounds. **\$22.25**

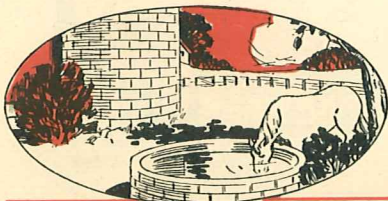
TRIUMPH Silo Block Machines Without Stand



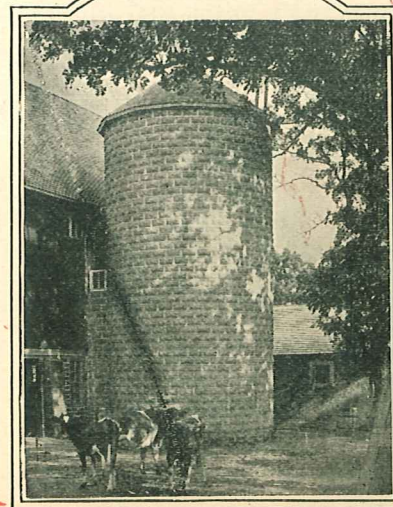
For the benefit of those who do not care for a machine with a stand we have designed a special hinge by which the silo mold box can be fastened to any wooden bench.

63B5756—TRIUMPH SILO Block Machine, without stand, for 8x8x16-inch blocks. Shipping weight, 75 pounds. **\$16.55**

63B5755—TRIUMPH SILO Block Machine, without stand, for 8x10x16-inch blocks. Shipping weight, 85 pounds. **\$18.10**



When planning a silo the farmer should take into consideration the probable number of years of service he can expect from the various types from which choice can be made. A silo that lasts only a few years is usually the most expensive, no matter how low priced it may have seemed when new. Concrete is permanent—no painting—no upkeep.





For the small manufacturer desiring to make a complete line of concrete blocks we highly recommend the KNOX Adjustable Block Machine. With the necessary equipment it is easily possible to convert this machine for making any standard size of block.

Makes Blocks
8x8x16-Inches
\$58.90

Pallets

The part of this machine on which the pallet rests is adjustable for pallets of variable thickness. This permits the use of pallets that are made of different thicknesses of lumber and also permits the use of iron pallets, as listed on the opposite page. You must have as many pallets as the number of blocks you intend making in a day. A concrete block must rest on a pallet fully 24 hours before it is in condition to be removed.

Adjustments

Quick, simple adjustments for any size block is provided for on the KNOX Machine. By referring to the illustration you will see that there are four vertical rows of five rectangular holes each. These holes are accurately spaced to hold the brackets on which the face plate is mounted. The brackets are securely held in position by means of wedges, which are tightened and locked by the handwheel screws. Shifting of the brackets and handwheel screws to other holes will change the size of the mold.



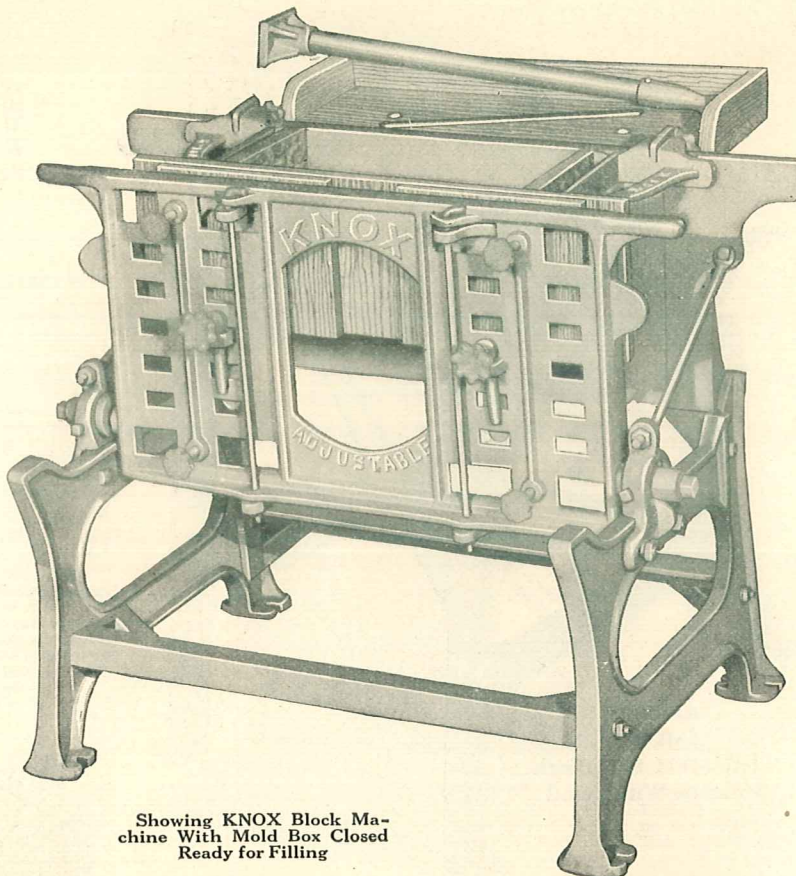
The KNOX Concrete Block Machine that I bought from you two years ago sure turns out excellent blocks. I have made thousands of blocks on it but it is just as good as new.
J. F. FREEMAN

KNOX

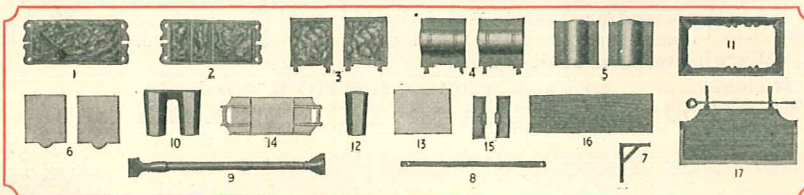
Adjustable Block Machines

The KNOX Adjustable Block Machine is an exceedingly easy working machine and can be quickly adjusted to make blocks up to 24 inches in length and in widths of 4, 6, 8, 10 and 12 inches, all 8 inches high. Makes blocks face down and either wood or iron pallets can be used. **Sizes of Blocks**—Machines are made in three sizes, to make blocks 16, 20 or 24 inches long. Each one

of these machines can be adjusted so that blocks 4, 6, 8, 10 and 12 inches wide can be made on them. All supplies necessary for converting each machine are shown on the opposite page. **Capacity**—Simplicity in operation insures, under ordinary conditions, a capacity of 200 8x8x16-inch blocks per day, for two men, and nearly as many for larger sizes. Every products plant should have a KNOX machine.



Showing KNOX Block Machine With Mold Box Closed Ready for Filling



Parts We Furnish With Each KNOX Adjustable Block Machine

- 1—One Rock Face Plate for whole blocks.
- 2—One Rock Face Plate for half and quarter blocks.
- 3—Two Rock Endgates for corner and pier blocks.
- 4—Two Cored Endgates for regular stretcher.
- 5—Two Cored Dividing Plates for half or quarter blocks with core ends.
- 6—Two Plain Dividing Plates for half or quarter blocks with straight ends.
- 7—One Iron Try Square to enable you to adjust flask true and square.
- 8—One Striker to scrape off extra material when box is filled.
- 9—One Double Tamper.
- 10—One Double Core for air space in whole blocks (24-inch machines have triple core forming three air spaces in block.)
- 11—One Combination Hopper and Guide for dividing plates.
- 12—One Single Core for air space in half blocks.
- 13—One Dividing Plate for making gable blocks.
- 14—One Sample Iron Pallet.
- 15—Two Joist Block Attachments.
- 16—One Sample Wood Pallet.
- 17—One Tray for holding tools and parts.

The illustration above shows the standard outfit furnished with the KNOX Adjustable Block Machine for making one size block in whole, half and quarter sizes.

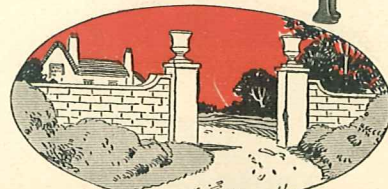
We list below KNOX Single Machines in the 16, 20 and 24-inch sizes, with equipment for making only one size of block. After you receive one of these single machines you can order additional supplies, as listed on the next page to make any other sizes or kinds of blocks you may desire. Each single machine is furnished with the set of equipment listed above, which permits you to make all styles of blocks shown on page 15.

Prices of Single KNOX Block Machines

Catalog No.	Size of Blocks	Shipping Weight	Each
63B5925	8x 8 16 inches	425 pounds	\$58.90
63B5926	8x10x16 inches	440 pounds	60.75
63B5927	8x12x16 inches	460 pounds	61.55
63B5935	8x 8x20 inches	440 pounds	61.55
63B5936	8x10x20 inches	460 pounds	64.60
63B5937	8x12x20 inches	485 pounds	67.05
63B5930	8x 8x24 inches	475 pounds	66.30
63B5931	8x10x24 inches	500 pounds	67.85
63B5932	8x12x24 inches	540 pounds	68.70



Showing KNOX Block Machine With Mold Box Open



KNOX

Block Machine Supplies

Every KNOX Block Machine owner should have a full line of parts and attachments. More products mean more satisfied customers and more profits for the manufacturer. By being able to supply all products, you avoid unnecessary expense and delay caused from having to send for them. These parts will enable you to have a thoroughly equipped plant.

Several sizes of face plates are listed for making whole or fractional blocks in various lengths. Our angle plates for making bay window blocks are furnished in five sizes and sixteen designs. You will also need a set of endgates for corner and regular stretcher blocks. A variety of sizes are listed in iron pallets and air space cores for any size block.



More profits—more satisfied customers! That is the result if you equip your KNOX Block Machine with these useful attachments. We have every size and design you need to make your plant complete. Study this page over.

63B5941 — 16-Inch Face Plate, makes fractional blocks as follows:

Division A—Make two 4-inch blocks and one 8-inch block. Division B—Make two 8-inch blocks. Division C—Make one 4-inch block and one 12-inch block. Division D—Make one 2-inch block, one 6-inch block and one 8-inch block. Division E—Make full length block with half of face smooth for use in inside corners. Division F—With division line 12 inches from end for outside angle by window blocks. **Mention division and design wanted** (see page 15), otherwise we will send Division A divided for one 8-inch block and for two 4-inch blocks. Shipping weight, 17 pounds.....**\$3.15**

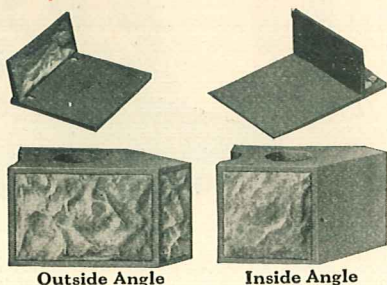
63B5942—16-Inch Circle Face Plate for curved face blocks for circular bay windows and silos. Furnished to conform with circles of 16, 20 or 24-foot diameter and in plain and rock design. **Mention design** (see page 15) and radius wanted. Shipping weight, 17 pounds.....**\$3.15**

63B5944—20-Inch Face Plate for whole blocks. **Mention design wanted.** (See page 15.) Shpg. wt., 21 lbs.**\$4.00**

63B5945—20-Inch Face Plate, make fractional blocks as follows:

Division A—Make two 5-inch blocks and one 10-inch block. Division C—Make one 5-inch and one 15-inch block. Division E—Make full length block with half of face smooth for use in inside corners. Division F—With division line 15 inches from end for outside angle bay window blocks. **Mention division and design wanted** (see page 15), otherwise Division A for one 10-inch block and two 5-inch blocks will be furnished. Shipping weight, 21 pounds.....**\$4.00**

Bay Window Construction



To make bay window blocks it is necessary to have a pair of angle plates of the proper size, a face plate divided for half blocks for making inside angle blocks and one plate with division line three-fourths the length of the plate for outside angle blocks. The plates referred to in above description will enable you to make bay window blocks for inside and outside angles as illustrated. **Be sure to tell us what design** (see page 15) is wanted and order the correct size.

Catalog No.	Thickness	Shpg. Wt.	Each
63B6020	4 in.	14 lbs.	\$4.05
63B6021	6 in.	16 lbs.	4.20
63B6022	8 in.	18 lbs.	4.30
63B6023	10 in.	18 lbs.	4.40
63B6024	12 in.	20 lbs.	4.50

Face Plates



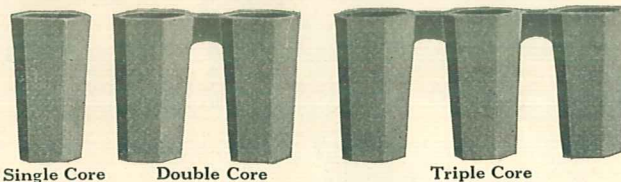
Face Plate for Whole Blocks

Face Plate for Fractional Blocks

A few additional face plates in various designs should be on hand in every block plant. We can furnish three sizes of plates for the KNOX machine and each size can be had for making whole blocks or fractional blocks in various lengths as listed.

63B5940—16-Inch Face Plate for whole blocks. **Mention design wanted.** For designs see page 15. Shipping weight, 17 pounds.....**\$3.15**

Cores



Single Core

Double Core

Triple Core

To make the proper air space in the various sizes of blocks it is advisable to have a core for each size of block you make. All cores are made for blocks 8 inches high, the measurements given in the price list being the thickness or width and the length of block. **Be sure to select correct size and mention correct catalog number.**

Single Cores

Catalog No.	Size of Block	Shipping Weight	Each
63B5960	8x 8 inches	10 pounds	\$2.20
63B5961	8x10 or 8x12 inches	12 pounds	3.40
63B5963	10x10 or 10x12 inches	15 pounds	3.45
63B5964	12x12 inches	18 pounds	3.80

Double Cores

63B5965	8x15, 8x16 or 8x18 inches	20 pounds	\$4.65
63B5966	10x15, 10x16 or 10x18 inches	30 pounds	5.50
63B5967	12x15, 12x16 or 12x18 inches	35 pounds	6.20
63B5968	8x20 inches	25 pounds	4.65
63B5969	10x20 inches	30 pounds	7.70
63B5970	12x20 inches	35 pounds	8.55

Triple Cores

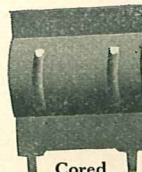
63B5971	8x24 inches	30 pounds	\$ 7.70
63B5972	10x24 inches	35 pounds	9.30
63B5973	12x24 inches	45 pounds	10.15

Endgates

Interchangeable endgate. Furnished in any design for corner blocks, and in cored style for regular stretcher blocks. **State style.** (See page 15) and order correct size.



Rock Design Endgate



Cored Endgate

Catalog No.	Size of Endgate	Shipping Weight	Each
63B5950	8x 4 inches	6 pounds	\$1.75
63B5951	8x 6 inches	7 pounds	1.80
63B5952	8x 8 inches	8 pounds	2.10
63B5953	8x10 inches	10 pounds	2.15
63B5954	8x12 inches	12 pounds	2.20

63B5946 — 20-Inch Circle Face Plate for curved face blocks for circular bay windows and silos. Furnished to make blocks to conform with circles of 16, 20 or 24-foot diameter and in rock and plain designs. **Mention design** (see page 15) and radius wanted. Shpg. wt., 21 lbs.**\$4.00**

63B5947 — 24-Inch Face Plate for whole blocks. **Mention design wanted.** (See page 15.) Shipping weight, 26 pounds.....**\$4.95**

63B5948 — 24-Inch Face Plate, divided to make fractional blocks as follows:

Division A—Divided to make two 6-inch blocks and one 12-inch block. Division B—Divided to make two 12-inch blocks. Division C—Divided to make one 6-inch and one 18-inch block. Division D—Divided to make one 8-inch and one 16-inch block. Division E—Divided to make full length block with half of face smooth for use in inside corners. Division F—With division line 18 inches from end for outside angle bay window blocks. Plate Division A for two 6-inch blocks and one 12-inch block will be furnished unless otherwise ordered. **Mention design** (see page 15) and division wanted. Shipping weight, 26 pounds.....**\$4.95**

63B5949—24-Inch Circle Face Plate for curved face blocks for circular bay windows and silos. Furnished to make blocks to conform with circles of 16, 20 or 24-foot diameter and in rock and plain designs. **Mention design** (see page 15) and radius wanted. Shipping weight 26 pounds.....**\$4.95**

Iron Pallets



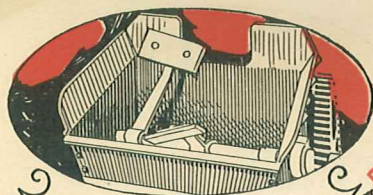
The KNOX Block Machine uses wood pallets, but as many prefer to use iron pallets we are prepared to furnish them in many sizes at prices shown below.

Be sure to give correct number and order the proper size.

Catalog No.	Size	Shpg. Wt.	Each
63B6000	4x16 in.	5 lbs.	\$0.75
63B6001	6x16 in.	6 lbs.	.80
63B6002	8x16 in.	7 lbs.	.88
63B6003	10x16 in.	11 lbs.	1.05
63B6004	12x16 in.	16 lbs.	1.25
63B6005	4x20 in.	8 lbs.	.96
63B6006	6x20 in.	9 lbs.	1.12
63B6007	8x20 in.	10 lbs.	1.25
63B6008	10x20 in.	12 lbs.	1.55
63B6009	12x20 in.	16 lbs.	1.69
63B6010	4x24 in.	8 lbs.	1.13
63B6011	6x24 in.	15 lbs.	1.69
63B6012	8x24 in.	20 lbs.	2.22
63B6013	10x24 in.	25 lbs.	2.70
63B6014	12x24 in.	30 lbs.	2.99

The concrete block manufacturer who desires to make a general line of blocks will find it profitable to look over the supplies on this page. He should equip himself with parts for his KNOX Adjustable Block Machine that will enable him, on short notice, to change his machine over for making blocks of any desired size. It is well to be equipped so that you can supply any size called for.





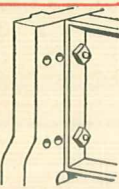
ELLIS Labor Saving Prod Concrete Batch Mixer, Stripp

Only with good concrete machinery are you able to make good products. If your plant is equipped with old machinery, from which you are no longer able to produce quality units with economical speed, we urge you to consider the low prices on ELLIS equipment.

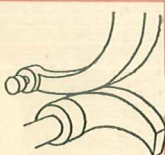
Block Machine
Complete

\$115.00

It is only necessary to remove two bolts on each side of machine to change size of mold box.



Rocker-Cam action that makes lifting of block from mold easy.



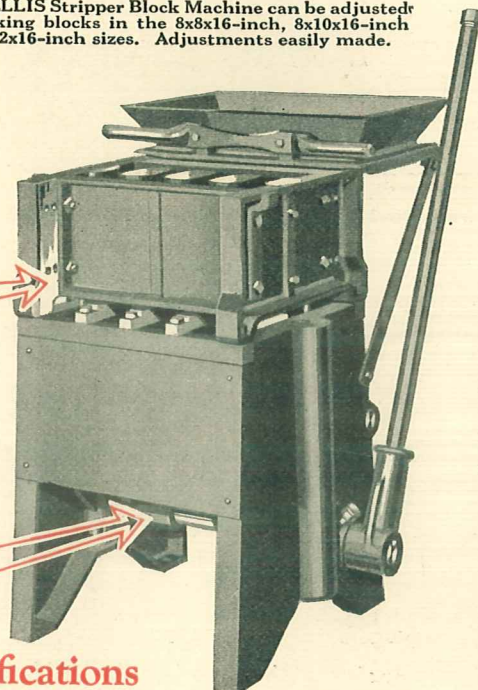
Operation—Machine makes plain blocks only in any one of the three most desirable sizes—8x8x16-in., 8x10x16-in. and 8x12x16-in. Machine is set to size block you want to make and concrete dumped in, then tamped. Tamping is fast and thorough because cores set on end position while machine is being filled. Pouring of concrete is done with the aid of a sliding hopper that easily pulls back and forth over top of machine. When block has been tamped, hopper is pushed back, which at the same time levels off top of block. One downward movement of lever lifts block clear of machine. Cam action makes easy starting.

Cores—The ELLIS Stripper Block Machine can be fitted for use with either two or three cores. Machine comes for mak-

For big production of plain concrete building units there is no equipment that will equal the ELLIS Stripper Block Machine for quality of product, speed and ease of operation. Concrete is poured into the mold box and tamped. One, easy, short pull of the

handle on the right hand side of the machine brings the block clear of the sides of the mold box and in position to be easily lifted from the machine. Hopper at top of machine acts as scraper that levels off concrete as it is pushed to the back of the machine.

The ELLIS Stripper Block Machine can be adjusted for making blocks in the 8x8x16-inch, 8x10x16-inch and 8x12x16-inch sizes. Adjustments easily made.



Specifications

ing blocks with 3 cores, providing 35% air space. If you desire to make 2-core blocks, see listing below for price of attachment.

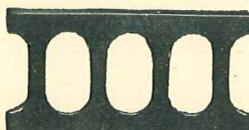
Capacity—One man working on the ELLIS Stripper Block Machine can turn out about 180 blocks an hour. This, of course, figuring that mixed concrete is continually being delivered and there are sufficient facilities for taking care of the finished product without calling on the operator to spend part of his time in removing completed units.

Equipment—Each ELLIS Stripper Block Machine comes complete as shown in the illustration above. Included with the machine is sent one sample iron pallet. With this equipment your machine is all ready to make plain faced concrete blocks with, either two or three cores, as desired.

63B5570—ELLIS Stripper Block Machine, complete. Shpg. wt., 500 lbs. \$115.00

Pallets

Iron pallets are used with the ELLIS Stripper Block Machine. One pallet is needed for each block that is made in a day. Regular equipment includes one pallet.



Extra Pallets for ELLIS Stripper Block Machines.

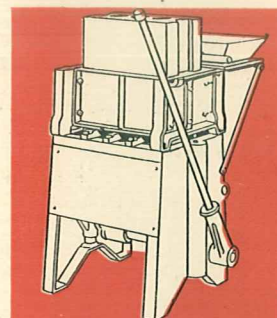
	Size	Shipping Weight	Each	Per 100
63B5548	8x16 inches	5 pounds	44c	\$43.00
63B5549	10x16 inches	6 pounds	60c	59.00
63B5550	12x16 inches	7 pounds	72c	71.00

The whole trend of the concrete products business in the past year has been toward establishing larger plants with more modern and up to date equipment that will permit the manufacture of quality blocks at a much faster rate of production. The manufacturer who wants to equip his plant for turning out a general line of blocks can best handle his work with ELLIS equipment as shown above. Specially designed for quality and quantity production of concrete products.

Tamper
Complete

\$189.95

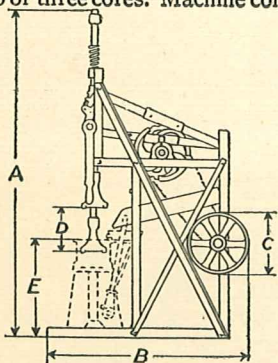
Illustration below shows the ELLIS Stripper Block Machine in position, ready for making the block. The famous Rocker-Cam action of this machine makes it possible for the operator to strip the finished block out of the machine and into position for removing with one short, even pull of the handle. Block automatically stays in this position so both hands can be employed in removing finished product.



The ELLIS Automatic Tamping Machine is specially designed for operation with the ELLIS Stripper Block Machine. It is unusually fast and thorough. The weight of each of its four tampers is 20 pounds. The 4 tampers strike 147 blows per minute.

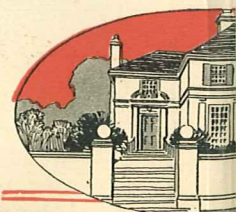
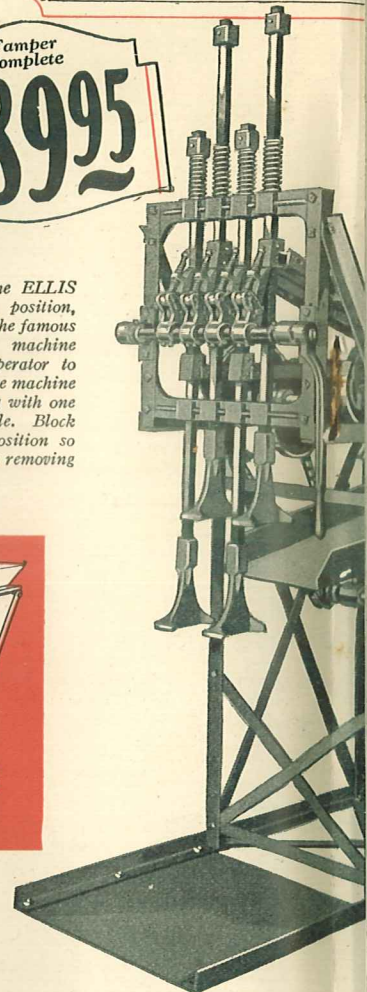
No extra man is needed to operate the ELLIS Automatic Tamper. The workman who is handling the ELLIS Stripper Block Machine can throw the tamper in or out of operation in a second's time. All that is necessary is the raising and lowering of a lever. The tamper is doing its work while the concrete is flowing into the mold box. This saves practically all the tamping time, because it is done in the same time that would be ordinarily required for filling the mold box alone.

ELLIS Tampers require but 1½ horse-power.

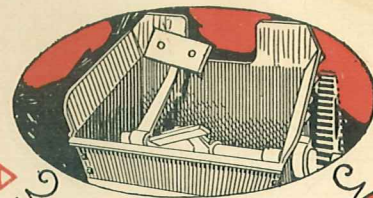


Dimensions

A	B	C	D	E
104 In.	63 In.	20 In.	16 In.	32½ In.



Concrete Products Plant **EQUIPMENT** Stripper Block Machine and Tamper



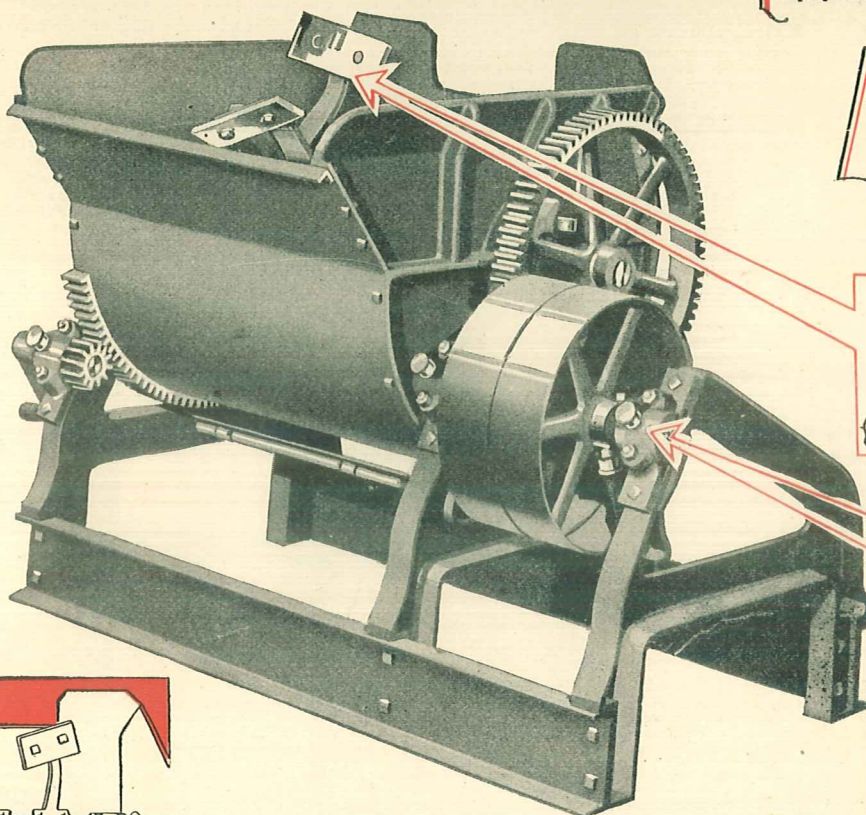
The mixing of concrete in a permanent plant for the manufacture of concrete products offers the opportunity for a much more scientific mix than is possible to obtain in field poured concrete. This is the one big reason why factory made products have the advantage over

others. The ELLIS Batch Mixer is a specially designed machine for scientifically mixing concrete. Experience and tests have proved that the open type of machine with the revolving shovel-like blades, as in the ELLIS, is the best. A well built machine.

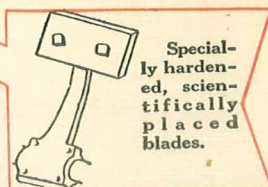
Modernize your plant with **ELLIS** products plant equipment. Each separate machine combines the very best of proved and tried features. Sears low price and guaranteed satisfaction on all machinery make the ELLIS the best and safest equipment for you to buy.

Diagram above shows a suggested plan for the most economical operation of the ELLIS equipment shown on these two pages. Material is obtained from overhead hopper or storage bin and is drawn into car or chute. Cement, water and other supplies are stored at this point so that they can be dumped into mixer easily. Mixed concrete is dumped out of mixer and is drawn up over tamper and into block machine. Finished products are loaded direct on trucks and taken to storage sheds.

Illustration below shows how scientifically arranged shovel-like paddles in ELLIS Batch Mixer overlap and cover every portion of drum.



Batch Mixer Complete
\$145.70



Specifications

Mixing Drum—The drum of the ELLIS Batch Mixer is full 5 cubic feet capacity. It is lined with a specially hardened 8-gauge steel that resists wear and can easily be replaced with a new one when it does finally wear out. The drum is tilted by worm gear action controlled by one lever. This method of dumping is quickest and most satisfactory. No small doors in the bottom of drum to wear, stick and give trouble. The entire drum liner is in one piece, which means longer and more uniform wear. One of the most satisfactory methods of construction.

Frame—Heavily cast iron, strong riveted to 5-inch channel iron. Heavy, solid construction that prevents destructive vibration and wear.

Bearings—All main bearings babbitted and fitted with hard grease cups.

Gears—Specially hardened and accurately machined.

Clutch—The reliable tight-and-loose pulley type. Pulleys set in bronzed bearings fitted with hard grease cups.

Shovel Arms—Cast steel with removable paddles, strong and well made.

Shovel Paddles—Special wear resisting manganese steel, firmly fastened to shovel arms with two solid bolts. Speed of paddles, 40 revolutions per minute. Easily removed so they can be replaced when worn.

Drive Pulley—Speed, 180 revolutions per minute.

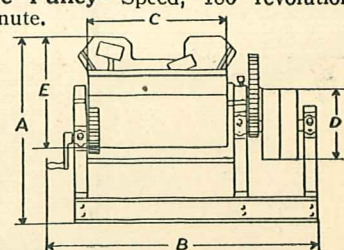
Frame made of 2-inch steel angle iron. Tampers made of high quality cast iron. Arms of tampers made of 1-inch square cold rolled steel. Weight of each tamper, 20 pounds. Tampers drop a total of 16 inches. The four tampers strike 147 blows per minute. All bearings babbitted. All boxings fitted with hard grease cups. Pulley, 20-inches diameter, 3-inch face. Speed, 110 revolutions per minute. Drive shaft is made of 1½-inch cold rolled steel. Lifter shaft is made of 1½-inch cold rolled steel. Strong construction throughout.

63B5579—ELLIS Automatic Block Tamper, complete. Shpg. wt., 900 lbs. . . . \$189.95

If you desire to make two-core blocks with the ELLIS Stripper Block Machine, order the WIZARD Automatic Block Tamper shown on page 20.

63B5958—ELLIS Concrete Batch Mixer, complete as illustrated and described. Shipping weight, 975 pounds. \$145.70

See diagram at right for full dimensions of the ELLIS Concrete Batch Mixer.



Dimensions

A	B	C	D	E
44 In.	40 In.	28 In.	16 In.	28 In.

Making money out of the concrete products business is no secret. With the proper selection of machinery and a scientific plant layout anybody can make a success. But, the selection of your machinery must be right. You must have machines that you know will give you quality products without loss of motion, and you must know that the machines you are selecting will give you the kind of wear that you must expect. ELLIS machinery combines everything desirable.

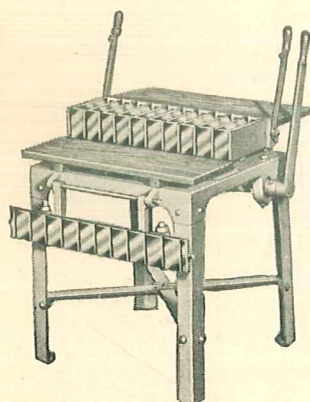


Bricklayers, who have worked with Concrete Bricks are quick to tell of their many points of superiority. The size and texture are more uniform, which makes them easier to handle, which in turn increases the number that can be laid in a day. Concrete is noted for strength.

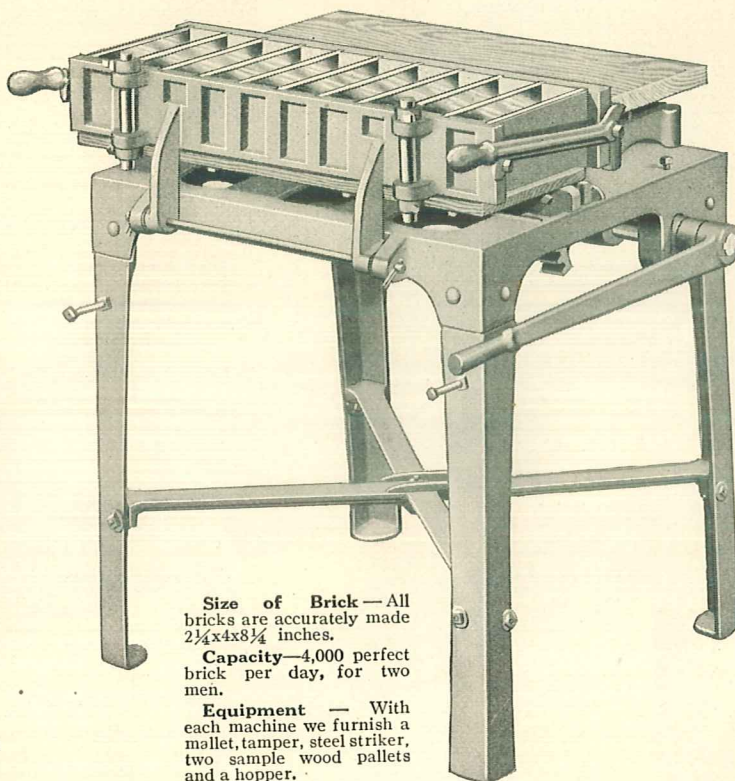
WIZARD

Two-Way Brick Machine

10-Brick Size,
\$78.90



Brick made the face up way on the pallet.



Size of Brick—All bricks are accurately made $2\frac{1}{4} \times 4 \times 8\frac{1}{4}$ inches.

Capacity—4,000 perfect brick per day, for two men.

Equipment—With each machine we furnish a mallet, tamper, steel striker, two sample wood pallets and a hopper.

Construction

The WIZARD Two-Way Brick Machine is well built throughout to give many years of continuous service. The dividing plates are accurately ground and finished and, while tamping, are firmly locked on the front plate so they cannot be forced out of place, thereby insuring perfect brick. The dividing plates are attached to a framework which is moved back and forth by a rack or cog bar underneath the machine.

Showing method of delivery of brick when made the face down way.



Cost of Concrete Brick

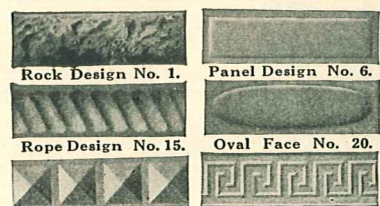
To make 1,000 common concrete brick would require:
2½ barrels cement,
15½ yards sand. Labor—two men, one-fourth day each.

Operation

When making brick face down the brick are shaped, tamped and smoothed off in the usual way on a planed bed which forms the top of the machine. A pallet is then placed on top, the dividing plates are withdrawn, the framework carrying the brick is next turned over, as shown in the illustration above at the left, and the bricks are then carried away on the pallet. When making ornamental face brick the ornamental face plates are picked loose from the brick as soon as they are turned over. One set of ten face plates is required to make a machine full of ornamental face brick at each operation. To make brick face up the planed bed is removed and the pallet placed on the bed of the machine. The bricks are tamped and smoothed off in the usual way, the dividing plates withdrawn and the bricks are then carried away on the pallet.

*63B5890—WIZARD Two-Way Brick Machine.
Shipping weight, 450 pounds.....

\$78.90



Face Plates to Make Ornamental Brick
*63B5891—Ornamental Face Plate for WIZARD Two-Way Brick Machine. Shpg. wt., each, 2 pounds. Per plate.....**75c**
*63B5893—Ornamental Plates for Making Return End Corner Brick. Shpg. wt. per pair, 3 lbs. Per pair.....**\$1.30**

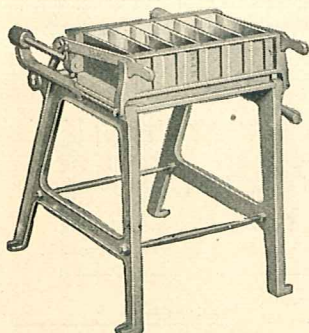


Illustration of machine with mold box locked.

TRIUMPH Six-Brick Machine

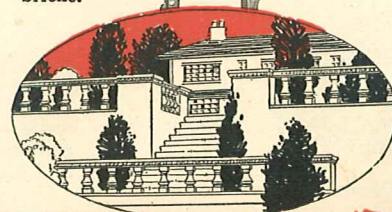
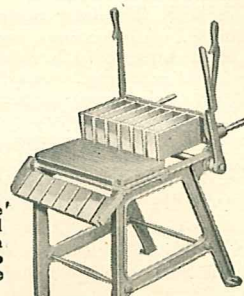
Capacity, 1,500 Bricks Per Day, One Man

This is an exceptionally well made but low priced machine. The front and back walls are accurately made machined castings, while the division plates are of heavy steel accurately ground to size. Brick made on this machine measure $2\frac{1}{4} \times 4 \times 8\frac{1}{4}$ inches. One man can make from 1,500 to 2,000 plain brick per day on this machine. The dividing plates are securely attached to the back wall and withdraw through a slotted steel plate. The back wall is drawn back by a simple lever movement and it is guided by steel rods operating in babbitted bearings. A latch on each side locks the machine securely when brick are being formed. One sample wood pallet is furnished with each machine.

*63B5765—TRIUMPH Six-Brick Machine.
Shipping weight, 150 pounds.....

\$36.85

Machine with mold box open in position to remove bricks.



BADGER

Adjustable Sill and Cap Machine

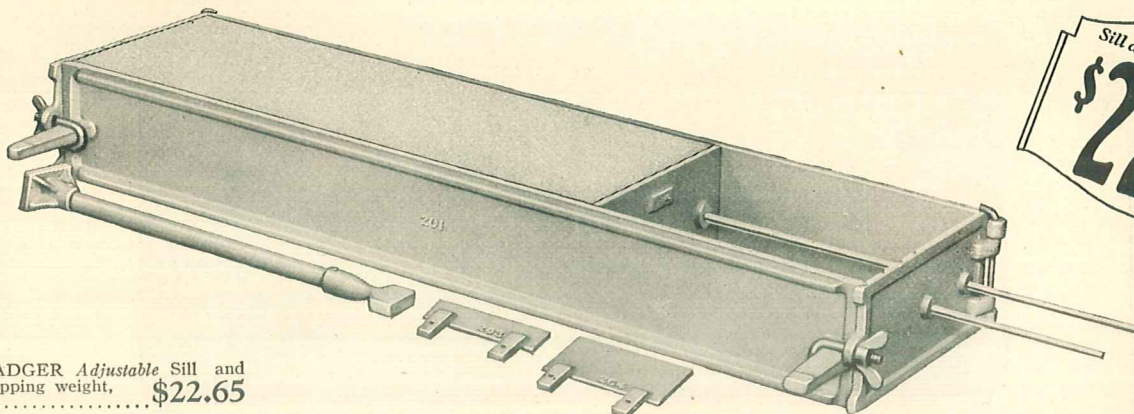


The BADGER Adjustable Sill and Cap Machine used for the making of window sills or caps, steps, water table and coping blocks, can be adjusted very easily for making stones of any length from 2 to 5 feet and in widths of 8, 10, 12 or 14 inches. Adjustments are made quickly by means of the stop off plate with rods attached for the length, and by small

stop off pieces which can be attached or taken off the end plate for the width. Makes stones $7\frac{3}{4}$ inches high, so that they lay up in the wall to match properly with blocks measuring $7\frac{3}{4}$ inches high or 8 inches with mortar joint. For making caps or steps we recommend that you use 4 or 6 pieces of $\frac{3}{8}$ or $\frac{1}{2}$ -inch iron for reinforcement.

No products manufacturing plant is complete without the proper molds for making a full line of sills and caps. The BADGER machine that is shown on this page is easily adjusted to make any desired size of stone that may be wanted. Easy to handle.

The BADGER Adjustable Sill and Cap Machine comes complete with two sizes of shut off plates and tamper, as shown in the illustration.



Adjustable Sill and Cap Machine,
\$22.65

63B5810—BADGER Adjustable Sill and Cap Machine. Shipping weight, 180 pounds. **\$22.65**

It is easy to adjust the BADGER Sill and Cap Machine for making practically any size stone. To change the length, loosen the set screws in the set collars on the adjusting rods and set the end stop off plate to make whatever length of stone you want; slide the set collars up against the endgate and tighten the screws. To change the width, remove the stop off extension pieces by loosening the two screws, making a stop off piece as long as you want the stone to be wide. The front plate will then come

up snugly against the stop off piece and is held in notches in the endgates at each end. No stand is required on the BADGER Adjustable Sill and Cap Machine. The stones can be made on any smooth floor or plank. If you wish you can make the stone right in the wall, and no handling of the stone will be necessary. It is a great deal safer and easier to move the machine rather than the stone. This method does away with the use of wooden pallets. The BADGER is fast and simple in operation.

Special Face Designs for the Badger Sill and Cap Machine



Panel Face Design Cap or Lintel Stone



Tooled Face Design Cap or Lintel Stone



Scroll Face Design Cap or Lintel Stone



Rock Face Design Cap or Lintel Stone



Tooled Edge Rock Design Cap or Lintel Stone



Tooled Edge Bushhammer Design Cap or Lintel Stone

Sill and Water Table Stones



A Sill Stone made by inserting wood block in mold to form watershed.



A triangular strip in corner of mold makes this Water Table Stone.

We do not furnish wood strips for Sill and Water Table as illustrated above. You can easily make these yourself.

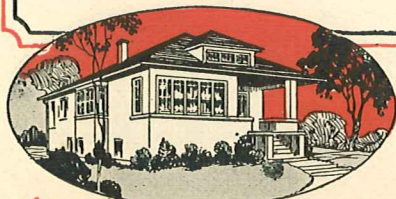
Special Face Designs for the BADGER Sill and Cap Machine

Ornamental stones, as illustrated above, can be made on the BADGER Sill and Cap Machine by means of the extra face plates listed below. These ornamental designs are especially well suited for making stones to be used in laying belt courses around a building.

To turn corners in any of these designs, put a strip of wood or steel across one corner of the mold box and make mitered ends on the stone.

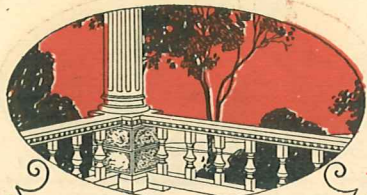
63B5811—Extra Face Plates. State design wanted. Shipping weight, 55 pounds. Each.....\$8.95

Space, in the average products plant, is a mighty big factor. For this reason we have designed our BADGER Sill and Cap Machine to operate without a stand. Takes up very little room while not being used. Stones can be made on a wooden plank, table or any other smooth surface.



The monotony of plain concrete block construction can be relieved a great deal by using a belt course of stones with ornamental faces, such as are shown above. Their use will suggest a great many attractive architectural design that can be worked out. The products manufacturer will find that suggestions like this will increase the sale of his blocks.

Stones of all desirable sizes can be made on the BADGER Sill and Cap Machine. All sizes from 2 to 5 feet in length and in widths of 8, 10, 12 or 14 in.



For beauty, service and permanence, build your porch of concrete. Unlike other material, it is rotproof, weather conditions having absolutely no effect on it. Many beautiful designs and effects are possible with the aid of our TRIUMPH Porch Column Outfits.

TRIUMPH

Porch Column Outfits

Nothing adds so much to the appearance of a home, or creates such good impression, as an attractive concrete porch. Our TRIUMPH Porch Column Outfits meet modern demands in porch architecture. The large illustration at the left hand side of the page gives an idea of the beauty of porches that can be made with our molds. This design was made with

our Ionic Capital Mold, Fluted Column Mold, Rock Face Pier Body and Egg, and Dart Pier Cap and Rail. Illustration at right is another type made with our molds, using the Capital Mold, Plain Column, Panel Pier Body and Plain Pier Cap and Rail. The size of each mold that is listed in the column below is made to match the other molds in the outfit.

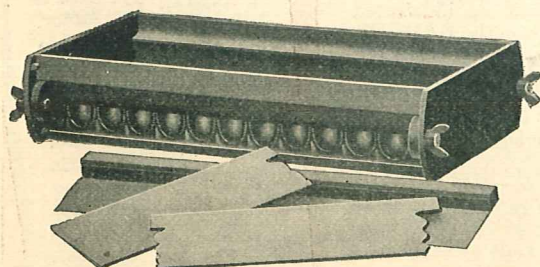
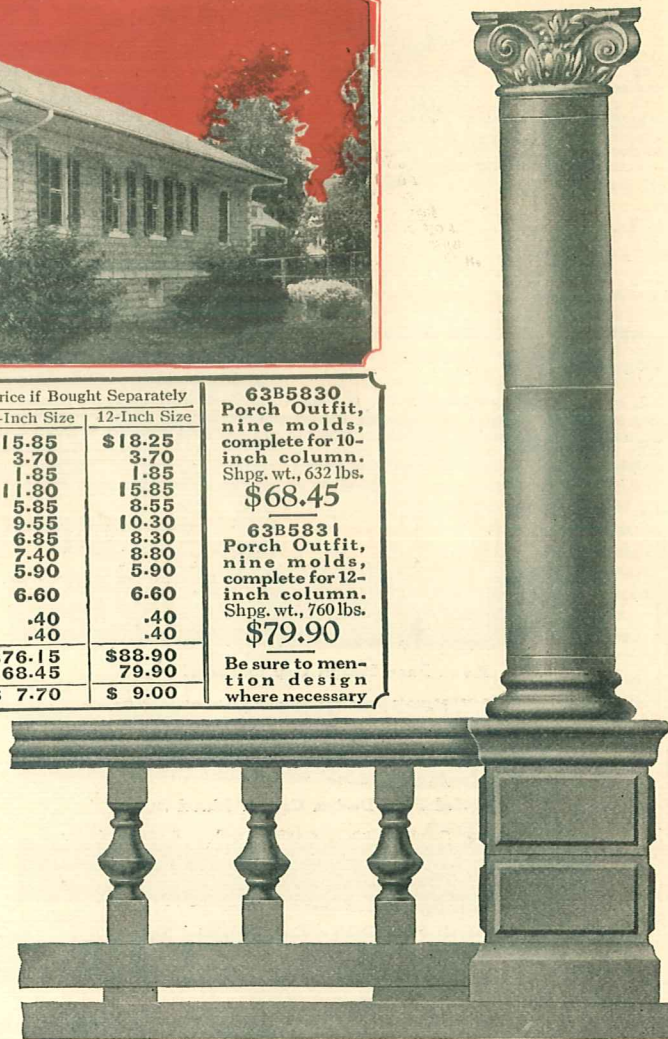


	Price if Bought Separately	
	10-Inch Size	12-Inch Size
One Combination Plain and Fluted Column Mold...	\$15.85	\$18.25
One Baluster Mold Complete.....	3.70	3.70
One Baluster Pallet.....	1.85	1.85
One Ornamental Capital Mold.....	11.80	15.85
One Column Base Mold.....	5.85	8.55
One Pier Body Mold.....	9.55	10.30
One Pier Cap Mold.....	6.85	8.30
One Pier Base Mold.....	7.40	8.80
One Top Rail Mold.....	5.90	5.90
One Bottom Rail Mold.....	6.60	6.60
One Watershed Block Mold.....		
One Core for forming recess for top rail in pier cap..	.40	.40
One Core for recess in rails for baluster ends.....	.40	.40
Total cost if bought separately.....	\$76.15	\$88.90
Price for outfit complete.....	68.45	79.90
Saving if bought together.....	\$ 7.70	\$ 9.00

63B5830
Porch Outfit,
nine molds,
complete for 10-
inch column.
Shpg. wt., 632 lbs.
\$68.45

63B5831
Porch Outfit,
nine molds,
complete for 12-
inch column.
Shpg. wt., 760 lbs.
\$79.90

Be sure to mention design where necessary



Egg and Dart Design Coping Mold

Makes a perfectly molded coping stone that is very attractive. Mold is easy to operate and releases the stone readily and without damage.

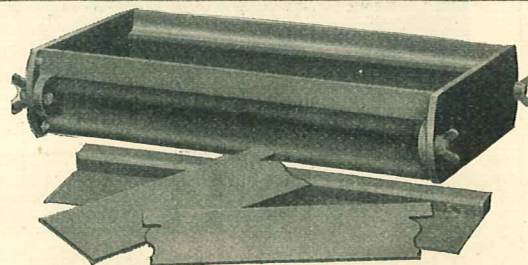
63B5767—Egg and Dart Coping Mold, complete with filler and dividing plates. Shipping weight, 65 pounds..... **\$8.45**

63B5766—Egg and Dart End Plates, Shipping weight, 12 pounds..... **2.60**

Coping Molds

Finish Your Walls With Ornamental Coping

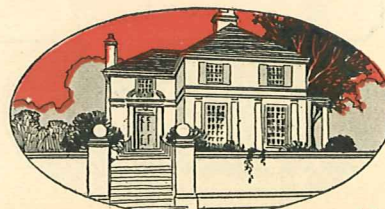
These molds make a coping stone that can be used to good advantage on any concrete wall. Each mold will make stones 2 feet long, 5 inches thick, 10 inches wide at bottom and 11 1/4 inches wide at top. Both 24-inch side plates of these molds are alike, so stones with ornamental front and back can be made, which is a very desirable feature when cap stone for a concrete block fence is desired. If stone is to be used as coping on a flat roof building, so only one ornamental face is required, the long filler plate is inserted against the back plate. To turn corners the dividing plate is placed diagonally across one corner, making a stone with mitered end. Miter plates are furnished to make miter ends on stones where one or both sides are ornamental. To make one end and both sides with design as would be required in porch rail and fence work, the special end plate is needed.



Plain Design Coping Mold

63B5768
Plain Design Coping Mold, complete with filler and dividing plates. Shipping weight, 65 lbs.
\$8.45

63B5769
Plain End Plate. Shpg. wt., 12 lbs.
\$2.60

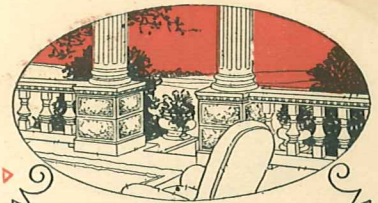


TRIUMPH

Porch Column Molds

Perfectly designed, accurately balanced and well fitted are these TRIUMPH molds for making porch columns, piers and balusters. Each mold is complete as illustrated and fitted ready for use. They are well made and guaranteed to give satisfactory service. An excellent feature of our molds is their

ease of operation. They are designed to release easily and without damaging the finished product. Keys and levers insure firm locking. We especially recommend our Combination Column Mold, with which both plain and fluted columns can be made. The variety of molds we offer will enable you to make the finest of artistic porch products.



With our TRIUMPH molds, you can make the material for an exceedingly popular and artistic porch. The egg and dart plain mold will enable you to make fancy and plain products. Can be made on any flat surface.



Egg and Dart Pier Cap Mold

This mold makes a square stone, used as a cap on a square porch pier or column. Be sure to order the correct size.

63B5816A—Egg and Dart Pier Cap Mold. 13 inches square at bottom, 15 inches square at top, 4 inches high. To be used on pier 12 inches square. Makes 81 to the cubic yard of concrete. Shipping weight, 35 pounds.....**\$6.05**

63B5839A—Egg and Dart Pier Cap Mold. 15 inches square at bottom, 17 inches square at top, 4 inches high. To be used on pier 14 inches square and in connection with round column 10 inches in diameter. Makes forty-six to the cubic yard of concrete. Shipping weight, 40 pounds.....**\$6.85**

63B5849A—Egg and Dart Pier Cap Mold. 17 inches square at bottom, 19 inches square at top, 4 inches high. To be used on pier 16 inches square and in connection with round column 12 inches in diameter. Makes thirty-six to the cubic yard of concrete. Shipping weight, 50 pounds.....**\$8.30**

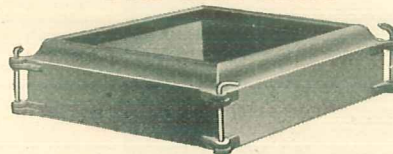


Ionic Capital Mold

Makes a product that has the appearance of cut stone. The deep portions are so designed as to release easily. Matches perfectly with columns of 10 inches and 12 inches in diameter. A cubic yard of concrete will make twenty-seven capitals for 10-inch column or eighteen for 12-inch column. Be sure to order correct size.

63B5836A—Ionic Capital Mold for 10-inch column. Makes cap 9 inches high. Shipping weight, 75 pounds.....**\$11.80**

63B5846A—Ionic Capital Mold for 12-inch column. Makes cap 10 inches high. Shipping weight, 90 pounds.....**\$15.85**



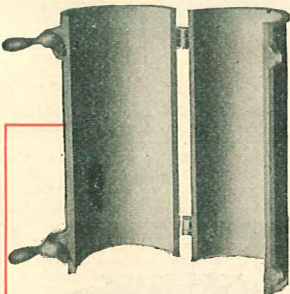
Pier Base Mold

Makes a square base stone. Be sure to order the size you want.

63B5840—Pier Base Mold to match pier blocks 12 inches square. Measures 12 inches square at top, 15 inches square at bottom and 5 1/4 inches high. Makes forty-one to the cubic yard of concrete. Shipping weight, 40 pounds.....**\$6.45**

63B5837—Pier Base Mold to match pier blocks 14 inches square. Measures 14 inches square at top, 17 inches square at bottom and 5 1/4 inches high. Makes thirty-two to the cubic yard of concrete. Shipping weight, 45 pounds.....**\$7.40**

63B5847—Pier Base Mold to match pier blocks 16 inches square. Measures 16 inches square at top, 19 inches square at bottom and 5 1/4 inches high. Makes twenty-six to the cubic yard of concrete. Shipping weight, 50 pounds.....**\$8.80**

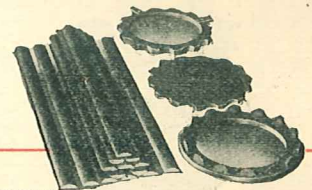


Combination Column Mold

This Combination Column Mold will make plain or fluted columns, the flutes being obtained by means of separate strips, pallet and guide ring, as shown. A stop off ring is also furnished for forming stop off flutes in column base and cap, as shown in left hand illustration on page 28.

63B5835—Combination Column Mold for 10-inch column. Height, 24 inches. Shipping weight, 125 pounds.....**\$15.85**

63B5845—Combination Column Mold for 12-inch column. Height, 24 inches. Shipping weight, 140 pounds.....**\$18.25**



A cubic yard of concrete will make 50 feet of the 10-inch or 34 feet of the 12-inch column.

Egg and Dart Top Rail Mold



Makes an attractive and beautiful rail. Used in porch work, ornamental fence and baluster rails for bridges, terraces, lawns, etc. Illustration of porch column on page 28 shows appearance of product of this mold. Stone is 4 inches high, 5 1/4 inches wide at top, 4 inches wide at bottom and 24 inches long. A cubic yard of concrete will make 200 lineal feet of this rail. Shipping weight, 40 pounds.

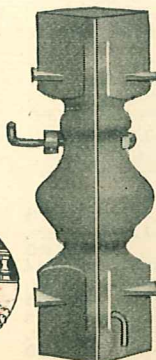
63B5852—Egg and Dart Top Rail Mold.....\$5.90

Complete Balustrade Outfit

An outfit of perfectly designed, well fitted molds that make all the needed stones for handsome balustrade or railings around porches, terraces, bridges, lawns, etc. The outfit consists of one top rail mold, either plain or egg and dart as illustrated (only one furnished; please mention which you want); one bottom rail mold, with watershed mold, one core for making recess in top and bottom rails for ends of balusters, one baluster mold and six extra baluster pallets. All molds exactly as illustrated and described. Shipping weight, 175 pounds

63B5851—Complete Balustrade Outfit.....\$27.75

Baluster Mold

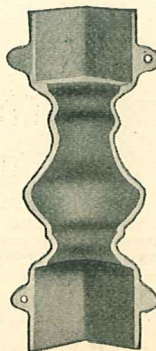


This makes a very artistic baluster with round bell shape shaft and square ends. Can be used for any purpose where a baluster is needed. Baluster must remain in half the mold, called a pallet, until hard enough to remove. Baluster is 3 1/2 inches square at top and bottom, 5 1/4 inches in diameter at the widest part of round bell and 17 inches high. A cubic yard of concrete will make 225 balusters. Shipping weight, 25 pounds.

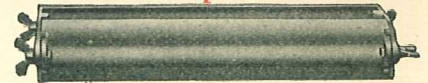
63B5855 Baluster Mold.....\$3.70

One pallet is needed for each baluster you make in a day.

63B5857—Baluster Pallet. Shipping weight, 13 pounds....**\$1.85**



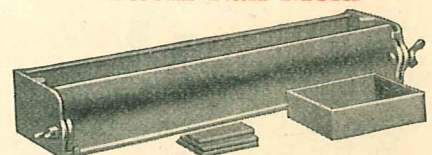
Plain Top Rail Mold



This mold is same size as the egg and dart mold. Porch rail illustration on page 28 shows the finished product. A cubic yard of concrete will make 200 lineal feet of this rail. Shipping weight, 40 pounds.

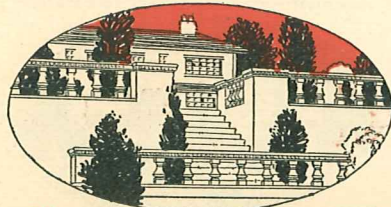
63B5853—Plain Top Rail Mold...\$5.90

Bottom Rail Mold



Makes bottom rail used in porch work and balustrades. It matches perfectly the top rail described above and the baluster described at left. Mold releases easily. With each mold we furnish a small iron mold for making square blocks on which to set the bottom rail so water will drain under them, as shown in the large porch illustration on page 28. Makes stone 4 in. high, 6 in. wide and 24 in. long. A cubic yard of concrete will make 162 lineal feet of this rail. Shipping weight, 40 pounds.

63B5854—Bottom Rail Mold....\$6.60

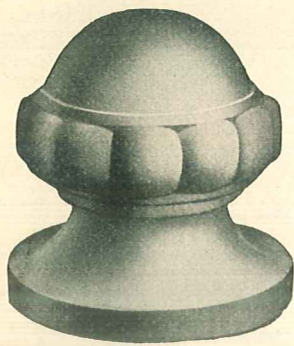


TRIUMPH

Porch Column Molds



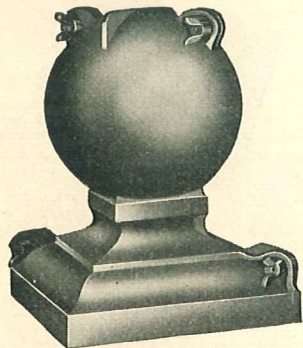
Porch column molds play an important part in the manufacture of concrete units. They are the products, aside from the regular line, that bring unusually good profits. The molds shown here will make up into many attractive porch columns and gate posts.



Ball Made in Our Ornamental Ball Mold

63B5778—Ornamental Ball Mold to match 10-inch column. Base, 12 inches in diameter; height, 12 in.; ball, 9½ inches in diameter. Shipping weight, 50 pounds. \$8.40

63B5779—Ornamental Ball Mold to match 12-inch column. Base, 14 inches in diameter; height, 14 inches; ball, 11 inches in diameter. Shipping weight, 65 lbs. \$11.35

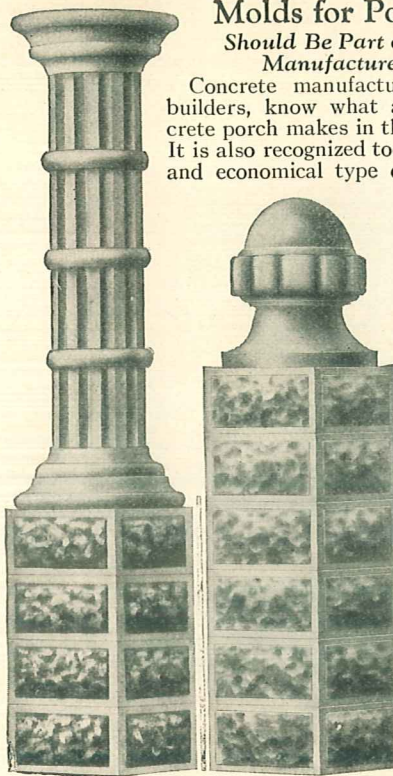


Plain Ball Mold

63B5797—Plain Ball Mold to match 10-inch column. Ball, 6 inches in diameter; base, 6 inches square; total height, 12 inches. Shipping weight, 40 pounds. \$6.85

63B5798—Plain Ball Mold to match 10-inch column. Ball, 10 inches in diameter; base, 12 inches square; total height, 16 inches. Shipping weight, 50 pounds. \$8.35

63B5799—Plain Ball Mold to match 12-inch column. Ball, 10 inches in diameter; base, 14 inches square; total height, 18 inches. Shipping weight, 65 pounds. \$10.85



Molds for Porch Columns

Should Be Part of Every Concrete Manufacturer's Equipment

Concrete manufacturers, as well as home builders, know what a vast difference a concrete porch makes in the appearance of a home. It is also recognized today as the most practical and economical type of porch. Whether you are a manufacturer or builder, you can profit greatly with an outfit such as we show on this page and on pages 28 and 29. The porch column and gate post illustrated are examples of what can be done with our regular outfit. This class of material commands a higher price and hence yields bigger profits than concrete blocks or brick.

Molds that are guaranteed perfect in material and workmanship, molds that will make for you the finest porch columns, gate posts, piers and ornamental work are shown here at extremely low prices.

Note the saving you make by buying an outfit complete. The TRIUMPH Porch Outfits contain the following molds from our regular stock, which sell at prices shown if ordered separately:

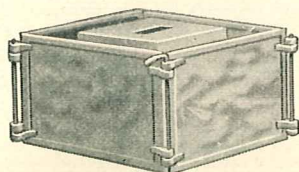
	Price When Bought Separately	
	For 10-Inch Column	For 12-Inch Column
1 Column Mold. State whether plain or fluted.	\$ 6.35	\$ 8.50
1 Column Cap and Base Mold.	5.85	8.55
1 Ring Mold.	3.55	4.90
1 Pier Mold. State design wanted.	9.55	10.30
1 Ball Mold. State whether ornamental or plain.	8.35	10.85
Total cost if bought separately.	\$33.65	\$43.10
Price when outfit ordered complete.	30.30	38.80
Saving you make.	\$3.35	\$4.30

Be sure to specify designs you want so no mistake will be made in filling your order. If not otherwise ordered we will furnish fluted column mold, rock pier body mold, and ornamental ball mold as illustrated.

Price List, TRIUMPH Porch Column and Gate Post Outfit

63B5776—TRIUMPH Porch Column and Gate Post Outfit for 10-inch column. Shipping weight, complete, 200 pounds. Five molds, complete. \$30.30

63B5777—TRIUMPH Porch Column and Gate Post Outfit for 12-inch column. Shipping weight, complete, 375 pounds. Five molds, complete. \$38.80



TRIUMPH Pier Molds

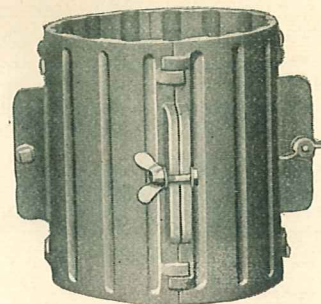
A well made mold for making square blocks used for porches, foundation piers, gate posts, etc. Three corners are bolted together with hinge joints and one corner pinned as illustrated. To release mold from stone, pull out pin and open away from stone. Furnished in the following designs: Rock, plain, panel, tooled, tooled edge rock, tooled edge bushhammer or cobblestone. Be sure to order design you want. Rock design furnished unless otherwise specified. All sizes are 7¾ inches high.

63B5817—TRIUMPH Pier Mold, 10x10 inches, with core 6 inches square. State design wanted. Shipping weight, 50 pounds. \$7.90

63B5833—TRIUMPH Pier Mold, 12x12 inches, with core 6 inches square. State design wanted. Shipping weight, 60 pounds. \$9.20

63B5838—TRIUMPH Pier Mold, used with 10-inch round column, 14x14 inches, with core 8 inches square. State design wanted. Shipping weight, 75 pounds. \$9.55

63B5848—TRIUMPH Pier Mold, used with 12-inch round column, 16x16 inches, with core 8 inches square. State design wanted. Shipping weight, 100 pounds. \$10.30



TRIUMPH Column Mold

This mold is well made of accurately fitted castings and can be assembled or taken apart easily and quickly. Furnished in two sizes, as listed, and in either fluted design as illustrated or plain design. Mention which you want. Fluted design furnished unless otherwise ordered.

63B5770—TRIUMPH Column Mold, 10 inches in diameter, 12 inches high. State whether plain or fluted is desired. Shipping weight, 45 pounds. \$6.35

63B5771—TRIUMPH Column Mold, 12 inches in diameter, 12 inches high. State whether plain or fluted is desired. Shipping weight, 65 pounds. \$8.50

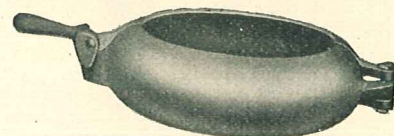


TRIUMPH Column Cap and Base Mold

Forms cap or base of column as illustrated at the above center. Can also be used under small vases and other ornaments.

63B5834—TRIUMPH Column Cap and Base Mold for 10-inch column. Shipping weight, 40 pounds. \$5.85

63B5844—TRIUMPH Column Cap and Base Mold for 12-inch column. Shipping weight, 50 pounds. \$8.55



TRIUMPH Ring Mold

Placed in between column sections as illustrated at the above center of this page, it adds to the beauty of the column; also used as supporting slab for small vases and other ornamental work.

63B5773—TRIUMPH Ring Mold to match 10-inch column. Shipping weight, 20 pounds. \$3.55

63B5772—TRIUMPH Ring Mold to match 12-inch column. Shipping weight, 30 pounds. \$4.90

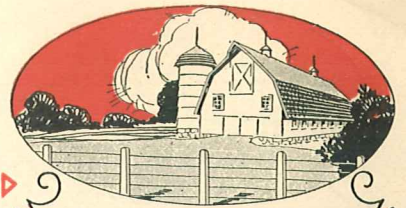
A concrete porch is a great asset to your home, both in appearance and service. It is easily kept clean, and lasts indefinitely without need of repair. You can build your own porch in your spare time with little effort and at small expense. It will pay you to select the required equipment from these pages.



Thousands of our customers write us, telling of the wonderful profits they are making in their concrete products business. A great many of them bought the molds and equipment for their own homes and then started making products for their neighbors. The money they saved on their own homes, in most cases, more than paid for the equipment.

TRIUMPH

Fence Post Molds

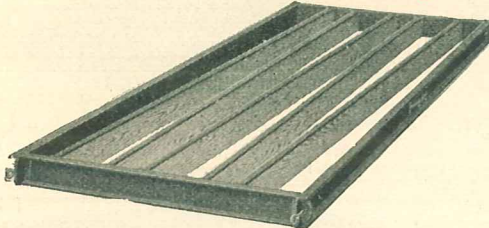


Because of their many superior qualities, concrete fence posts are growing rapidly in favor. They will not rot, nor are they injured by borers or by fungus growths. There is no replacement expense as in the case of posts that decay. Their uniformity in size and shape makes them easy to set and line up, and a fence with concrete posts presents an attractive

appearance which enhances the value of the property on which it is located. Concrete fence posts are fireproof. Weeds and trash that accumulate along the strip of land occupied by the fence can be burned off without injury to the posts. Countless weeds can be destroyed in this way as well as millions of eggs of insect pests. Use concrete fence posts.

The making of fence posts with concrete is just one of the thousands of uses that every day are saving farmers, builders, home owners, and countless others, in every phase of life, many, many dollars each year. In concrete you find the ideal building material.

TRIUMPH Post Mold Gang



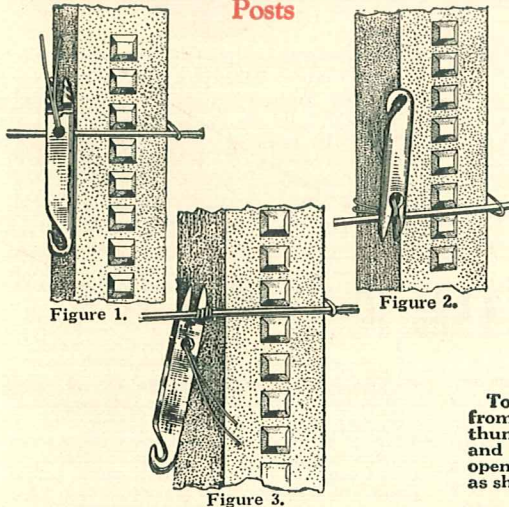
We recommend this mold to anyone who desires to make concrete fence posts in quantities. The mold is made similar to our TRIUMPH molds described at right; except that all four sides of the post are plain. It would not be practical to make division boards to form the buttons on the post.

Sides, top and bottom of this mold are of well braced castings. The division boards are of wood reinforced with band iron. Posts can be made of semi-wet material and tamped, the mold being removed as soon as tamping is completed. This mold can also be used to make posts of wet or slush concrete, but this method would necessitate leaving the mold around the posts for from three to six hours. One man should make about 150 posts per day.

Size—This mold makes posts 7 feet long, $3\frac{1}{4}$ inches thick, 5 inches wide at bottom and $3\frac{1}{4}$ inches wide at top. Each gang is furnished with a special tool for placing the reinforcing wires and a wire tie as described below.

63B5895—TRIUMPH Post Mold Gang for \$21.15
six posts. Shipping weight, 140 pounds.

Method of Attaching Fence to Concrete Posts



First, take a piece of No. 12 or No. 14 wire long enough to go around the post twice. Bend this piece of wire in the form of a hairpin and hook it over a line wire of the fence. Then bring it around the post and let it extend out in front of the post over the fence wires on the other side. Insert both ends of the tie wire through the hole in the fence tool and from the back, sliding the tool to the fence wire as shown in Figure 1. Next turn the tool upward so the tie wire coming from around post will pass through the forked end and so the fence wire will rest in small groove at the base of the fork as shown in Figure 2.

Pull forward on the tool and twist it around the line wire so the tie wire will twist tightly on the fence wire and hold it perfectly tight against the post as shown in Figure 3.

This tool will enable you to pull the tie wire so tight that it will be embedded in the corners of a square post or in the fins formed by the joining of a round mold. One of these tools is included with every TRIUMPH Post Mold without extra charge. Extra tools can be had if desired.

63B5898—TRIUMPH Fence Wire Tie. Shipping wt., 1 lb. . 50c



Build fence posts once with concrete and you build for a lifetime. In the matter of appearance and added value to your property it is well worth it to use concrete posts. They make uniform and attractive fences. Make them in your spare time.

Specifications

Operation. The TRIUMPH Post Mold can be removed from the post as soon as it is made, allowing the post to lie where it was made until it has become hard enough to move, which takes from twelve to twenty-four hours, depending on the weather, after which the posts are piled for curing, which requires from fifteen to twenty days.

Construction. The TRIUMPH Fence Post Molds are made up of two pieces of channel shape casting, securely bolted together, forming the sides of the post, and the ends are formed by small castings fitted in grooves. The mold is securely held together by two thumb bolts and can be opened or closed in an instant.

Reinforcement. All concrete fence posts must be reinforced. For reinforcement you can use $\frac{3}{16}$ -inch iron rods, pieces of barbed wire or straight wire. For the convenience of our customers we list reinforcement below. The price given is as low as it is possible to quote for this material under existing conditions in the steel market and is subject to advance. We furnish a grooving block with each mold which enables you to groove a place in the concrete for the reinforcement. These grooves place the reinforcement the proper distance from the surface of the mold to provide the greatest strength and still have enough concrete around them to prevent rusting.

Size. We make the line post molds in one size—to make a post 7 feet long, $3\frac{1}{4}$ inches thick, 5 inches wide at the bottom, tapering to $3\frac{1}{4}$ inches at the top. The large end makes a solid anchor when properly placed in the ground. The finished posts will weigh on an average about 75 pounds each.

Corner Posts. The corner post mold measures 8 feet long and is made in the single style only. It makes a post $8\frac{1}{4}$ inches square at the top and is provided with an adjustable bottom plate to make bottom any size from $8\frac{1}{4} \times 9$ inches to $8\frac{1}{4} \times 14$ inches. For corners, gates and ends of fences where the most strain comes.

Cost of Post. A good line post is made of a mixture of one part cement to two parts sand and four parts gravel. To make 100 posts requires the following material: Four barrels cement, $1\frac{1}{2}$ cubic yards sand, $2\frac{1}{2}$ cubic yards gravel. Labor, one man will make 100 posts a day. Reinforcement, four pieces to each post.

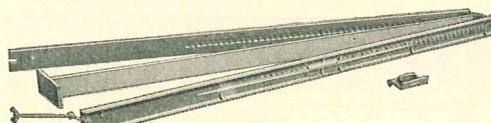
By using the prices you pay for material, you can easily figure the cost from the above. When using the double mold the labor cost is reduced about one-third. Concrete posts can be sold at a price that will make you a good margin of profit. But one mold for each man is all that you require, as the mold is removed from the post as soon as made.

63B5896—Single Line Post Mold, complete with grooving block \$10.25
and wire tie. Shipping weight, each, 50 pounds.

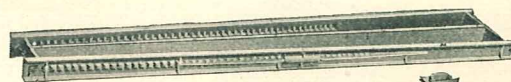
63B5900—Double Line Post Mold, complete with grooving block and wire tie. Shipping weight, each, 60 pounds. 12.85

63B5899—Corner Post Mold, makes post 8 feet long, $8\frac{1}{4}$ inches square at top and any size from $8\frac{1}{4} \times 9$ inches to $8\frac{1}{4} \times 14$ inches at bottom. Shipping weight, each, 180 pounds. \$24.70

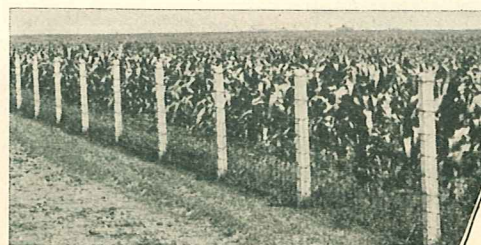
63B5897—Fence Post Reinforcement. Cut in 7-foot lengths and straightened, about 90 pieces to 100 pounds. \$4.35
Per 100 pounds.



**63B5896
SINGLE LINE
POST MOLD**

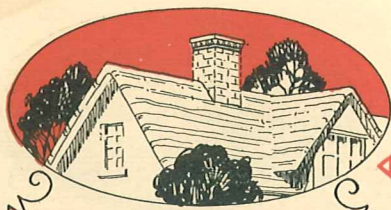


Illustrating our Double Mold, 63B5900, clamped together ready to be filled with concrete.



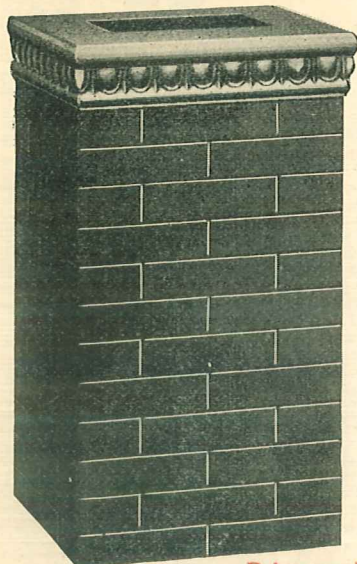
The post our molds make.

There is practically no end to the usefulness of a properly made concrete fence post. In tests that have recently been made over a period of 10 years it has been found that the average life could be estimated at about 200 years. They are without a doubt the cheapest and most practical type of fence post.



Concrete is not affected by extreme heat or cold. For this reason it is the ideal material for all structures that are exposed to the weather. Build your chimney of concrete and you build for all time—it will outlast the house.

The Completed Chimney Looks Like This



TRIUMPH

Pier and Chimney Mold

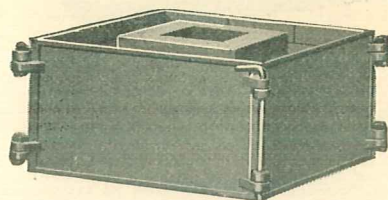
Concrete is one of the best materials that can be obtained for chimney construction. It is naturally fire resisting and, unlike most other materials, concrete improves with age. The designers and engineers of large industrial plants realize the superiority of concrete and today practically all large factory chimneys are built of reinforced concrete.

Chimneys made of concrete blocks are very desirable for dwellings and store buildings. They are better because they are easier to build. They will not break to pieces and crumble like chimneys made of brick or stone and, in addition, they are more attractive and give a refined touch to the home. Use concrete for beauty, strength and permanence.

The mold shown in the illustration forms a section of the chimney complete at one molding. All four sides are alike. If you are building your own house it would pay you to buy this machine and make the chimney blocks on it. You can use these blocks for supporting the porches and for the foundation. The cap mold makes stone suitable for finishing top of chimney, gate posts or porch piers. These molds are made of No. 1 quality gray iron castings accurately fitted together. When closed they lock up perfectly true and square. The core tapers slightly making it very easy to withdraw it. We can furnish our TRIUMPH Pier and Chimney Mold in brick face design (as illustrated), plain face or rock face. The Cap Mold can be furnished in plain design or egg and dart design, as illustrated. Be sure to tell us which you want when you place your order, otherwise we will furnish brick chimney mold and egg and dart cap mold. Chimney blocks can be made on any smooth floor, no pallets being necessary.



The Chimney Cap Mold (Egg and Dart Design)



The Pier and Chimney Block Mold

Stovepipe Core



This core can be used in any of the TRIUMPH Chimney Molds to make an opening in the block for the stovepipe. The opening is a half circle in shape, and two blocks are laid with the openings together, forming a full circular opening for the stovepipe. Made for 6-inch stovepipe only.

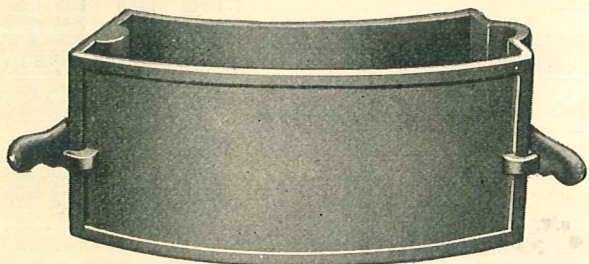
63B5804—Pipe Core. Shipping weight, 5 pounds.....\$1.00

Prices and Sizes of the TRIUMPH Pier and Chimney Mold
Be sure to give catalog number, design and price of the size mold you want.

Size of Block	Pier and Chimney Block Mold With Core All Sizes Are 7 1/4 Inches High			Chimney Cap Mold, No Core Furnished All Sizes Are 4 Inches High		
	Catalog No.	Shpg. Wt.	Each	Catalog No.	Shpg. Wt.	Each
Outside, 16x16 inches.....	63B5750	90 lbs.	\$10.50	63B5783	50 lbs.	\$ 7.75
Flue Opening, 8x8 inches.....						
Outside, 16x20 inches.....	63B5753	100 lbs.	11.65	63B5786	55 lbs.	8.10
Flue opening, 8x12 inches.....						
Outside, 16x24 inches.....	63B5751	110 lbs.	12.85	63B5784	65 lbs.	8.85
Flue opening, 8x16 inches.....						
Outside, 20x24 inches.....	63B5752	120 lbs.	17.75	63B5785	80 lbs.	10.00
Flue opening, 12x16 inches.....						

TRIUMPH

Well Curbing Mold



Curbing Mold

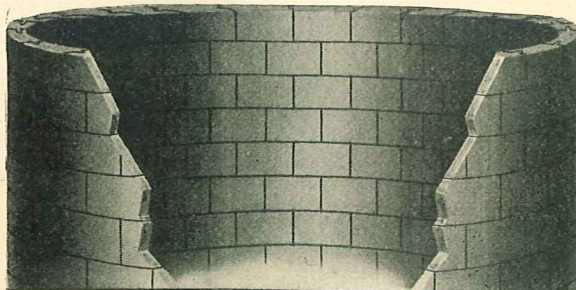
Every concrete block maker should have one or more of these molds to supply his customers with the necessary blocks for making well curbing, water troughs, cisterns and other curved walls. The mold is made in plain face design and to make blocks that lay upon circles 3, 4, 6 and 8 feet in diameter, inside measure. Be sure to order mold of proper diameter and state catalog number as given below.

Price List of Well Curbing Molds

Catalog No.	Diameter of Well	Length of Block	Shipping Weight	Each
63B5879	3 feet	17 1/4 in.	50 lbs.	\$8.10
63B5876	4 feet	18 in.	60 lbs.	8.15
63B5877	6 feet	20 1/4 in.	75 lbs.	8.20
63B5878	8 feet	17 1/4 in.	60 lbs.	8.25

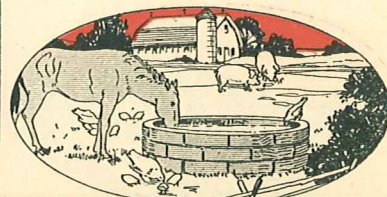
The demand for curved blocks for making well curbing or casing, water troughs or cisterns is steadily increasing, and our TRIUMPH Well Curbing Mold enables anyone to make up his own blocks for this purpose. Makes a block 3 1/2 inches thick, 8 inches high and from 17 1/4 inches to 20 1/4 inches long, depending on diameter of circle blocks are intended to make. Ends of blocks are made with a tongue and groove so each block will key

into the next one and should be laid up with a cement mortar consisting of one part cement and two parts sand. If you want to build a tank or trough to hold water it is advisable to use a water-proofing compound in the concrete or apply a coat of rich cement mortar to the wall after it is completed. In building above ground make a groove in the top of each block and in it lay a length of No. 9 wire as reinforcement. This should be fully embedded in mortar when laying the blocks.

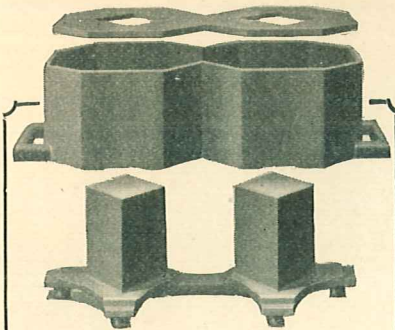


Showing Curbing Built In

Any well or cistern will only keep water sweet and in good condition as long as its walls are in good shape. Water that creeps in must be kept out. Build an everlasting well or cistern with concrete.



OWL Lattice Block Mold

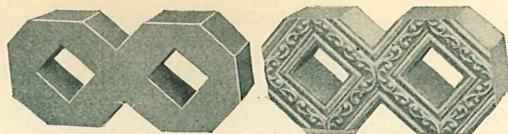


The OWL Lattice Block Mold complete with parts arranged in regular order to prepare mold for making a block. The pallet is dropped down on the cores and then outside mold placed on the offsets on the cores and it is ready to be filled. Block is made face down.

The OWL Lattice Block Mold makes an ornamental block that is suitable for many classes of ornamental work, such as enclosing the space under a porch, making porch or garden fences, cemetery fence and for many other purposes which will suggest themselves when you use the mold.

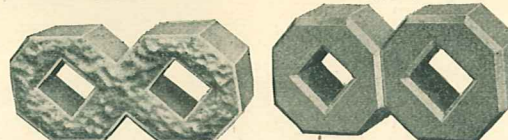
The blocks made in this mold are 16 inches long, 8 inches high and 4 inches thick. By placing small blocks of wood under the pallet you can raise it up into the outside mold to make blocks 2 or 3 inches thick as desired.

The illustrations above clearly show this outfit and method of operation.



Block as Made in This Mold With Plain Pallet

Block Made With Scroll Design Ornamental Pallet



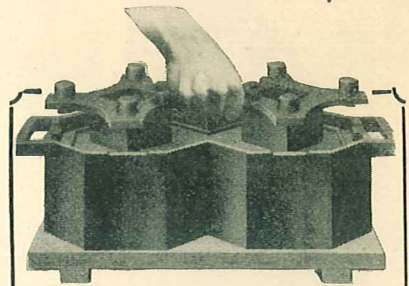
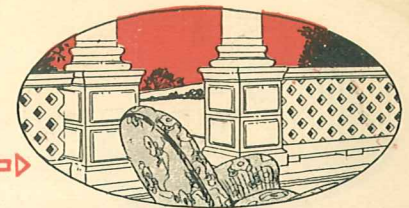
Block Made With Rock Design Ornamental Pallet

Block Made With Panel Design Ornamental Pallet

TRIUMPH Lattice Block Mold

This is a very simple mold, making blocks suitable for lattice or porch work; makes blocks 4 inches high, 5 inches wide and 16 inches long. Mold is made up of four parts held together with thumbscrews. Can be furnished in panel design, as shown, plain design or rock design. Please state which you want when you order, otherwise we send panel design. Shipping wt., 30 lbs.

63B5672—TRIUMPH Lattice Block Mold..... \$4.45



The mold turned over on a pallet and core being withdrawn. Note how iron pallet now forms a stripping plate which prevents damage to stone while pulling cores and outer casing.

For ornamental work we can furnish extra iron pallets in the following designs: Rock design, Panel design, and Scroll design. Be sure to order and allow enough money for any extra ornamental pallets you may want; but one of each kind is required, which is removed as soon as block is turned over and mold withdrawn. Price includes outside mold, cores, plain iron pallet or stripping plate, sample wood pallet and tamper.

63B5792—OWL Lattice Block Mold, complete. Shipping weight, 60 pounds..... \$9.35

63B5793—Ornamental Pallet or Stripping Plate for lattice block mold. Shipping weight, 10 pounds..... \$2.25

TRIUMPH Garden Furniture Molds

The illustrations show the product of these new and original molds for making concrete jardiniere, flower boxes, etc. Every lover of flowers or small shrubs will want one or more of these beautiful pieces for porch, garden or yard decoration. They can be made at small cost and will sell readily.

These molds are well made of best gray iron castings, well fitted and held together by simple locking devices which hold securely, yet are easily released. They are furnished with core and make products in designs only as listed.

Very pleasing results can be had by using white sand and white cement, cement coloring, mica spar crystals or crushed marble and granite with cement for making garden furniture. We recommend filling the lion head design flower box with a fine facing mixture before making the body of the box so that all the detail will be brought out. Cores and tampers shipped with each mold.

Fleur de Lis Design Flower Box

Catalog No.	Size	Shpg. Wt., Lbs.	Each
63B5887	4 inches square, 4 inches deep.....	20	\$ 3.40
63B5888	6 inches square, 6 inches deep.....	25	4.95
63B5889	8 inches square, 8 inches deep.....	50	5.85

Lion Head Design Flower Box

63B5885	8 inches by 16 inches, 8 inches deep.....	70	8.35
63B5886	8 inches by 24 inches, 8 inches deep.....	90	11.70

Vase Molds

63B5987	Height, 12½ inches; diameter at top, 17 inches; depth of bowl, 6 inches; square of base, 10 inches.....	140	17.00
63B5988	Height, 19 inches; diameter at top, 16½ inches; depth of bowl, 9 inches; square of base, 10 inches.....	150	19.15

Jardiniere Molds

63B5986	Height, 15 inches; diameter at top, 19 inches; spread of feet at bottom, 15 inches; depth of bowl, 13 inches.....	150	18.50
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Pedestal Molds

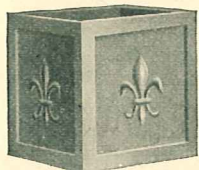
63B5989	Consist of Set of 3 Molds: Cap, Shank and Base Molds. Height over all, 24¼ inches; square of base, 15 inches.....	125	17.35
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Bird Bath Molds

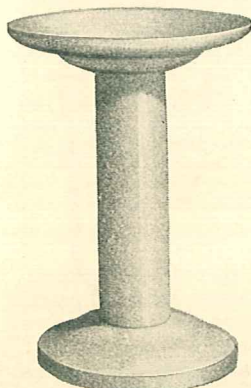
63B5992	Height, 38½ inches; diameter of bowl, 26½ inches; depth of basin, 22¼ inches; diameter of pedestal, 8 inches.....	225	29.75
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Lawn Bench Molds

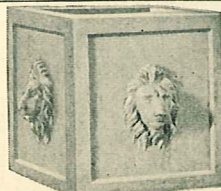
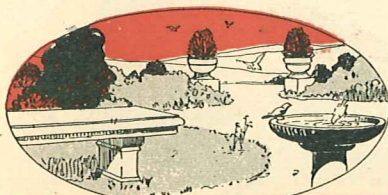
63B5993	Thickness of seat, 3½ inches; width, 20 inches; length, 50 inches; height to top of seat, 17 inches.....	125	14.95
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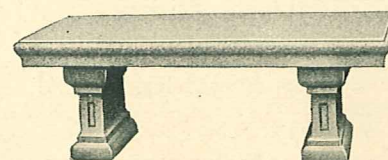
Flower Box Mold No. 63B5887 Fleur de Lis Design



Bird Bath Mold No. 63B5992



Flower Box Mold No. 63B5885 Lion Head Design



Lawn Bench Mold No. 63B5993



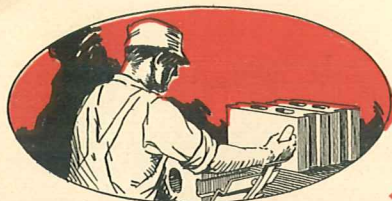
Vase Mold No. 63B5987



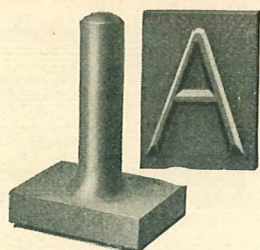
Jardiniere Mold No. 63B5986



Pedestal Molds No. 63B5989

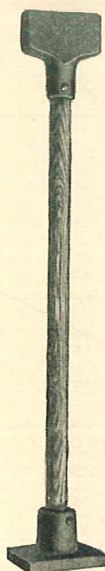


Mark Your Blocks



In many localities the law requires all blocks to be marked with the initials or name of the block manufacturer as a means of identification. The stamp here illustrated is a simple but efficient way of doing this. The letters are 3 inches high, of plain block type, designed so they will mark the concrete and withdraw easily and leave a perfect impression. Can be furnished in stamps of single letters, as shown, or will make one stamp of several letters. Mention which is wanted when ordering, otherwise will furnish all on one stamp. Letters are reversed so they will show properly when impressed in the block. Weight, single letter stamp, 4 pounds. Additional letters will add 2 pounds per letter. When ordering print letters desired carefully so no mistake will be made.

63B5807—Block Marking Stamp. Per letter..... **\$1.45**



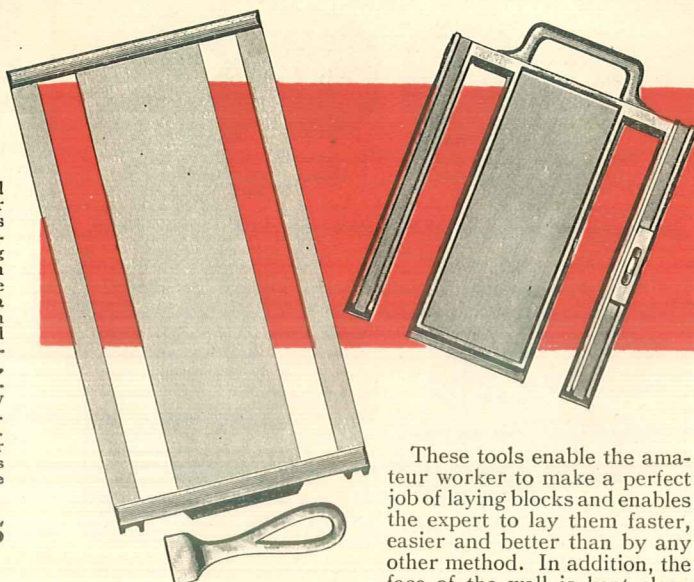
Tampers

Extra tampers for making blocks and other products. Well made of No. 1 gray iron castings, nicely finished and securely mounted on hardwood handles. We have two sizes, as follows:

63B5676—Regular Double End Tamper. Sharp end measures 2 3/8 inches wide and 1/2 inch thick; square end measures 2 1/2 inches wide and 4 inches long. Shipping weight, 5 pounds. **\$1.20**

63B5677—Extra Heavy Double End Tamper. Sharp end measures 4 inches wide and 1 1/2 inches thick; square end measures 3 3/8 inches wide and 4 1/2 inches long. Shipping weight, 9 pounds. **\$1.60**

TRIUMPH Mortar Gauges for Laying Concrete Blocks, Brick or Porch Columns



These tools enable the amateur worker to make a perfect job of laying blocks and enables the expert to lay them faster, easier and better than by any other method. In addition, the face of the wall is kept clean

and a groove of even width and depth is had between the blocks, forming a secure anchor for the beading or tuckpointing. Two gauges are furnished, one for the horizontal bed of mortar and one for placing mortar on the ends of the block.

The horizontal gauge is made with a flange on one side which is placed against the side of the block. The openings are filled with mortar and then struck off with a straight edge trowel and the gauge removed. This leaves an even line of mortar on the front and back of the block exactly 1/4 inch thick ready for the placing of the block. The end gauge is used in much the same manner, flange being pressed up against the side of the block, the mortar spread in the two openings of the gauge and struck off. The tool is removed, leaving exactly 1/4 inch of mortar on the ends of the block ready for the next block to be placed up against it. End gauge is also fitted with level glass.

The TRIUMPH Mortar Gauges are made of aluminum and are very light and easily handled, yet strong enough to stand everyday continual use. The tools are carefully finished and sized. With each set of block tools we include a reversible handle, which is instantly attached or detached from the horizontal gauge, making it very convenient to place on or take off from the block.

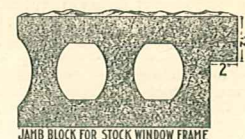
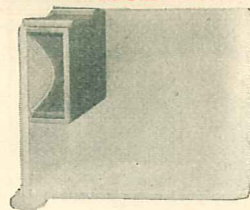
63B5694—TRIUMPH Mortar Gauge for laying blocks 8 inches thick. Shipping weight, 6 pounds. Per set..... **\$7.55**

63B5695—TRIUMPH Mortar Gauge for laying blocks 9 inches thick. Shipping weight, 7 pounds. Per set..... **8.65**

63B5696—TRIUMPH Mortar Gauge for laying blocks 10 inches thick. Shipping weight, 8 pounds. Per set..... **9.20**

63B5697—TRIUMPH Mortar Gauge for laying blocks 12 inches thick. Shipping weight, 10 pounds. Per set..... **9.70**

Window Jamb Block Attachment



Fits Any of Our Block Machines

This attachment is hung over a plain endgate in the machine and enables you to make a block with opening as shown in illustration at the right above, which is just the proper size to hold a stock window frame for concrete block buildings. To use this attachment you must have a plain endgate for your machine, so be sure to order one unless you already have it. The offset measures 3 1/4 inches from the face of the block and is 2 inches wide as shown. This attachment is made for blocks 8 inches high.

63B5606—8-Inch Jamb Block Attachment for blocks 8 inches thick. Shipping weight, 8 lbs..... **\$1.15**

63B5607—9-Inch Jamb Block Attachment for blocks 9 inches thick. Shipping weight, 10 lbs.... **\$1.15**

63B5608—10-Inch Jamb Block Attachment for blocks 10 inches thick. Shipping weight, 12 lbs.... **\$1.25**

63B5609—12-Inch Jamb Block Attachment for blocks 12 inches thick. Shipping weight, 15 lbs.... **\$1.25**

Sears guarantee of 24-hour service applies to all Concrete Machinery. This service, coupled with the fact that everything is shipped from the factory direct to you, means that you not only get prompt action on your orders, but that you actually save money on all freight and handling charges on Concrete Machinery.

Medusa Waterproofing Compound

You can make your concrete products and all concrete construction absolutely waterproof by using our Medusa Waterproofing Compound according to instructions. This material is a fine white powder and is mixed with the cement in the proportion of 2 pounds of waterproofing compound to one bag of cement. The dry powder should be added to the dry cement and the two mixed thoroughly. This waterproofed cement is mixed with the sand and gravel in the usual way. In most cases it is only necessary to use the waterproofed cement in the facing. A facing mixture made up of one part of waterproofed cement with two parts of clean sharp sand will make absolutely waterproof blocks.

63B6150—Medusa Waterproofing Compound.

Per 40-pound bag..... **\$5.90**

Cement mortar should be made with waterproofed cement. Water is not added until the waterproof cement, sand and gravel have been thoroughly mixed. For making waterproof stucco plaster, concrete blocks and other products, roofing tile, cellar walls, cistern, tank, tunnel linings, etc. Put up in 40-pound sacks and shipped from BAY BRIDGE, OHIO, DIXON, ILL., or YORK, PA. A 40-pound bag is sufficient to waterproof five barrels of cement.



How to Make CONCRETE PRODUCTS



What is concrete? Conceived in the master minds of ancient Egypt and experimented with by the scientists of the Middle Ages, it was not until 1824 that the product called "concrete" took on its first semblance of the concrete we know today. At that time Joseph Aspdin, a mason of Leeds, England, patented a pulverized product, resulting from burning an artificial mixture of slaked lime and clay, which, because of its resemblance to a building stone quarried from the Isle of Portland and then popular in England, was named "Portland Cement."

Commerically, concrete did not become practical until 1872 when David O. Saylor, closely followed by John K. Shinn and Thomas

Millen, made the Lehigh Valley of Pennsylvania famous for the manufacture of Portland cement—the most important ingredient of concrete.

Present day Portland cement is manufactured from various combinations of rocks, such as limestone and clay or shale, cement rock and limestone, limestone and blast furnace slag, and marl and clay. The essential ingredients in these rocks, lime, silica and alumina are accurately proportioned.

Concrete is a mixture of Portland cement, sand, pebbles or broken stone and water, cured and hardened to the consistency of stone. The sand and pebbles are usually referred to as "aggregate."

All Buildings of Concrete— Fireproof

Sears, Roebuck and Co.

Dear Sirs—I would have taken the picture of my farm sooner but had some fences to make. I get eight posts out of a sack of cement, making a post cost only about 25 cents. I will give you an idea of the cost of the buildings. The cost of cement varied considerably. From \$1.00 per barrel to as high as \$4.00 per barrel, but with all of that cement work is the cheapest as well as the best.

The barn is 40x40, with concrete floors and mangers. It stands me \$885.00, by me doing a part of the work. The house cost me \$2,500.00 in war time, an eleven-room house, 30x34. Next to the house is a wash house, 16x20, cement floor. The material cost me \$106.00, all complete.

I did the work. The next building is a hen house, 10x16. The cost of it is \$85.00 complete. On the west is a garage 20x22, for two cars. The material cost complete, \$145.00. Next to this is another hen house, 20x20, cost me \$110.00. Next is a machine shed, 18x48, cost me, complete as it stands, \$165.00. Of course, I and the boys did the labor. The next building is a hog house, 16x32, cost me \$127.00, complete as it stands, with floors of cement.

Am getting ready to put in foundation for cement corn crib now, 30x32, with elevator. Our first house burned December 31, 1915, so I have taken all the cement, as there won't be near the risk of fire. The parts of cement used averages five to one and six to one in all of the buildings and foundations.

Yours truly,

SOL. WINKLER.

Address furnished on request

Wet and Dry Methods of Handling Concrete

The process of mixing and curing is a simple one, and anyone using care in the selection of materials and the curing of the product by following the directions in the following pages can do satisfactory work.

There are two methods of handling concrete. One is the wet or poured process used principally in the building of sidewalks, roads, foundations, etc., and the other is the semi-dry process used in making blocks, posts, columns, etc.

Concrete and Its Uses

To go into the thousands of uses of concrete would require volumes, probably libraries. Then the subject would barely be touched. All this within the last sixty years! And now new uses are being found for this cure-all of building ills everyday. It is now commonly recognized not only as an adequate substitute for stone, brick, tile and lumber, but its superiority is generally taken as a matter of course.

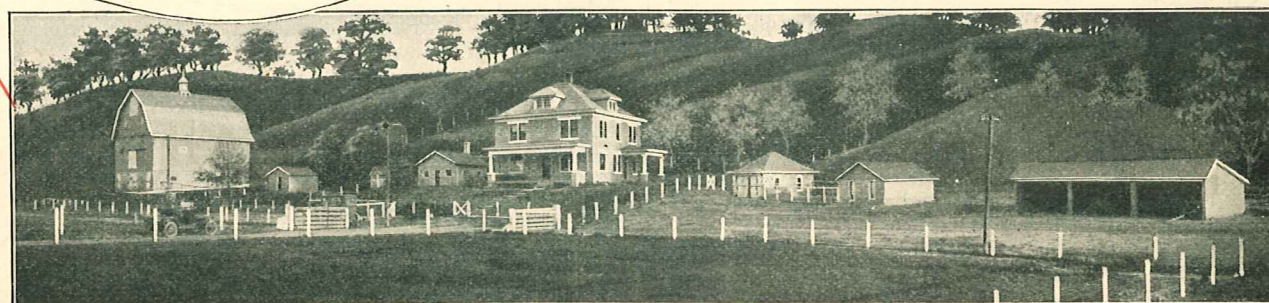
Consider its general use: Monster dams, homes, roads, silos, bridges and tanks.

What are the advantages of concrete? To list a few: It has the highest structural efficiency of any masonry building material and has toughness without being brittle. It is light and easy to handle; is durable, easy to cut and easy to nail. It is fireproof, waterproof, non-corrosive, soundproof, damp-proof and a non-conductor of heat, cold and electricity. It permits uniform shapes and sizes, allowing the development of personal initiative and artistry and, above all, is economical.

The development of concrete masonry construction, with its many economies and unique advantages, has brought within the reach of every home builder all that is beautiful, permanent and of low upkeep expense.

The farmer, especially, is benefiting from the many uses to which concrete can be put, because he finds the necessary ingredients at hand in almost every community and he can do almost all of the work himself. Every job well done is done for all time.

NOTE—Below is a photographic reproduction, showing the home and farm buildings erected by Mr. Sol. Winkler, using Sears, Roebuck and Co.'s concrete machinery.



Choosing the Materials Any Reputable Brand of Portland Cement Satisfactory

Use portland cement. All portland cement made by any reputable manufacturer is satisfactory. The only thing that makes portland cement unfit for use is exposure to moisture. Until used, portland cement should be stored in a tight dry shed and piled on a board floor high enough from the ground to prevent any ground moisture from penetrating. If when the cement is opened up there are any lumps which cannot be crushed by a light pressure of the hand, these lumps should be discarded.

Portland cement is usually shipped in 94-pound sacks or paper bags, four sacks making one barrel. If cloth sacks are properly cared for and are not torn or wet, they can be returned to the dealer after they are empty. He will allow the same price charged for them. Sacks not in good condition will not be redeemed.

What Aggregate Is

"Aggregate" is the name given sand and pebbles or broken stone used in mixing concrete. Fine aggregate is that which will pass a $\frac{1}{4}$ -inch screen; coarse aggregate, that which is retained on a $\frac{1}{4}$ -inch screen. Sand is usually referred to as fine aggregate.

Best practice demands that fine and coarse aggregates be kept separate until combined at the mixer. Pit-run or crusher-run aggregate usually should be separated and then recombined in the proper proportions.

Avoid Sand

As cement is used merely to bind together the particles of sand and gravel, the sand should be clean and sharp. Test the sand in every case. To do this, take a handful of wet sand, opening the hands and rubbing the sand lightly between them, allowing the sand to slip between the hands. Repeat 5 or 6 times, then rub the hands lightly to remove the light grains of sand which may adhere. If a thin film of sticky matter remains, it is apparent the sand contains loam and should be washed.

How to Wash Materials

The Proper Container To wash sand make a box similar to a mortar box but without a bottom and with only one end. The box should be about 12 feet long, 4 to 6 feet wide, and 12 to 18 inches deep. Put in a bottom of fine wire screening, with about 60 meshes to the inch, supporting it by cleats placed close together so that the sand will not break through. This screen bottom should extend to about 1 foot from the end of the framework having no end.

Then board the one foot solid with 1-inch boards. Set over some trough or dish with the end of the screen bottom on a line with the trough so that water that runs through the screen will run off through the trough or dish.

Keep Free of Dirt Place a box or platform at the end of the washing rack so sand which runs off can be kept free of dirt. Elevate the other end of the rack about 5 feet thus giving the washing rack the proper slope. Spray with water while throwing sand on the upper end of washer. Dirt and very fine sand will run off through the screen with the water, while the clean coarse sand will run into the box or platform at bottom of rack.

Cleaning

Pebbles and broken stone, usually called coarse aggregate, can be washed likewise. By pebbles is meant coarse material, ranging from $\frac{1}{4}$ -inch up to 1 or $1\frac{1}{2}$ inches. The same specifications apply to broken stone. When broken stone is used it is best to select that which is strong in itself; for example, that which comes from shale rock and similar materials.

Pebbles, Broken Stone and Cinders

Pebbles should be hard and round, rather than flat and long. The best broken stone that can be secured would be broken granite, although broken limestone is extensively used. In selecting the stone, it is well to bear in mind the fire-resisting qualities of the stone itself.

Disadvantages of Cinders and Limestone Cinders will burn; while limestone will disintegrate when exposed to a high degree of heat. However, for ordinary fire-resisting qualities, either is satisfactory.

Costlier Aggregate Often Most Economical More costly aggregate will frequently give the most economical concrete because of better grading. Local material, while not so well graded, occasionally is very cheap and will produce the most economical products. In most cases, however, a combination of the two will produce standard quality units at lowest cost.

Do not attempt to use bank run sand and gravel, as they are

never found in the correct proportions. In taking the material from the bank separate them into fine and coarse aggregate by screening them.

Sifting Bank Run Material A suitable screen can be made by building a frame from $2\frac{1}{2}$ to 3 feet wide and 6 feet long. Over this a screen wire netting having $\frac{1}{4}$ -inch square meshes can be nailed. If this is set at an angle of 45 degrees and the bank run material thrown at the upper end in shovelfuls, the materials will be separated into fine and coarse particles.

Other conditions remaining the same, coarse grading of aggregates produces stronger concrete than fine grading. The aim in seeking an ideally graded aggregate is to find a mixture which contains as much coarse material as can be used.

Coarse Grading an Advantage

Coarse grading may produce coarse textures, but it is recommended that manufacturers, especially, promote the use of units which have such surfaces because they are generally more economical to produce. When concrete masonry walls are to be covered with Portland cement it is especially desirable that units have rough surfaces to get the strongest possible bond.

Stone Screenings When the mixture is harsh, due to coarse grading or use of aggregate lacking in fine particles, addition of stone screenings or very fine sand will improve the product. The use of such material usually will eliminate web or corner cracking and enable the operator to remove units from machines with greater speed. The amount of fine material to be added depends on the harshness of the mixture. The percentage should be kept as low as possible because fine materials tend to lower strength and increase absorption.

Water used for mixing concrete must be clean. Do not take water from a stream or pond into which any waste from barns, chemical mills, etc., empties. Neither is sea water adaptable for concrete work. It is always safe to remember that water fit for human consumption is the best water to use.

Proper Proportioning of Material

For very accurate results a number of tests can be made to show the proper proportions of cement, fine aggregate, coarse aggregate and water.

The Water Test The water test is usually made as follows: Materials should be perfectly dry. Take a receptacle of a known capacity—a 2-quart or a gallon jar, for instance. To test sand, fill jar completely with sand, shaking it down well, level it off carefully and then pour in as much water as it will absorb, being sure to measure the water as you put it in. The quantity of water absorbed will indicate the amount of cement necessary to produce solid concrete.

The gravel or crushed stone may be tested in the same way. Bear in mind that the amount of water poured in with the gravel will indicate the amount of cement and sand required for making solid concrete.

Measuring Devices Proportioning boxes or other devices that make accurate measuring possible are essential regardless of the method employed in handling aggregates. These devices should work quickly and easily.

The 1:2:4 Mixture The proper mixture to use in many cases is one part cement, two parts sand and four parts gravel, or what is known as a 1:2:4 mixture.

The 1:2 Mixture Where only fine aggregate is used one mixture is 1:2—for the wearing course on two-course floors and sidewalks as well as facing various kinds of blocks.

A second is a 1:1½ mixture—for plastering tanks, silos and bin walls. This is to get a fine finish as nearly waterproof as possible.

A third is a 1:2½ mixture—for posts, tile, etc.

Combining Fine and Coarse Aggregate Where fine and coarse aggregate are used a 1:2:3 mixture is for backing blocks, fence posts, water troughs, tanks, etc.

A second is a 1:2½:5 mixture for building walls that are to be stuccoed or plastered, the base of two-course floors or sidewalks, feeding floors, barnyard pavements, etc.

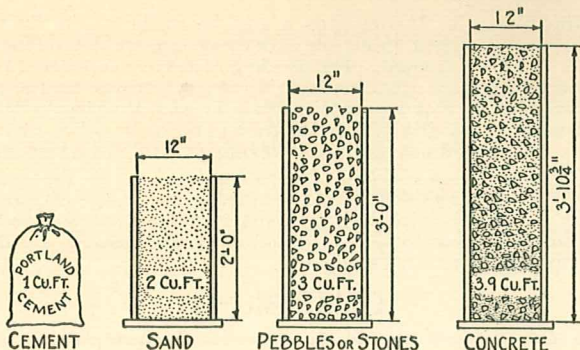
A third under this classification is a 1:3:6 mixture used for heavy foundations and footings.

Proper Mixing Essential

Concrete may be mixed either by hand on any clean floor or by machine. If by hand and you work outside, a mixing platform should be built of matched lumber with all joints tight, to prevent the cement from washing through when water is applied. For a permanent location it would be well to build a mixing platform of concrete. We recommend mixing by machine.

Bottomless Box for Measuring Ingredients

To measure materials a bottomless box would be of advantage. This box could be constructed of such a size as to permit the use of one bag of cement as a measuring unit. For instance, the box could be made to contain one cubic foot of material. Therefore, in making a 1:2:3 mixture, you would measure two boxes of sand, four boxes of gravel, and throw in one bag of cement.

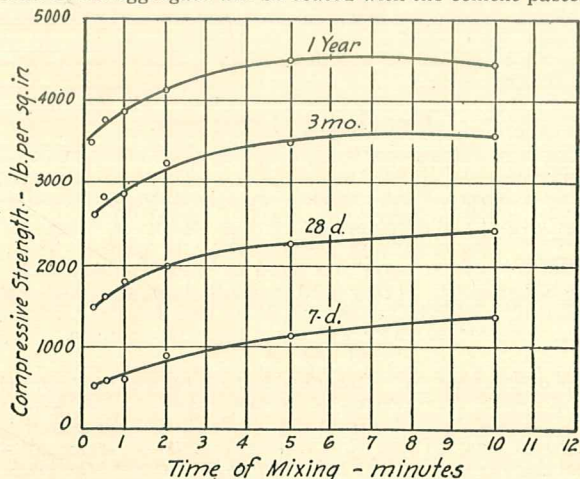


One cubic foot of cement, two cubic feet of sand, and 3 cubic feet of pebbles do not make 6 cubic feet of concrete. Measurements for concrete should be by yardage rather than by weight.

Do not forget thorough mixing adds to the strength of concrete. Materials should be mixed dry for at least one minute, and for three or more minutes after water has been added before any portion of the concrete is discharged.

Longer Mixing Means More Strength

By experiment it was found the strength of concrete at 28 days was increased 50 per cent by increasing the mixing period from 15 seconds to 5 minutes. When concrete is thoroughly mixed all particles of the aggregate will be coated with the cement paste.



Effect of time of mixing on strength of concrete.

Mix the required quantities of sand and cement first until the entire mass is of a uniform color, absolutely without streaks of brown or grey. Then add the required quantity of pebbles or broken stone and mix until the stone is thoroughly mixed with the other dry ingredients.

Water Tanks

Preferable

All measuring devices for water should be easily adjustable in order to maintain a uniform consistency. Water tanks with quick discharge attachments should be used when possible. When aggregates are stored outside, rain may force manufacturers to make slight adjustments in the quantity of mixing water used.

Where water tanks cannot be used, add the water from a hose, spray or sprinkling can, while turning the sand and pebbles so as, in the case of hand mixing, to prevent the cement from being washed away. The quantity of water added depends on the use to be made of the concrete.

Amount of Water Needed

For poured work add water until the mass is of a quaky or jelly-like consistency. For semi-dry work, such as concrete blocks, add only enough water to show a slight moisture when mixture is squeezed in the hand.

Advantages of

Sears Machines

In the Sears, Roebuck and Co. face-down block machines you can use a wetter mixture than in side face machines because the cores are not

withdrawn until the block is turned over. The idea is to get the backing material as wet as possible without it sticking to the walls of the mold, and still have it hold its shape when released from the machine.

Concrete Block Machines

Major Parts

In order to provide greater familiarity with the workings of a concrete block machine, descriptions are given of each of the several major parts:

The flask is the complete mold box of the machine, arranged so it can be opened and moved away from the finished product.

The core is the mold or form to shape the holes in the center of the block.

Flask latches are levers which hold the parts of the flask together.

The face plate is the plate forming the bottom of the flask in our face down machines. It shapes the face or front of the finished block.

"Face Down" is a term used to indicate that the block is made face down. The block is turned over on a pallet before the flask is opened.

The pallet is that part of the flask which ordinarily forms the front wall and on which the completed block is turned and carried away from the machine.

Operating the Wizard Block Machine

The First Block

To operate the WIZARD Block Machine the following simple rules will prove valuable:

Setting Up 1. Bolt the operating handles to the stub levers. The machine then will be set up ready to make whole blocks in plain design with a half core impression at each end. This makes the stretcher block.

Must Rest On Level Surface 2. The machine must rest firmly on a level floor. It is advisable that it be fastened to this floor or some solid foundation. Oil every moving part of the machine and keep it oiled.

Operate Machine Empty 3. Before trying to make a block operate the empty machine several times until you become accustomed to its operation. By drawing the levers forward the flask is turned over and the cores are automatically withdrawn. Spread out the handles and turn the flask back. This leaves the front wall and pallet in horizontal position so that the pallet with block can easily be removed. See illustrations on page 18.

Rest Endgates on Pallet 4. In closing the machine bring the levers with endgates and back wall forward so endgates rest on pallet. Then bring the levers together. This will latch the front wall and pallet to the flask. Tilt flask backward; when in proper position it will lock by the lower ends of levers, thus engaging with lever latches.

Precautions in Making Block

After a mastery of the machine has been gained the following will prove of aid in making a block:

Proper Facing 1. Close the flask and spread half an inch of facing over the face plate. Make this facing material of a mixture of one part cement and two parts of fine sharp sand, properly dampened so it will stick together when squeezed in the hand without showing moisture on the surface. Avoid getting this mixture too wet or it will stick to the face plate.

Backing Material 2. A shovelful or two of backing material should be added next. Take care to spread it evenly throughout the flask. The backing material is made of cement, sand and gravel or crushed stone. It must be thoroughly mixed and can be somewhat wetter than the facing. Fill the flask to the core openings and then put the cores in by pressing down on the foot treadle. Filling in the remainder of the flask with backing material, heaping it over the top. With the hopper in place on the flask this can be done without spilling the mixture.

Tamp Flaskful in One Operation 3. Tamping is one of the most important features of perfect block making. It is done as follows: The entire flaskful of material should be handled at one operation. Use the narrow end of the tamper and direct the blows diagonally underneath the cores and the core endgates as well as directly downward. Then use the back end of the tamper for the back of the block. Remove the hopper and smooth off the back of the block with the steel striker. This takes off excess material to the edges of the flask and trues up the back of the block. If a rough back wall is wanted, when the

blocks are to be plastered or the surface is stuccoed, smooth off the block with the striker and then scratch the surface with the end of the striker or with a heavy spike to form a rough surface for the plaster. If a smooth back is desired, finish with a trowel or the flat part of a shovel.

To Release Block 4. To release the block lift the little lever which hangs between the two cores, thus releasing the cores.

Take hold of the ends of the long operating handles and with a firm, steady forward pull, turn the flask over. As the flask goes over the cores, withdraw automatically. When flask rests upon the stand brackets, spread the two handles outward as far as they will go, thereby releasing the block. Lift up the operating handles and tilt the open flask back away from the block. Be sure to keep the handles spread out so the endgates will clear the corners of the block. Remove block on pallet by taking hold of pallet handles.

Stack for Curing 5. Leave the block on the pallet, setting it on a level place, protected from drying winds or the hot sun until hard enough to remove. This usually requires 24 hours. Stack for curing.

The Second Block

To make another block place another pallet in the machine so that it is squarely on the front wall, using the projection on the front wall and the core openings as a guide. The little projections on the pallet should be placed toward you for the guidance of the dividing plates when you make fractional blocks. Close the machine as explained under "operation of the WIZARD Machine."

The Corner Block

To make a corner block, the method varies somewhat.

Remove One Core Endgate 1. Take out one core endgate, such as is fitted to machine when received, by removing the steel pin which goes through the ears at upper end of gate and through the flask latches. Put in the endgate that matches the face plate. To make the end of the block with a facing the same as the face proper, pad the endgate with facing material by pressing this material firmly against the endgate, a handful at a time. If desired, a piece of sheet steel, the same width and a little longer than the depth of the flask, can be used as a temporary partition to hold the facing against the endgate until the coarser backing material is in place. The plate can then be removed.

Sears Machines Adjustable for Blocks 2. Sears, Roebuck and Co. 10 and 12-inch machines are provided with corner block endgates having impressions 8 inches square to match the face plate. A stop-off piece is also furnished. These parts adjust the machine to make blocks with an 8x8-inch end for corner use. These blocks will lay in the wall with joints breaking in the center and do away with the need of irregular sizes to meet door and window openings.

Changing Face Plate

To change the face plate, take out both endgates as explained in the first paragraph under "Making a Corner Block." Then remove the face plate by loosening the bolt at each end and lifting the plate from the rockers. Place the desired face plate on the rockers and insert the bolt at each end, but do not tighten. Place the desired endgates upon each end of face plate by entering the hinge pins on the endgates into lug openings on the face plate. Fasten the flask latch to endgates and latches by entering long pins. Square the endgates with flask body by means of the shifter (which is a part of flask latch) then tighten bolts firmly. True the face plate and tighten bolts holding it to rocker.

Two-Piece Rocker Provides Adjustment The position of the front wall and face plate is adjustable, the adjustment being provided by the two-piece rocker. Should it be necessary to make any adjustment in the width of the flask, loosen the bolts in either rocker and shift to the proper position; then tighten the bolts. Adjusting screws are provided in the flask latches so the upper end of the front wall can be properly adjusted.

Fractional Blocks

This is the procedure for fractional blocks:

Fit Face Plate as Directed 1. Fit machine with face plate having grooves for fractional blocks as directed in the paragraph on changing the face plate. See that the division lines on the plate are to the right as you stand facing the machine so the dividing plates when in place will be held by the division groove in the face plate and by the little lugs in the back wall and pallets. If a block smaller than half size is wanted, remove the split pin and steel rod holding the cores in place and take out right hand core. Put the back wall plug in place, locking with latch on the back. Place the pallet plug on the front wall directly over the

core opening. Place the pallet in position, the same as for whole blocks, and see that the pallet plug fits into the opening in pallet. **Blocks with Plain Ends** 2. To make fractional blocks with plain ends, use the plain dividing plates. They are to be inserted after you close the flask and lock it, as explained in the fourth paragraph under "operating the WIZARD Block Machine."

Making Core Ends 3. If core ends are to be made on the fractional block, insert the core dividing plates before the flask is closed. The dividing plates are supported by the groove on the face plate and the little projections on the pallet and back wall. Put concrete mixture in each division and make block sections as directed in the first paragraph under making a block. Be careful not to displace dividing plates when tamping.

To Release Block 4. To release fractional blocks, tap the dividing plates lightly before turning the flask. Plain dividing plates can be removed before turning the flask. The flask will have to be turned and the block released before the core dividing plate can be removed.

Gable Blocks

To make gable blocks, fit machine with the face plate for inside corner block, or the whole block plate and one plain endgate. Take out the core on the side with the plain endgate as it is not advisable to have a core opening in the gable end of the block. Place the gable block dividing plate in the flask with one 8-inch edge of the plate in the front corner made by the plain endgate. Let the other side of the plate strike the back wall where it will, thus cutting off one corner of the block.

Circle Blocks

To make circle blocks a circle block face plate will be needed. The circle face plate is placed in the machine as already explained in the paragraph on changing the face plate. It is used with the two core endgates and joist block attachments, as explained under joist blocks. Make the blocks in the usual way. The cutoff made by the joist block attachment shortens the back length of the blocks so they can be laid in the wall in such a way that the face conforms with a true circle.

Breaking Troubles

Wrong core adjustment, cores dropping out too fast, and failure to keep front walls adjusted so pallets fit snugly often cause needless breaking of blocks. The remedies for each of these ills are listed.

Wrong Core Adjustment 1. Wrong core adjustment results in blocks breaking lengthwise when machine is opened. The cores should enter the holes in back wall when the foot treadle is depressed. If they need to be lifted up or pushed down to get them in, loosen the two bolts holding core yoke and shift up or down as required so cores will enter perfectly straight. Tighten bolts.

Danger of Ejecting Cores Too Fast 2. Dropping the cores too fast sometimes results in broken blocks. The side arms of cam brace slide down the stand cams bolted to the legs. These cams should be adjusted so the side arms slide all the way down. The bolt holding lock lever to the lower end of the core mechanism should be kept tight so the friction in the joint will retard the action of the cores.

Beware of Tight Adjustment 3. Keep front wall adjusted so pallets fit snugly against face plate and endgates. Be careful not to have the adjustment so tight that the pallets are sprung when the machine is locked because when the block is released the pallet springs back into shape and breaks the block. The lower part of the front wall is adjusted by loosening the bolts in the rocker under the face plate and shifting front wall as required. Then tighten the bolts. The upper edge is adjusted by tightening or loosening the set screws in the latches as required. Be sure to tighten locknuts when required adjustment has been made.

Four-Inch Course Blocks

Four distinct steps are necessary to make 4-inch course blocks:

Special Attachment Needed 1. A special attachment is needed. These blocks add greatly to the appearance of a building. They relieve the monotony where only one size and design are used. One of the attachments will be a valuable addition to your plant. The blocks are also used for lattice work in porch construction.

Dividing Pallet Goes Lengthwise in Flask The face plate and endgates of the attachment are attached in the usual way. However, before entering the cores be sure to put the dividing pallet lengthwise in the flask, thus dividing it into

two parts. Hence two blocks are made with one filling of the flask. Make these blocks the same as the regular blocks, tamping both sides evenly. The blocks are released the same as regular ones. The top four-inch block must rest on the dividing pallet at least 24 hours before it can be removed. One dividing pallet therefore should be provided for every two 4-inch course blocks desired to be made in a single day. The lower 4-inch block rests on the regular iron pallet.

Fractional 4-Inch Course Blocks 3. Fractional 4-inch course blocks are made in the same manner, except that the fractional face plate is used and the small dividing plate is inserted to form the fractional blocks after putting in the long dividing pallet. The core opening in the dividing pallet can be closed with a piece of sheet metal or tin.

Same Procedure for Corner Blocks 4. Corner blocks are made in the same manner, using the special divided endgate furnished with the attachment. This attachment consists of a face plate for making two whole blocks, one face plate for making two half and four quarter blocks, one pair of core endgates, one return endgate to match the face plate, two dividing pallets and a set of four dividing plates for making half and quarter blocks. It is essential to order enough dividing pallets for half as many blocks as are wanted for a day's output. The attachment is complete for making the regular blocks and return corner blocks in whole, half and quarter sizes.

Angle Bay Window Blocks

Angle bay window blocks are of two types, viz.: inside and outside.

Inside Blocks 1. To make inside angle bay window blocks, first remove the left hand core and insert the pallet plug and wall plug in the core opening. Use the face plate for half and quarter blocks of whatever design you wish to make. Put plain endgate at left and core endgate at right end. Use the longest angle plate of bay window attachment with the plain or smooth cutoff attached. This angle plate has two bolts which can be made to extend or shorten by means of the nuts. The bolt heads rest against the endgate. This regulates the angle of the block. From here, follow the same course as in making a regular block. When the block is tamped and smoothed off, open the machine in the usual manner. The angle plate will adhere to the block and can be lifted away easily, leaving a perfect inside angle block.

Outside 2. For making outside angle bay window blocks use the regular bay window face which comes with the bay window attachment. Use the shorter angle plate, having cut-off or angle plate to match the face plate attached to it. Place the smaller, or design, section of the angle plate in the groove of the face plate. Follow the same course as in the inside angle block and you will get a perfect outside angle block.

TRIUMPH Block Machine Ready on Arrival

When the Triumph Block Machine reaches you it is all ready to make a standard block of rock face design with a half core impression at each end. Withdraw the core and the machine is ready to receive material. Throw a half shovelful of facing, mixed as directed in paragraphs on facing concrete, into the bottom of the flask. Spread it so the face plate is covered with a layer $\frac{1}{4}$ to $\frac{1}{2}$ inch thick.

Backing The backing is made of cement, sand and gravel, or other aggregate mixed, and proportioned as advised in the paragraphs on mixing, facing and coloring. Fill the flask with backing material up to core openings, spreading it evenly throughout the flask. Tamp this and put it in the core. After the core has been entered put in enough of the coarser material to fill the flask.

Process of Manufacture

Tamping When tamping a block use the small end of the double-end tamper. Direct the force as far under the core and down in the corners as possible in a slanting position so that the concrete material will crowd directly under the center of the core and insure proper strength in the block. After the block has been completely tamped smooth it off with the steel striker and a trowel if a perfectly smooth finish is desired. If a rough back wall is wanted, scratch deep ridges in the block.

Grasp Handles to Release Block To release the block grasp the handles on the back wall, hold endgate latches in position and turn the flask over so the pallet will be on the bottom. While doing this let the flask down carefully to prevent cracking. Then release the lever or latch holding the core and pull it straight up. Release the latches on the side and open the endgates back and away from the block as far as they will go. Grasp the handles on top of the back wall and lift it up and back, away from the block.

Let the back wall down carefully. This operation should be watched as a great many blocks are broken at this stage.

Skill Soon Acquired Let the flask down easily. Soon you will acquire skill in doing this. After the block has been released it should be carried from the machine on the pallet and put to one side for curing. Let the block remain on the pallet until it becomes hard enough to move. This usually requires from 12 to 24 hours, depending upon weather conditions. Place another pallet upon the front wall of the machine squared up properly so when flask is locked it will close up true.

Raise Front Wall to Close Machine To close the machine, raise the front wall bearing pallet to a vertical position. See that ends of pallet line up with ends of face plate. Close the endgates and latch carefully. The machine is then ready for the facing material and entry of core as already explained. Endgates of various designs can be easily squared up by use of washers on either side of latch where bolted on endgate.

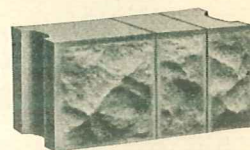
Readjusting Face Plate

Changing the face plate may be done by lifting the endgates out of the opening in the face plate. Loosen bolts holding face plate to rocker and take out plate. Put the desired plate in position, square it up properly with back wall and tighten bolts. Replace endgates. Front and back walls can then be set in proper position by adjustment provided in two-piece arm or rocker to which face plate is bolted.

Fractional Blocks

To make fractional blocks on the TRIUMPH Block Machine use the face plate that is divided by grooves across it, bolting it firmly to the rockers, the same as the face plate in the machine when you received it. Omit the core and place the wall plug in the core opening; then insert the division plates between the projecting lugs. In the slots on face plate put in the concrete and tamp as before. The dividing plates are withdrawn before the flask is opened.

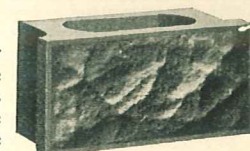
After removing dividing plates, take blocks out on pallets as heretofore described. If the dividing plates stick, tap them lightly with the tamper. This will loosen them so they can easily be pulled out.



One filling of the mold makes one half-block and two quarter-blocks.

Joist Blocks

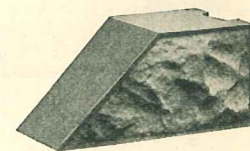
To make joist blocks all that is necessary is to place a joist block attachment on the upper part of each core endgate. This stops off about one inch on the back edge of the wall. When blocks are laid a space is thus provided for 2-inch joists, 16 inches apart on centers.



Rock face block with opening for joint.

Gable Blocks

Gable blocks can be made on the TRIUMPH Block Machine either whole or half size. Use the face plate desired and one plain end door. Place the wall plug in core opening, as gable blocks are made solid. Put the gable dividing plate diagonally across the corner of the flask, one beveled edge in the corner formed by the plain end door and pallet, the other beveled edge against the back wall wherever it will touch.



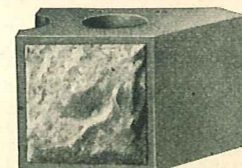
Rock face gable block.

Bay Window Blocks

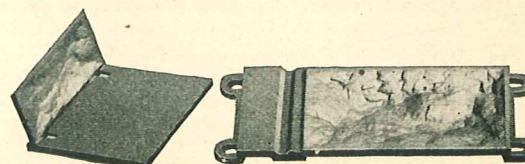
To make blocks for bay window construction a special attachment as illustrated is required. The attachment consists of a special



Outside Angle Block



Inside Angle Block



TRIUMPH bay window attachment.

on coloring. Moisten and spread out in a layer about $\frac{1}{8}$ or $\frac{1}{4}$ inch thick on trays or any flat surface, keeping it damp for two or three days in order that it will become properly crystallized. Then remove and break into small pieces the size of the specks desired in the face of your brick.

Scatter as many of these specks as are wanted to show on the face of the brick on the face plate in the machine. Then sift in the facing material as previously explained and finish the brick in the usual way.

The colored specks will be pressed into the face of the brick, and such parts as are in contact with the face plate will remain visible when the brick is made. As a rule speckled brick are made with a facing of brown or yellow, the specks being black, gray, green, or red. Brick should be allowed to rest on the pallet not less than 24 hours or until they become hard enough to handle. They should then be piled for curing, as explained in the paragraphs on curing.

Keep Pallets Cleaned and Oiled Keep the pallets clean and well oiled. If of metal the blocks will release easier and the oil prevents rusting. If made of wood, the entire stock of pallets should be gone over occasionally to reject all that are warped. Be sure to keep wood pallets cleaned and oiled, varnished or shellacked to preserve them. They should be made as near waterproof as possible to prevent warping or swelling from moisture.

Oftentimes moisture will cause wood pallets to swell to such an extent they will not fit in the machine properly. Do not make the pallets so thick that they become a tight fit in the machine when new or dry.

Facing and Coloring Concrete Products

As a general rule, concrete products are faced. By facing we mean the face is made of a richer and finer mixture than is used for the body of the product. This makes the product more waterproof and gives it a better appearance. The mixture of the facing material is sometimes of sand and cement only. In either a 1:1 or a 1:2 proportion. Then, again, the face is often colored. Ordinarily dry colors will not do. Be sure to use only pure chemical colors.

Tinting Portland Cement

Tinted Portland cement as a wall covering is unsurpassed for beauty and charm. The surface structure of the masonry provides both the suction and the mechanical key by which the stucco is held permanently. Besides, cracking is entirely eliminated.

Mineral Coloring Matter To use mineral coloring matter it is first mixed in the proper proportion with the cement. This mixture is then mixed with sand and then used for facing. It is necessary that the mixture be in the same proportions for each batch. The best way to mix colors and cement is by weight.

White Marble Dust Screenings One favorite facing material is made by mixing pure white Portland cement with clean sharp white marble dust, white cement or clean limestone screenings in a 1:2 mixture. Pure white Portland cement can be obtained from Portland cement dealers.

Mica Spar Crystals A finish equal to natural cut granite can be obtained with mica spar crystals and cement or granite screenings. This mixture is mixed with Portland cement in the proportions of 1:3. When this facing is used it will be necessary to clean the product when it comes from the mold in order to remove the fine film of cement and bring out the natural color and beauty of the facing materials.

Cleaning the Facing

With Muriatic Acid Washing is done as follows: Allow the product to set for about 24 hours. Prepare a solution of one part muriatic acid and three to five parts water. Apply to the face of the product with a soft brush, and as soon as the natural stone is exposed, wash liberally with water. All traces of the acid must be washed away to prevent the acid from further eating into the cement.

With Abrasive Material The same effect can be procured by the use of abrasive material. After the block has set for 24 hours a thorough rubbing with a board and plenty of wet, sharp sand will remove surplus cement. A block of carborundum is also very effective.

Spraying A third method is spraying. Five to ten minutes after the concrete has been tamped and removed from the form spray with running water and a misty spray nozzle at a distance of four to six feet from the face. Experience will prove that spraying the product is most satisfactory.

Pebble Facing

Still another facing often used is a pebble facing, wherein pebbles of various colors and sizes are used the same as the granite or mica spar crystal facing.

Porch Materials

Care of Molds When making porch products in which the finished work has a great many fine lines or deep cuttings, it is necessary that the molds be kept perfectly clean and well oiled. To prevent the concrete from sticking to the molds oil them with linseed, black lubricating or heavy cylinder oil, or make a solution of turpentine and paraffin (about 1 ounce of paraffin dissolved in a pint of turpentine), apply a coat of this to the molds and allow the turpentine to evaporate. This leaves a thin coating of paraffin in the mold and prevents concrete from sticking.

Be careful that molds are not oiled too much. A thin film is all that is needed.

Must be Level For making column caps, bases, etc., set the mold on any solid, level surface. Be sure to lock the mold up true and square and make your facing as dry as possible, having just enough moisture in it so it will hold together. Use the facing as directed in the section on concrete facing. Pad this on the face of the mold and then fill in with backing material, tamping thoroughly.

Use a Core To save material it is often advisable to use a core, particularly when the product does not have a load to support. For column caps one can easily make a core, using a block of wood or even a piece of stovepipe. Before removing the bolts or clamps tap the mold lightly and carefully on all sides.

Take out the bolts or open the latches holding the mold together, removing each part carefully from the stone, pulling it straight out so that none of the design is sheared off. Allow the stone to set where made until hard enough to move. This will take about 2 hours. Then cure as described in the section of this catalog on curing.

Easy to Operate Our porch molds are very simple, the various parts being held together by small bolts or latches. Always have the large end of the mold down on the pallet.

Making Porch Products

When making fluted columns in our combination plain and fluted column mold use the solid fluted column pallet in the bottom of the mold and the skeleton fluted ring in the top of the mold; then insert the fluting bars in each section of the ring and pallet, pad the facing in the usual manner; fill in the balance and tamp thoroughly.

Remove the skeleton ring at the top and open the mold, releasing it from the stone. Pick the fluting bars off the stone, leaving it on the pallet until hard enough to move. If you wish to use the fluting pallet at once, remove the top ring and then carefully turn the mold with column in it over on the other end. To make the stop off for the top and bottom of the column insert the collar with elevated stop-off buttons into the circular part of the column base mold or the ornamental cap mold.

Ornamental Articles When making ornamental concrete articles it is advisable, where there is a comparatively thin portion, to reinforce the product at the weak part. Inserting a couple of short pieces of barbed wire, iron rod, a big spike, or something similar, to provide the necessary binding strength.

Laying the Products In finishing concrete products, we recommend they be laid up as follows: Set the product with a mortar made of one part cement and one part fine sand. Be sure to fill all the crevices with the mortar and smooth off any projections, getting the surface as even as possible. When the mortar sets thoroughly go over the entire job with a piece of sandstone or carborundum, rubbing down all joints until they are flush with the balance of the work. Then wet thoroughly.

Apply Water and Cement Solution Make a solution of cement and water of the consistency of ordinary kalsomine. Go over the job with this solution, applying it evenly with a brush. The mixture must be continually stirred while applying to prevent the cement from settling to the bottom. This will fill all pores and give the column a uniform color.

Concrete Fence Posts

Concrete forms an ideal material for fence posts. Add fence post molds to your equipment and be prepared to furnish concrete fence posts to your community.

Sold at Reasonable Price

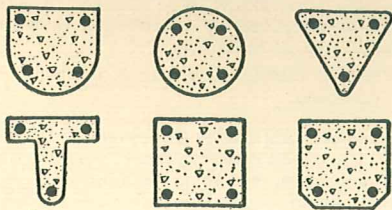
Concrete posts can be sold at a reasonable price with a large margin of profit. Prices of these molds are listed in another section of this catalog.

Care in Tamping

The method of manufacture is similar to that outlined for manufacturing concrete blocks, etc., except that the concrete posts must be reinforced being subjected to strain. Harsh mixtures require more tamping. Tamping adds to the strength of the final product.

Reinforcements

The material used for reinforcement should be strong, light and rough enough to permit the mixture to get a firm grip. It must be rigid and have no tendency to stretch.



Practical shapes for concrete posts shown in cross section. Dots indicate reinforcing placed to be most effective.

Position in Post In general the reinforcements are located near each corner where the greatest tensile stress occurs and about three-fourths of an inch from the surface in order that the moisture will not penetrate, causing the steel to rust. Reinforcement in the center of the post is practically useless. One-quarter inch round or square steel rods have proved to be most satisfactory for concrete posts.

TRIUMPH Single Fence Post Mold The Pallet

With the TRIUMPH Single Fence Post Mold, the pallet may consist of any board or plank or level floor convenient. A level floor or plank is suggested, because the posts should not be moved for four or five days after they are made because of extreme length and small dimensions.

The Mixture

The mixture should consist of one part Portland cement, two parts coarse, clean, sharp sand and four parts clean gravel. Mix thoroughly while dry; then moisten and mix again. The mixture should be as wet as can be used without sticking to the forms.

Placing the Rods To make fence posts fill the mold one-third full of concrete and tamp thoroughly; then take the seating block sent with mold, and with the longest side extending down into the mold, run it down one side of the mold, which will make a groove in the concrete into which drop a reinforcement bar of wire.

Then run the seating block down the other side, dropping in another reinforcement bar or wire. Fill the mold about level and tamp again, using the short side of seating block and run it down the mold the same as previously, and place in the bars or wire.

After placing the bars fill the mold completely and tamp solidly. Then use a shovel or straight board to scrape off the excess concrete and trowel smooth. Loosen the thumbnut at large end of mold and push it back to remove mold.

TRIUMPH Corner Post Mold

The TRIUMPH Corner Post Mold makes a large and heavy post suitable for corners and gate posts. The lower end is adjustable so the post may be made large or small as desired, depending on the load to be placed on it. The mold is assembled and opened the same as the line post mold, and is handled practically the same when making the post.

No Grooving Block Needed

With the TRIUMPH Corner Post Mold no grooving block is needed and the amount of reinforcement used should be governed by the size of the reinforcements. Four pieces of 1/2-inch rod placed 3/4-inch from the surface and about 1 3/8 inches apart on each side will be about right. When setting the corner post dig the hole somewhat larger than the post, set in the post and fill hole with concrete mixed very wet.

TRIUMPH Double Post Mold

The TRIUMPH Double Post Mold is handled exactly like the single mold, as described, but before opening out the side plates and after removing the thumb bolts, remove the center division board. This is tapered and can be taken out very easily. The side pieces are then removed as described.

Convenience

These molds can be used on any flat floor and are easily assembled by placing the widest end plate in position and locking to the widest end of the flanged side rails by means of keys furnished.

Quantities of Material Required to Make Posts

	For 100 6-Foot Posts	For 100 7-Foot Posts	For 100 8-Foot Posts
Cement.....	3 3/4 barrels	4 1/2 barrels	5 barrels
Sand.....	1 cubic yard	1 1/4 cubic yards	1 1/2 cubic yards
Gravel.....	2 cubic yards	2 1/2 cubic yards	3 cubic yards

Attaching Wire

To attach barbed wire, woven wire or any other wire fencing to concrete posts, use short pieces of wire to bind with. Make a half hitch around the fence wire close to the post. Then bring the tie wire around the post and complete the binding with a half hitch. To prevent the wires from slipping or giving, kink the fence wire a little on one side of the post.

A New Device for Fastening Wire We can furnish a simple device enabling you to attach fencing to concrete posts of any shape so that it will not slip up or down. This device is superior and more convenient than the common method of making posts with holes for fencing or with a tie embedded in the post, which is liable to break off.

A further description of this device is found in the first section of this catalog.

Winter Construction

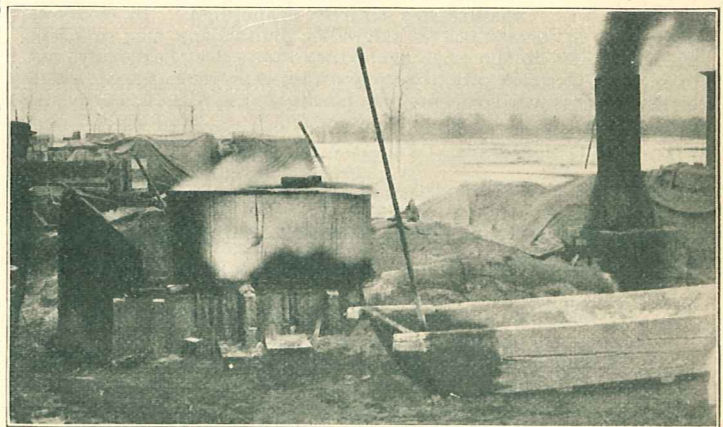
Concrete products can be made in freezing weather if so desired. The only precaution necessary is to keep the product from freezing until it is a few days old in order that the initial set of the cement can take place properly.

Frozen Concrete Dangerous

Many accidents are caused by mistaking frozen concrete, because it may have the same ring when struck with a hammer, for set concrete. Hot water is a reliable test. If frozen it will soften, but if properly hardened it will be unaffected.

Whether construction is with concrete masonry or by a combination of concrete masonry and monolithic concrete, it is necessary to have aggregate supplies, mixing and heating apparatus and other equipment at hand and arranged compactly so that work may be carried on with little lost motion. During severe cold the practice is to place canvas around masonry walls and keep salamanders burning for 48 hours or longer if necessary.

Heating Sand for Mortar A simple method of heating sand for mortar is to heap it over a section of old smokestack, boiler, shell, metal culvert, or some other form of metal cylinder in which a fire is kindled. The sand is turned occasionally so that it will be heated uniformly to make sure that all frost and ice are thawed out before being used in mortar.



This method for heating mortar materials may also be utilized for removing frost and ice from aggregate to be used in monolithic concrete work.

Another common type of heater is made by building sides and back of concrete block or brick with a sheet metal cover on which the sand is piled.

Incidentally, experiments show that no harmful effect results when boiling water is used for mixing mortar or concrete.

Beware of Frosted Tile Concrete block and building tile should contain no frost, and if used above ground should be dry when laid. Heating them just before laying not only rids them of frost, but the heat thus applied helps to keep the wall warm during the early hardening period of the mortar.

Heating the Units Any room near the building site can be used for heating the units. A standard knock-down shed is convenient. Storage should be large enough to hold block tile or tile sufficient for one day's work. The units are

stocked with frequent passageways to facilitate circulation of heat. The units are kept inside until all frost has been thawed out, and preferably until they have reached a temperature of 70 degrees Fahrenheit.

Winter Curing

In winter products should be kept damp in the curing rooms for five days at a temperature of 60 degrees, Fahrenheit or above. Products need not be sprinkled after they are placed in the yard in winter.

Slower Drying The slower the products dry out the harder and tougher and more waterproof they will be. Stack the product so that the water can be applied on all sides, being sure that sufficient water is used to soak it thoroughly.

Best Too much emphasis cannot be placed on the fact that concrete products must have plenty of water for the first 10 to 20 days at least.

Early Hardening Stage

The most common method of curing during the early hardening stages is to place the products soon after molding in a saturated atmosphere. Water vapor is liberated in the curing chambers either from petcocks in steam pipes or through the use of fog spray nozzles attached to water pipes.

Keep Air Only enough water vapor is needed, however, to keep the air saturated. Excess amounts are likely to escape into the plant, making working conditions poor, especially in winter, thus injuring cement, building, and equipment.

Curing Concrete Products

One grievous mistake often made in the manufacture of concrete products is the idea that to cure a product simply means to dry it. This is absolutely wrong. Much that has been gained by rigid adherence to good practice in other stages may be lost by carelessness at this point. Bear in mind that the final strength of the product depends entirely upon the thoroughness with which it is cured.

Fully Hydrating Cement

Hardening of concrete products at ordinary temperatures is very rapid during the first 48 hours. Not only must the proper amount of water be used, but it must be maintained during the early hardening period in order to fully hydrate the cement.

How Moisture This moisture must be supplied either in the original mixture or before the dampness in the original mixture has entirely evaporated. In concrete work done in forms such as sidewalks, foundations, etc., sufficient water is added to the original mixture for perfect hardening, but in making concrete products under the semi-wet process, which is the process used for making blocks, brick, tile, fence, posts, etc., moisture must be supplied afterward.

Minimum Temperature of 70 Degrees When the temperature is not less than 70 degrees Fahrenheit the products should remain in the curing room, if one is available, not less than two days. They can then be moved to the yard where moisture should be supplied by sprinkling for an additional 5-day period.

Water Toughens Hard Concrete

Do not be afraid you will drown the cement after the product has become hard. Too much water applied to a concrete mixture made for pouring will impair the setting qualities by what is called drowning the cement, but water applied after the concrete has become hard enough to move will only make it harder and tougher.

Again, use plenty of water on your products when hard enough to handle.

Artificial Heat Speeds Up Production Hardening is frequently accelerated in the curing chamber by the utilization of artificial heat. Results of tests made recently by the American Concrete Institute show that hardening takes place very rapidly when the temperature of the curing room is maintained at 125 degrees Fahrenheit. The use of artificial heat in curing does speed up production. Its cost varies from one-quarter to one-half cent per unit and the question of economy will naturally determine whether or not it is suitable.

Zero Weather Curing Even in zero weather, products cured for 24 hours in such a temperature can be safely stored outdoors. If temperatures in curing chamber are lower than 125 degrees Fahrenheit, curing for 48 hours will be necessary in zero weather.

Curing by Steam

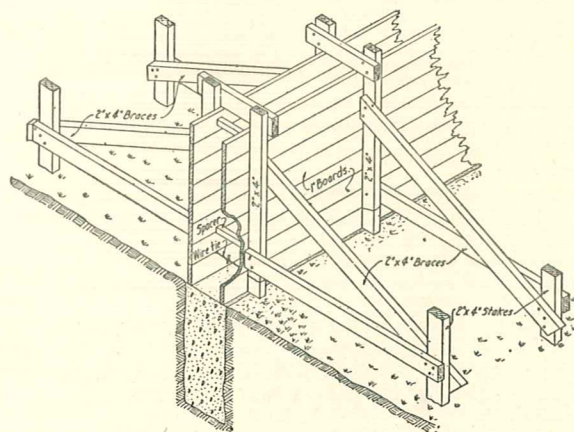
Some of the large concrete product factories are provided with necessary equipment for curing by steam. When making concrete materials on a large scale it will pay to install steam curing equipment. Experiments have shown that concrete products cured by steam for 48 hours are as strong or stronger than products cured in the ordinary way from 35 to 40 days.

A Tendency to Bleach Steam curing also has a tendency to bleach the products.

Steam Cure for 18 to 24 Hours When the blocks are about 12 hours old close up the steam room tight and turn on the steam, leaving it on for 18 to 24 hours. It is well to leave the products in the steam room after you have turned off the steam until they are partly dry. By dividing the steam curing building into four rooms it will enable you to steam cure continuously by allowing the products to remain in three of the rooms while the fourth is being filled.

On Laying Concrete

In laying concrete products, other than masonry units, particular attention should be paid to the forms. As most forms are of wood, where smooth surfaces are desired, dressed and matched lumber must be used. The boards will fit closely together and prevent leakage.



Forms for foundation wall above grade.

Design Forms With Care

Care should be taken in designing the forms so that they can be taken down with the least amount of vibration or pressure in order to prevent possible injury to the concrete.

To prevent adherence of concrete to forms upon removal the faces against which concrete is placed should be given a thin coat of crude oil, machine oil or soft soap. The forms should be rigid, with sufficient bracing to withstand the pressure of new concrete without bulging. Be sure not to remove the forms until concrete has hardened. In warm weather, forms can usually be taken down in two days. However, in cold weather, it is best to wait a week or more.

Reinforcements

Because concrete is a material that, like stone, is strong in compression, but with strength not so great in tension, steel rods or mesh is often placed in the concrete to resist strains.

It is important that steel reinforcements be placed in the correct position where they will be most effective in resisting tensile stresses.

Lower Side Tends to Pull Apart In a concrete lintel or beam the reinforcement is placed near the lower side as that is the side that tends to pull apart when the beam is loaded.

Method of Laying

In monolithic work the concrete should be placed in the forms immediately after being mixed. In foundation and wall construction the concrete should be deposited in layers not more than 6 inches deep. Thoroughly tamp and spade, thus compacting the concrete, releasing air pockets and working large particles away from the face of the forms so the concrete surface will be smooth and uniform when the forms are removed.

Gauge Necessary With Blocks

For laying concrete blocks the use of a mortar gauge is strongly advised, whether you are experienced in this kind of work or not.

With the mortar gauge it is only necessary to have the foundation and first course of blocks level, after which the gauge will insure a level and perpendicular wall from start to finish. The mortar gauge will save time and mortar and keep the face of the blocks clean.

Always be sure to clean the gauges when through using them for the day, so mortar is not allowed to set and harden on them. This has a tendency to destroy their accuracy. These gauges will more than save their cost on your first job, and they should by all means be added to your equipment.

Mortar Mortar for laying concrete products may be of different qualities, depending upon the workmen preparing it. **May Vary** and the kind of material on hand. A very good mortar to use is made up of one part cement and two parts of clean sharp sand run through a $\frac{1}{8}$ -inch screen to do away with all large particles of gravel, and one part slaked lime. Use enough water to make a thin paste, being careful not to get it too thin.

Mix in about the same manner as common mortar. This mortar is easily spread on the top of the blocks or buttered on the ends.

Permit Block to Adjust Itself If the mortar gauge is not used be sure to use sufficient mortar on the bed to permit the block to adjust itself to the proper level.

Another good mortar is one composed of one part cement and one to two parts of fine sharp clean sand. Mix this about the same as common mortar and use as directed above for the lime mortar. This mortar will set just as hard as the concrete product, binding the parts together, thus making a very strong wall.

This last mortar is preferable in laying walls for silos, grain elevators or tanks which will be subjected to internal pressure.

Bead Mortar Joints

Mortar joints on concrete block work should be beaded the same as on stone work to secure a finished appearance when building or wall is completed. The style and color of the bead depends entirely upon the taste of the builder. Mortar for beading should be made of one part cement, two parts of lime putty and one part of clean sharp sand. Mix rather thin so that it will be soft and pliable and conform to the shape of the beading tool used in making the joint. If beading is to be colored, add the coloring to the cement or to the lime putty, mixing it thoroughly to secure an even color. When using our mortar gauges for laying blocks leave just enough space in the joint to provide a bond for the bead.

Direct Plastering Effective

Plastering directly upon the back of the block is practical, provided the blocks contain a rich material for facing and the back of the block is made with a semi-wet mixture. Our face down machines with vertical drawn cores will easily meet this condition. To be absolutely safe, however, it is always advisable to give the finished walls a coating of waterproofing compound or to use a waterproofing preparation in the facing.

Waterproof Cement Some builders use waterproof cement for the facing material; this also is a satisfactory method. It is best to lath and fur for plastering, as this makes a dry inside wall positive.

Even if the blocks are thoroughly waterproof one is liable to have a damp wall in cold weather when plastered directly on the back of the blocks because all walls will be cold and condense the moisture in the room. This is particularly true of the kitchen or laundry.

"Sweating" This condensation, or "sweat," as it is commonly called, is not moisture which has come through the wall, but it is moisture from the room itself. It is gathered in the same manner that drops of water will gather on the outside of a pitcher of ice water.

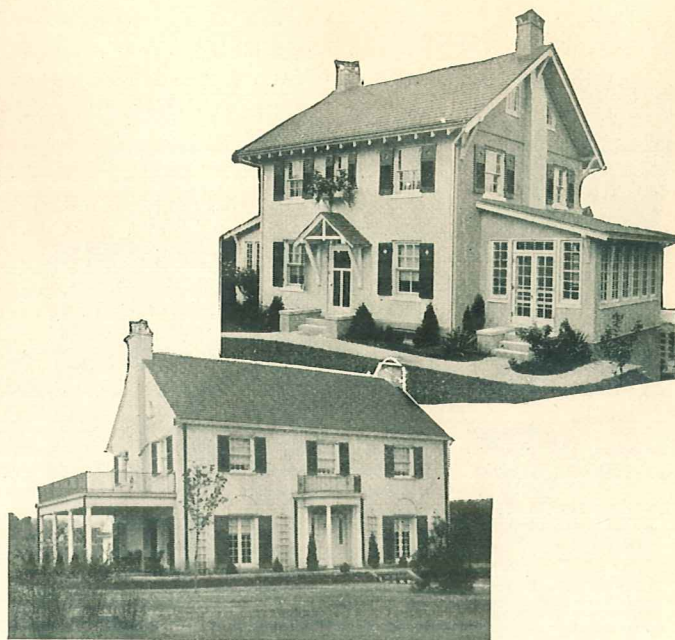
Stuccoing the Home Beautiful

Stucco work is cement plastering for the outside of any building—inasmuch as Portland cement stucco is concrete—the material that forms the structural frame of skyscrapers and heavy duty pavements—it has all the properties of concrete. It grows stronger with age and needs no protecting coat to prevent disintegration.

For Both Frame and Block Buildings

Up to the time of the first use of concrete building blocks as building material, stucco was applied to frame buildings with success. Recently it has been applied to concrete block buildings to break the monotony of one particular design in construction. In this way it enables one to finish the concrete block building so that it will appear as a monolithic structure, without the expense of forms for the entire building.

No Chemical Reactions Then too, no chemical reaction occurs between Portland cement stucco and various mineral pigments which may be mixed with it for tinting.



Beauty and permanence are twin attributes of concrete masonry homes.

Economy of Construction

Although stucco work can be applied to concrete buildings at a trifling cost and although the increased property value assured by better appearance is more difficult to estimate, both are just as certain as any other advantages.

No Facing Required The original building can be built cheaply for the reason that an ordinary rough block having one mixture of material throughout can be used for the purpose. No facing is required. This saves much time and the extra cost of the cement required for facing. As a rule you will find that the small extra expense required for making face block will more than cover the cost of stucco plastering to complete building made of common block. And the building is practically everlasting.

Stucco Finishes With stucco you can have almost any desired finish in any color. The finishes most generally used are plain plaster finish, spatter dash, and pebble dash finish.

Mortar Composition

Mortar for stucco work is made of one part white Portland cement, three parts of clean sharp sand and one part of slacked lime—thoroughly mixed together. Be careful not to get the mixture too thin.

Applying the Finish

If the building has been constructed of blocks with scratched surface, all that is necessary to apply a stucco finish is to clean and moisten the wall as explained below. If the building is of regular concrete block, not prepared for stucco work, go over the entire wall and roughen it by picking with a stone ax. Then brush off all loose particles.

Sprinkle Thoroughly Before applying the stucco plaster sprinkle the wall thoroughly. If this is done the stucco will adhere properly to the wall and prevent cracking. Be sure to finish one side of the wall in the course of a day as it is almost impossible to stop at a certain part and start again the next day without showing a joint.

Plain Plaster Finish A plain plaster finish is applied as follows: After you have the wall cleaned and thoroughly moistened, apply the stucco plaster with a trowel, the same as for common plastering, to the thickness of $\frac{1}{2}$ to 1 inch, smooth it off with a wooden float and finish practically in the same manner as regular plastering.

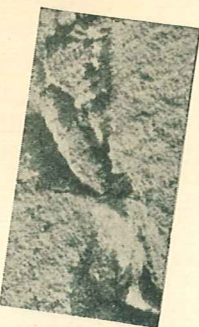
Another method of applying this plain finish is by throwing it on with a trowel or large stiff fiber brush, then smoothing with a wooden float. If a rough plaster finish is desired, cover the wooden float with burlap.

Spatter Dash Finish For a spatter dash finish, prepare the wall and moisten it as directed, mixing the mortar on the same proportions but a little thicker. Throw the mortar on with a trowel or stiff fiber brush, but be sure to get it on evenly to avoid a lumpy appearance on the complete job. You cannot smooth this finish down with a trowel or float as it will

spoil the effect of the spatter dash finish. The thickness of the mortar in this finish should be from $\frac{1}{2}$ to $\frac{3}{4}$ inch.



Sand Float or Colonial



Sponged or California



Stippled

Above is shown how Portland Cement Stucco is made to cling to concrete block. Stucco on concrete block won't crack or come off. The four textures shown are but a small part of the many obtainable.



Italian

For the pebble dash finish the walls should first be prepared as directed for a plain plaster finish, and then a coat of about $\frac{1}{2}$ inch thick should be applied. For the pebble dash finish prepare a mixture of one part white Portland cement and three parts of clean sharp sand and pebbles mixed together, the pebbles to be larger than $\frac{1}{4}$ inch in diameter. This should be mixed thoroughly and thrown on carefully with a trowel, in order to apply an even coat and to avoid a lumpy appearance. Be careful not to get too much plaster on top of the pebbles, otherwise they will not show.

Displaying the Pebbles To make the pebbles more prominent use this procedure: It takes about ten hours in ordinary weather for the pebble dash finish to complete its initial set. After setting, go over the wall with a stiff fiber brush and brush away all excess mortar from the surface of the pebbles. Then about 48 hours later wash the wall with water sprinkled from a hose or thrown on with buckets. This will wash away all small particles of cement which have adhered to the pebbles and will clean away the loose material on the wall, making the pebbles stand out prominently—a very handsome finish.

Washing with a Muriatic Acid Solution Another method is to go over the wall 24 or 48 hours after the pebble dash coat has been applied with a solution of muriatic acid and water, made of one part muriatic acid and three to five parts water, to be applied with a soft brush. Although this will clean away the cement from around the pebbles, care must be taken not to leave the acid solution too long or it will eat into the wall. As soon as the surface is cleaned properly the acid solution should be washed away with plenty of water.

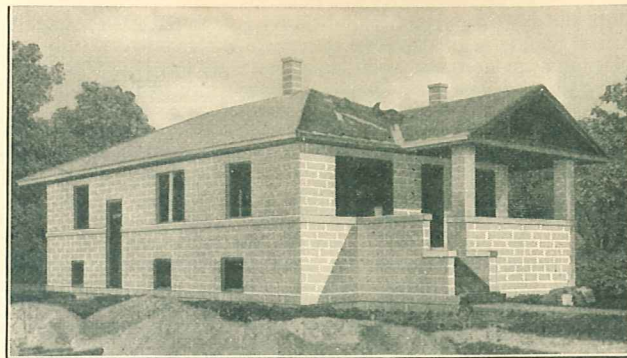
Where an extra fine pebble dash finish is desired and expense is secondary, a handsome finish may be obtained by first applying a plain finish and then placing washed and selected pebbles in the soft plaster by hand.

Keep the Wall Wet

To insure permanent results and a surface without cracks, great care must be taken to keep a stucco finished wall thoroughly wet for three or four days, the longer the better. To do this the usual practice is to build a light framework about 6 inches from the wall, then cover with cheap cheesecloth, muslin, burlap or similar material and keep this moistened for several days. The sun is thus kept from the wall, preventing rapid drying and insuring proper seasoning.

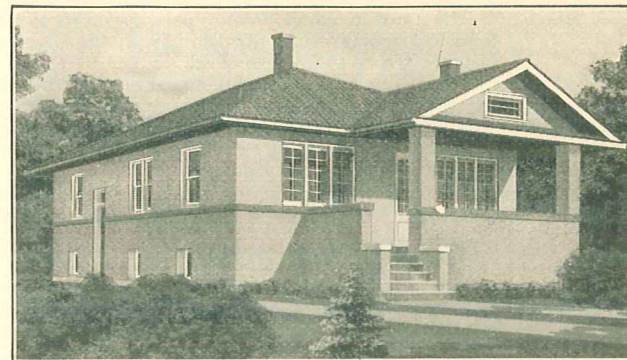
Waterproofing

As the stucco plaster is a rich mixture of cement and sand and is applied in a wet form, it will waterproof the wall thoroughly. In extremely wet climates it is advisable to apply a coat of waterproofing compound on the stucco finish when completed. In the northern portions of the United States it is always best to use furring and lathing to avoid sweating of walls in winter as stated in a previous part of this section.



BEFORE

This is a view of a concrete block bungalow all ready for stucco finish. Consider the great strength and durability of this construction.



AFTER

Here is the bungalow after the stucco finish has been applied. A building that is solid and beautiful.

Resistance to Elements Impervious to Water

Beside being rotproof, ratproof, rustproof, windproof, and free from all of the usual maintenance expense, concrete is by its nature impervious to water, easily cleaned and kept cleaned. Concrete blocks as ordinarily made have a tendency to absorb water. This, however, is easily eliminated by the proper attention to proportioning and curing. Plastering should not be done directly on the back of the block without waterproofing it. At the same time the walls should not be watertight because in cold weather the moisture in the room will condense on the cold surface of the wall, causing it to sweat. If the wall is slightly porous this moisture will be absorbed and gradually be carried away. Excessive water absorption may be avoided and good waterproof qualities obtained in the following ways:

a. The Use of Properly Graded Materials. If the proportion of cement, sand, gravel, or crushed stone used in the mixture is correct the resulting mass will be less porous than a block or product made from improperly graded materials. Plenty of coarse aggregate, with enough fine material to fill the voids, will make a better concrete than fine or coarse sand used alone with cement. Test and proportion the materials by the water test described in the section on mixing concrete.

b. Use of a Rich Mixture. All concrete will absorb water to an extent under pressure. The richer the mixture in cement the less the power of absorption. A rich facing material is recommended in making blocks, brick, etc. It would cost too much to make blocks completely of a rich mixture.

Medusa Waterproofing

Sears, Roebuck and Co. can furnish the well known Medusa Waterproofing made by Sandusky Portland Cement Company. Description of this material is found on page 34. This waterproofing is a patented preparation in the form of a fine white powder which is mixed with the dry cement before the addition of water, sand or coloring.

Sealing the Pores

There are various washes that can be applied to the finished structure which seal the pores of the concrete and make it waterproof. An effective wash is to paint the outside of the building with a thin coat of a solution of cement and water. If too thick it will show hair cracks.

Dangers of leaks are reduced to a minimum if the roof is covered with concrete roofing, tile or cement-asbestos shingles. All three

are fireproof, weather-proof, and practically indestructible and are produced in a wide variety of colors.

Unaffected by Fire

Recent experiments have proved beyond all reasonable doubt that concrete blocks properly made and cured are more fireproof and withstand the action of prolonged and intense heat, in addition to sudden changes caused by water sprayed on them while hot, much better than any other known building material.

There are large numbers of cases on record where block buildings have been completely gutted by fire, but the walls were uninjured and were used for restoring the building.

City Fire Ordinances

In many cities building regulations require that structures of inflammable construction be built some distance from the lot line, but allow fireproof buildings to be built on the line. Thus on narrow city lots fireproof concrete structures have a decided advantage in saving space.

The small space of land between the lot line and an inflammable structure is usually worse than useless, often becoming the depository for combustible trash. Where concrete construction is used, it is possible to erect two garages or other structures side by side with a fireproof party wall on the lot line, resulting in a saving of space and material for both owners.

A block with a gravel aggregate is considered by some authorities to be more fireproof than one in which crushed limestone has been used, as the limestone will burn and become lime.

Is Concrete Economical

If one can afford a house at all he can afford a concrete house. The first cost is usually little, if any, more than that of a house built of less enduring material. Do not forget that concrete masonry, besides combining a low first cost, eliminates practically all up-keep expense. It is also an all-climate house suitable for any locality.

Estimating the Cost

A most desirable way of estimating the cost of concrete work for a building is as follows:

How Portland Cement Is Packed Portland cement is usually packed and sold in sacks of 94 pounds or in barrels of four sacks. Sand, gravel and crushed stone are usually sold by the cubic yard. The quantity of concrete which a given quantity of cement, sand and gravel will make depends on the proportions of each material, and on the size of the grains of sand and gravel or crushed stone.

In making a mixture of concrete the idea is to fill the spaces or voids between the grains of sand with cement, and in turn fill the spaces between the gravel or crushed stone with this cement and sand mixture. In another section of this catalog we tell you how to test the materials.

A 1:2:4 Mixture However, for calculating and for all ordinary work, a mixture composed of one part cement, two parts sand and four parts gravel or crushed stone (called a 1:2:4 mixture), will answer as a first class product.

To make a cubic yard of concrete of a 1:2:4 mixture it will require:

- 1½ barrels of Portland cement
- 2/5 of a cubic yard of sand
- 4/5 of a cubic yard of gravel or crushed stone

You will find as a rule the amount specified above will make more than a cubic yard of concrete, and the products will actually cost less than you think when using these figures as a basis. This is a radical departure from the method commonly used.

Prices of Material and Labor Vary The prices of material and labor vary in different localities. The table below shows the quantity which can be made from a cubic yard of concrete and what to expect of labor:

Product	Quantity a Cubic Yard of Concrete Will Make	Number Two Men Will Make in 10-Hour Day
8x 8x16-Inch Concrete Blocks.....	72	200 to 250
8x10x16-Inch Concrete Blocks.....	53	190 to 230
8x12x16-Inch Concrete Blocks.....	44	175 to 225
Sill or Cap, 10 inches wide, 8 inches high, 5 feet long.....	9¾	50
8x16x16-Inch Chimney Blocks.....	28½	100
Porch Column Sections, 10 inches diameter, 12 inches high.....	50	125

Cost of the Completed Building

To arrive at a close estimate as to the cost of the completed building, first ascertain the number of blocks that can be made

on a machine with a required amount of help in a given time. This will enable you to figure out your labor expense per block.

Next ascertain from the cost and quantity of materials required the total cost of the cement, sand and other aggregates used in the product.

Handling Third, ascertain the cost of handling the product, such as carrying away from the machine, expense of curing, etc., including the cost of laying it in the wall; to this cost a certain percentage must be added for cartage, if any, damage due to breakage, wear and tear of machinery, etc.

Blocks Necessary for Entire Building Then ascertain the number of blocks necessary for the entire building. Add together the length in feet of all the walls of the building. Multiply this by the height in feet, thus getting the total number of square feet of wall surface. Add together the total number of feet of surface in all door and window openings and subtract this sum from the square feet of all surface. The result will give you the net area of wall surface to be built of blocks.

Divide this by 100 to determine the number of squares of 100 square feet in the wall surface. It takes 112½ blocks with 8x16-inch face, or 75 blocks with 8x24-inch face, to make 100 square feet of wall. Multiply the number of squares of 100 square feet each by 112½ or 75, depending upon the size of the blocks you will use. The result will be the number of blocks required.

This result multiplied by what it costs you to make a block will give you the total cost of the block work in the building.

Expense of Laying Do not fail to include in your figuring the cost of laying the blocks if you do your own block laying. However, it is practically impossible for us to give you the cost of blocks to cover all localities on account of the difference in cost of labor and material.

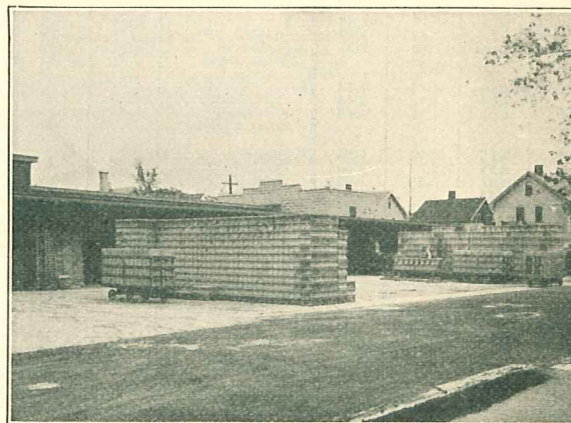
Labor Labor is an important item to consider in cement block production. It is therefore a matter of economy to use a machine that will enable you to turn out the most product with the least time and labor.

Economy of WIZARD Machine

There is no hand machine on the market to exceed the WIZARD Concrete Block machine for speed. One man can average 100 blocks a day with this machine. Two men, however, can work the machine to much better advantage, increasing the output to 200 to 250 blocks a day, thus reducing the labor expense proportionately.

Proper Arrangement of Plant

In equipping your plant arrange your machinery and your material supplies so that but little handling will be necessary. For instance, locate the various machines so that they will be convenient to the mixing bed, or if a number of men are employed have a mixing bed for each machine.



Well arranged storage yard provided with concrete runways for lift-trucks.

Pile the material and store it in bins close to the mixing beds so that little handling is necessary. It also will pay to provide a concrete foundation for the machines when they are permanently located. This will prevent machines being racked out of adjustment, saving a great deal of wear and tear.

Resources of a \$105,000,000 Corporation at Your Service

Then too, all of the great resources of Sears, Roebuck and Co. are at your service. We are always glad to answer any questions you may have to ask and to give any information pertaining to concrete that may be of use.

**OUR
TERMS**

INFORMATION About ORDERING

**OUR
GUARANTEE**

HOW TO MAKE OUT YOUR ORDER

If you do not have the Order Blank that was sent to you with this catalog you can write your order on any plain piece of paper. Be sure that you state in the order your full name, your shipping point, as well as your postoffice address and the

catalog number of the piece of machinery wanted. The envelope that your order is sent to us in should bear your complete return address. Make sure that it is properly addressed to us.

Our Terms

Our terms are Cash With Order. This method of selling enables us to offer the highest quality machinery to you at the lowest prices. The money can be spent by Postal or Express Money Order, your Personal Check, a Bank Draft or Currency sent in a registered letter.

Our Guarantee

Perfect material, workmanship and entire satisfaction. This is our Guarantee. We will replace any machine, or any part of a machine, that breaks or shows signs of wear because of faulty material or construction. See our guarantee opposite page 1.

Our Repair Part Service

We fully appreciate the inconvenience caused by broken or worn parts, and are in position to render to every farmer, contractor or manufacturer of concrete products an unexcelled repair part service. We are equipped at all times to furnish parts for all machines sold by Sears (no matter how old) at a surprisingly low cost. In addition, we guarantee to ship all repair parts within 24 hours after the order is received.

10-Day Trial

All machinery is shipped to you with the understanding that if after 10 days of trial, you are not entirely satisfied with your purchase, you can return it to us. We will refund the full purchase price, together with any transportation charges that you have paid.

Everything Shipped From the Factory

All machines are shipped complete from the factory in OHIO, direct from the manufacturer. No excess freight, hauling, handling or other charges to pay for.

Directions

Every machine is shipped complete with instructions. Even if you have never had previous experience making blocks or mixing concrete you will be able to operate the machinery easily and with the best results. If any questions do arise about the work you are planning let us suggest that you get in touch with our concrete experts. They have made a deep study of all conditions and are in a position to offer valuable help to you. Feel free to call upon them at any time.

Freight Rates on Concrete Machinery

To Towns in Different Sections of Every State

To determine freight on article in which you are interested, you need only know First, THE WEIGHT of the article, which is shown throughout the catalog; second, THE RATE COLUMN to apply, shown by the letters, "A," "B" and "C" (see table to the right); third, THE RATE per hundred pounds, shown in table below; for example, a concrete mixer for a customer living in Joliet, Ill., takes rate column "A," and the freight rate per hundred pounds, is 73c. See example below.

Cat. No. 63B5998 Quantity 1 Article Concrete Mixer Weight, Lbs. 250 Rate 73c Total Freight \$1.83

The freight on same machine to Harrisburg, Pa., would be \$2.30, or to Louisville, Ky., \$1.83.

ARTICLE	Rate Column to Apply
Power concrete mixer on wheels, or stand with engine (shown on pages 4, 5, 10, 11, 12 and 13).....	A
Power concrete tamper (shown on pages 20, 24 and 25).....	A
Hand concrete mixer on stand (shown on pages 6, 7 and 8).....	A
Concrete block machine, silo molds, or brick machines on stands (shown on pages 16, 18, 21, 22, 24 and 26).....	B
All other items of concrete machinery shown throughout the book.....	C

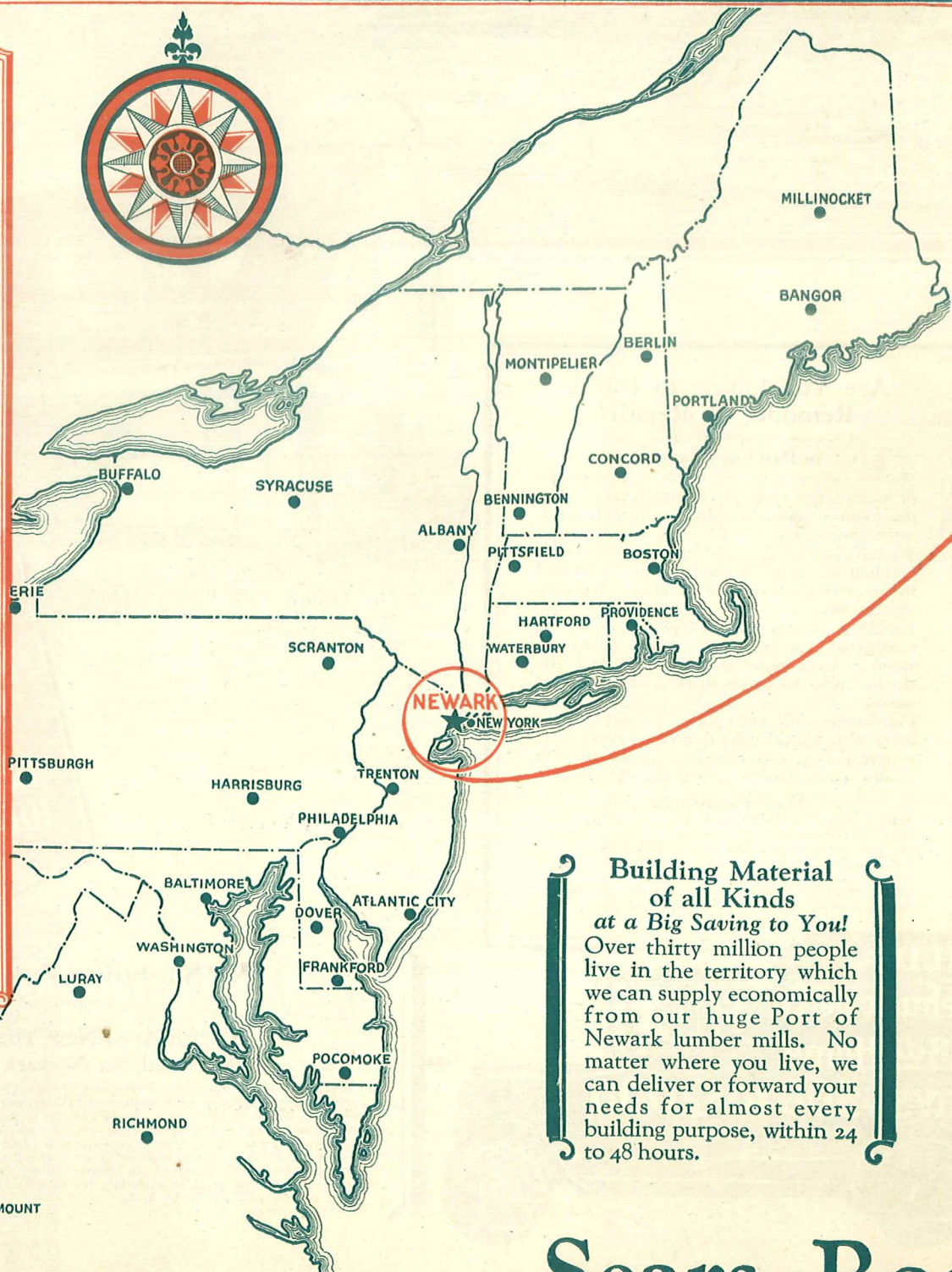
	A	B	C		A	B	C		A	B	C		A	B	C
	Freight, per 100 Lbs.	Freight, per 100 Lbs.	Freight, per 100 Lbs.		Freight, per 100 Lbs.	Freight, per 100 Lbs.	Freight, per 100 Lbs.		Freight, per 100 Lbs.	Freight, per 100 Lbs.	Freight, per 100 Lbs.		Freight, per 100 Lbs.	Freight, per 100 Lbs.	Freight, per 100 Lbs.
Alabama—				Indiana—				Montana—				Rhode Island—			
Birmingham....	\$1.54	\$1.54	\$1.27	Evansville.....	\$0.78	\$0.78	\$0.62	Billings.....	\$4.18	\$3.79	\$3.03	Providence.....	\$1.01	\$1.01	\$0.77
Brewton.....	1.79	1.79	1.48	Fort Wayne....	.57	.57	.45	Glasgow.....	3.81	3.46	2.75				
Mobile.....	1.87	1.87	1.54	Indianapolis....	.65	.65	.51	Havre.....	4.18	3.79	3.03	South Carolina—			
Montgomery....	1.64	1.64	1.35	Richmond.....	.59	.59	.46	Helena.....	4.48	4.05	3.27	Charleston.....	1.68	1.68	1.39
				South Bend.....	.67	.67	.53	Kalispell.....	4.63	4.14	3.39	Greenville.....	1.52	1.52	1.25
Arizona—								Miles City.....	3.81	3.46	2.75	Sumter.....	1.62	1.62	1.33
Phoenix.....	4.80	4.14	3.44	Iowa—								South Dakota—			
Tucson.....	4.80	4.14	3.44	Des Moines....	1.33	1.21	.94					Aberdeen.....	2.20	1.93	1.46
Kingman.....	5.02	4.33	3.65	Fort Dodge....	1.46	1.30	1.02					Bellefleur.....	3.47	2.99	2.47
				Sioux City.....	1.67	1.47	1.18	Nebraska—				Sioux Falls....	1.71	1.49	1.20
Arkansas—								Lincoln.....	1.75	1.57	1.27	Watertown....	1.93	1.77	1.43
Arkansas City..	2.35	2.02	1.63	Kansas—				North Platte..	2.83	2.45	1.96				
Fort Smith....	2.35	2.02	1.63	Dodge City....	2.98	2.66	2.16	Omaha.....	1.67	1.47	1.18	Tennessee—			
Hot Springs....	2.31	1.98	1.60	Great Bend....	2.75	2.40	1.96					Jackson.....	1.33	1.33	1.09
Little Rock....	2.22	1.91	1.54	Kansas City....	1.67	1.47	1.18	Nevada—				Knoxville.....	1.26	1.26	1.04
Texarkana.....	2.49	2.13	1.72	Topeka.....	2.06	1.79	1.41	Carson City... Concord.....	5.85 5.10	5.11 4.41	4.40 3.70	Memphis.....	1.45	1.45	1.19
				Wichita.....	2.52	2.20	1.82					Nashville.....	1.22	1.22	1.01
California—				Kentucky—				New Hampshire—							
Bakersfield....	5.40	4.65	3.90	Frankfort.....	.92	.92	.76	Concord.....	1.01	1.01	.77	Texas—			
Los Angeles....	5.40	4.65	3.90	Hopkinsville... Louisville.... Morehead.....	1.11 .73 1.11	1.11 .73 1.11	.92 .58 .86					El Paso.....	3.64	3.11	2.54
San Francisco..	5.40	4.65	3.90	Louisiana—				New Jersey—				Fort Worth....	2.85	2.44	2.00
				Lake Charles... New Orleans... Shreveport....	2.68 1.99 2.63	2.39 1.99 2.25	1.86 1.64 1.84	Atlantic City... Trenton.....	1.00 .95	1.00 .95	.77 .72	Houston.....	2.85	2.44	2.00
Colorado—				Maine—				New Mexico—							
Denver.....	3.29	2.76	2.20	Bangor.....	1.01	1.01	.77	Gallup.....	4.66	3.98	3.23	Utah—			
Durango.....	5.27	4.35	3.54	Maryland—				Santa Fe.....	3.87	3.42	2.79	Marysville.... Salt Lake City..	5.24 4.54	4.58 3.91	3.95 3.30
Grand Junction.	4.54	3.91	3.30	Baltimore.....	.92	.92	.69	Silver City....	4.17	3.47	2.84				
Julesburg.....	3.01	2.60	2.09	Massachusetts—								Vermont—			
Leadville.....	4.54	3.88	3.19	Boston.....	1.01	1.01	.77	New York—				Montpelier....	1.01	1.01	.77
				Michigan—				Albany.....	.91	.91	.69				
Connecticut—				Bessemer.....	1.33	1.33	1.02	Buffalo.....	.70	.70	.55	Virginia—			
Hartford.....	1.01	1.01	.77	Detroit.....	.62	.62	.49	Syracuse.....	.95	.95	.72	Marion.....	1.10	1.10	.85
				Grand Rapids.. Traverse City..	.73 .84	.73 .84	.58 .66	North Carolina—				Richmond.....	.93	.93	.70
Delaware—				Minnesota—				Raleigh.....	1.33	1.33	1.09	Rockymount... Seattle.....	1.22 4.80	1.22 4.14	1.01 3.90
Dover.....	.95	.95	.72	Aitkin.....	1.75	1.68	1.30	Wilmington... North Dakota—	1.50 2.85	1.50 2.63	1.23 2.04	Spokane.....	4.80	4.65	3.90
				Crookston.....	2.25	2.09	1.63								
District of Columbia—				Duluth.....	1.33	1.33	1.02	Ohio—							
Washington....	.92	.92	.69	Grand Rapids.. Winona.....	1.83 1.33	1.75 1.33	1.35 1.02	Columbus..... Toledo.....	.41 .51	.41 .51	.32 .40	West Virginia—			
Florida—				Mississippi—								Charleston.... Elkins..... Wheeling.....	.64 .74 .61	.64 .74 .61	.50 .58 .48
Jacksonville... Miami..... Pensacola..... Tallahassee... Tampa.....	1.91 2.47 1.84 1.90 2.23	1.91 2.47 1.84 1.90 2.23	1.58 2.04 1.52 1.56 1.83	Missouri—				Oklahoma—							
				Hattiesburg.... Jackson..... Natchez.....	1.84 1.77 1.90	1.84 1.77 1.90	1.51 1.46 1.57	Oklahoma City.. Oregon—	2.59 5.40	2.20 4.65	1.89 3.90	Cheyenne..... Green River.... Lander..... Sheridan.....	3.29 4.39 4.46 4.35	2.76 3.79 3.92 3.78	2.20 3.20 3.18 3.08
Georgia—				Missouri—				Pennsylvania—							
Atlanta.....	1.53	1.53	1.26	Kansas City.... Springfield... St. Louis.....	1.67 1.79 .85	1.47 1.64 .85	1.18 1.31 .67	Harrisburg.... Philadelphia... Pittsburgh....	.92 .93 .61	.92 .93 .61	.69 .70 .48				
Macon.....	1.66	1.66	1.37												
Savannah.....	1.80	1.80	1.48												
Waycross.....	1.86	1.86	1.53												
Idaho—															
Boise.....	4.80	4.14	3.44												
Pocatello.....	4.54	3.91	3.32												
Illinois—															
Cairo.....	.87	.87	.68												
Joliet.....	.73	.73	.57												
Rock Island....	.85	.85	.67												
Springfield....	.81	.81	.64												

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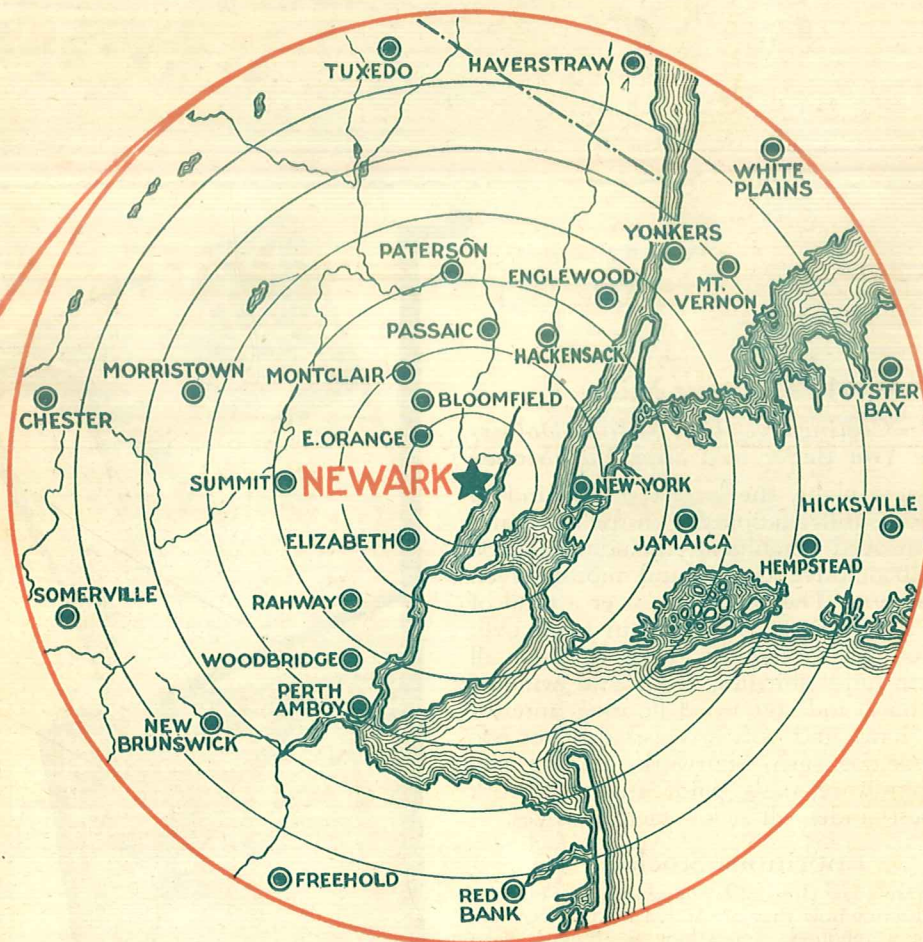
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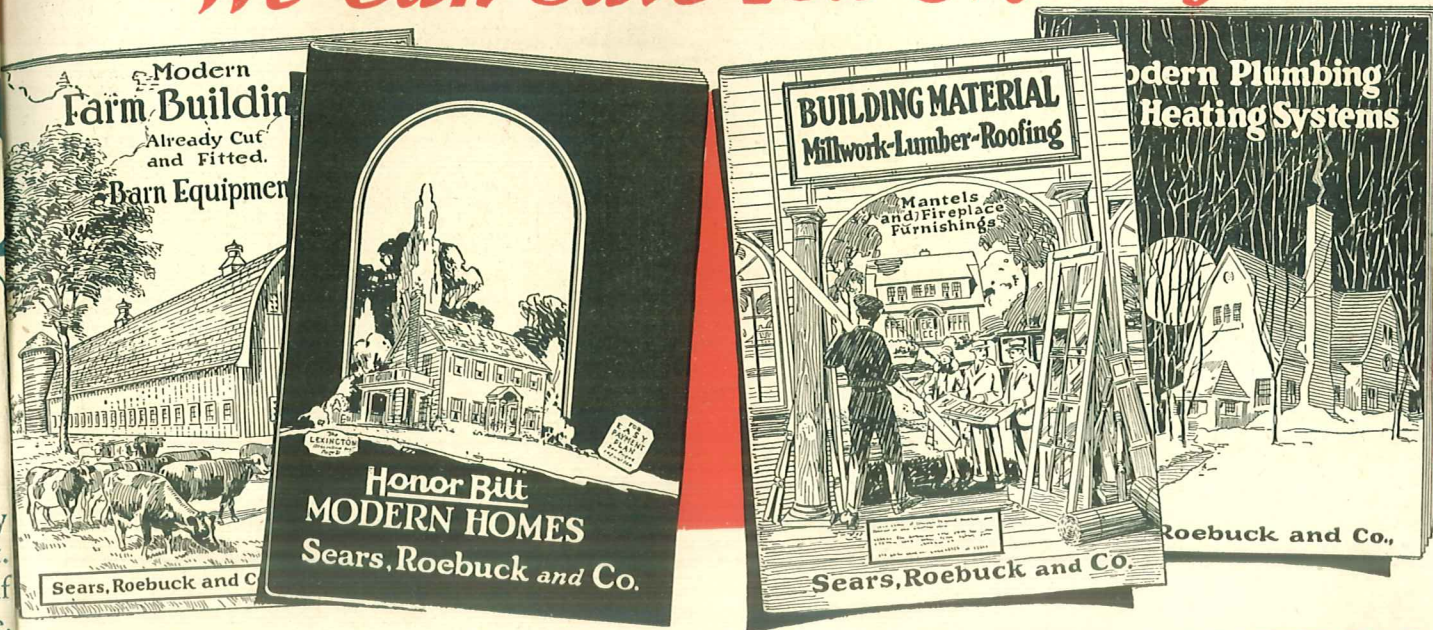
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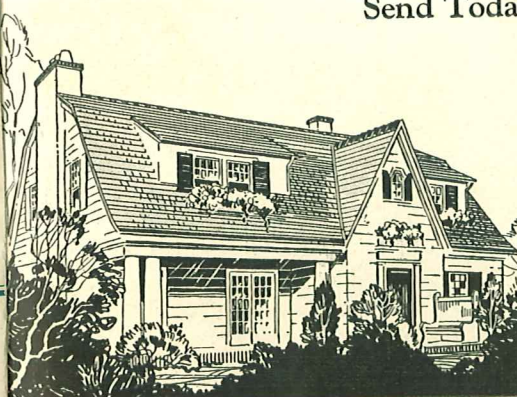
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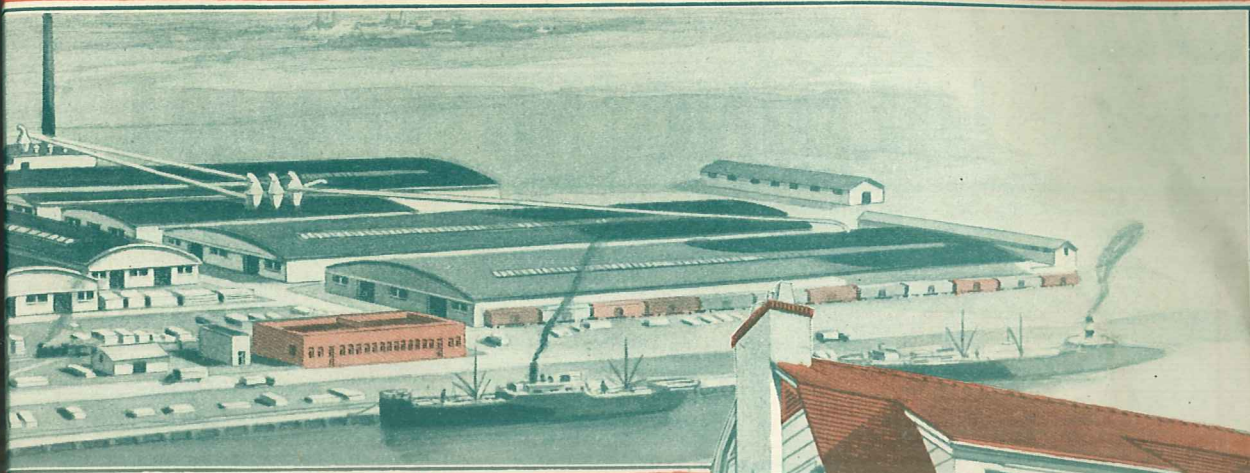
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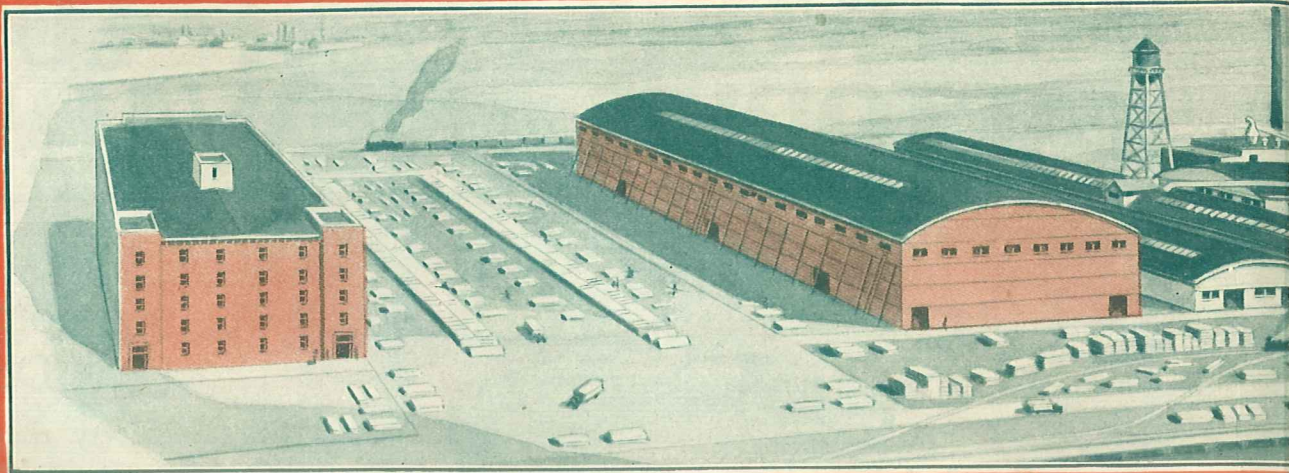
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Alongside are a few views of our huge stocks of building material showing how they are stored in dirtproof and dampproof warehouses. Everything is shipped clean and dry. A complete staff of technically trained men is ready to handle your order with utmost efficiency.

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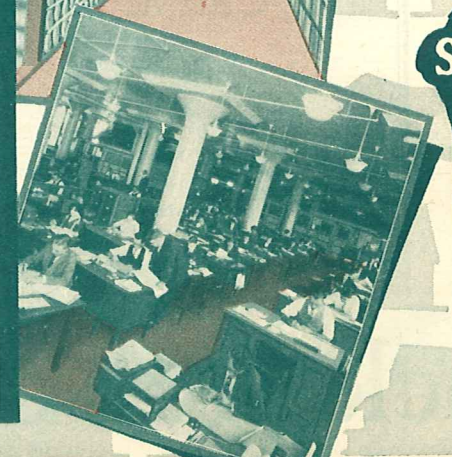
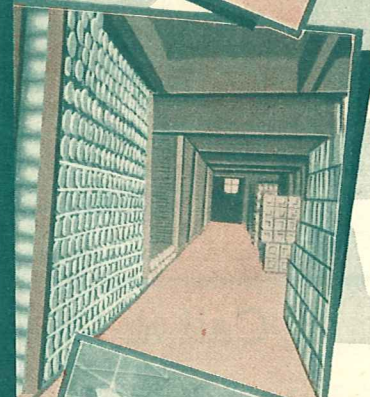
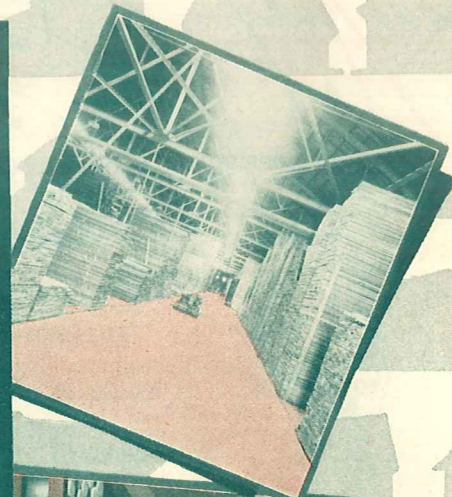
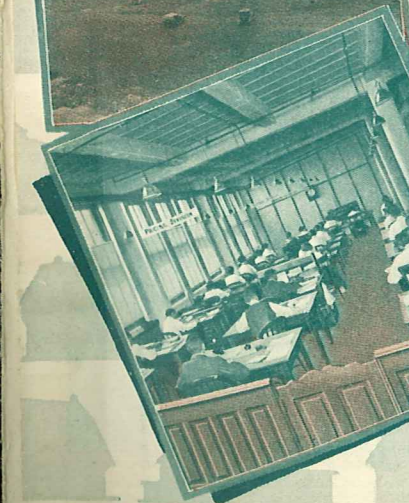
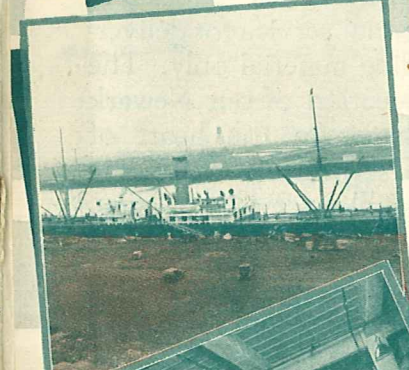
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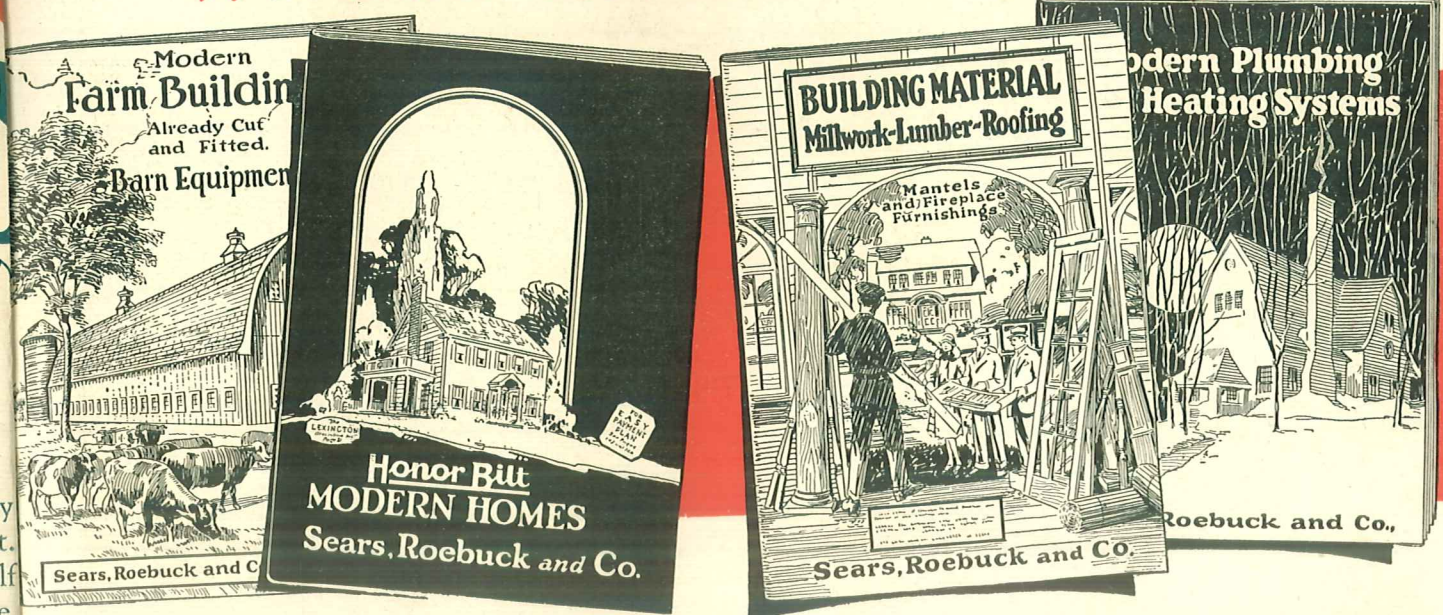
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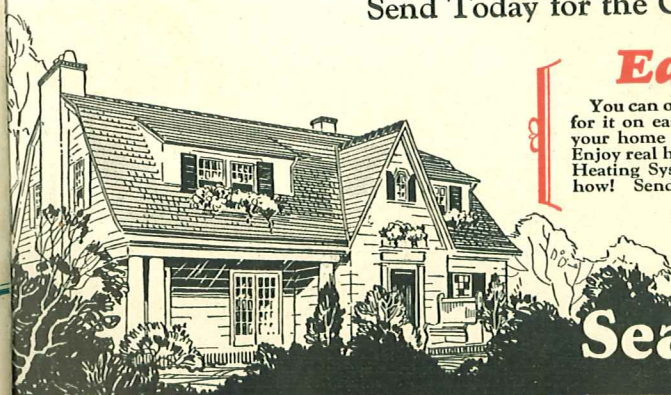
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Our customers have invested over one hundred million dollars in "Honor Bilt" homes. 29,300 have been erected by customers themselves.

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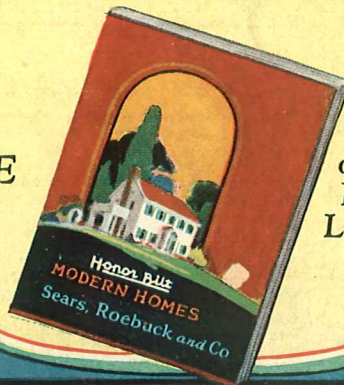
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You save middlemen's profits. We ship direct from our own producing mills, millwork and building material factories, representing a total investment of ten million dollars.

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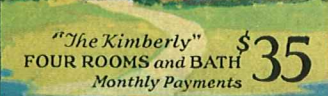
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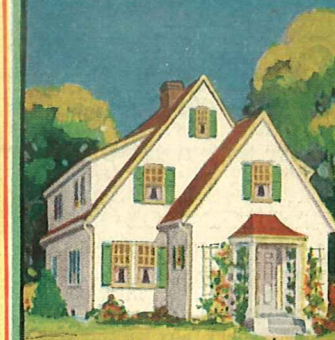
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FOUR ROOMS and BATH \$35
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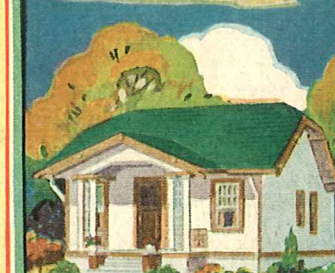
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SEVEN ROOMS and BATH \$50
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