Dictionary of Weaves
PART I.

Lexicon der Gewebemuster
Band I.

Manuel des Dessins du Tissage
Ire Partie
NORTHROP LOOMS

TRADE MARK REGISTERED

EARN MORE WAGES FOR THE WEAVER
LARGER DIVIDENDS FOR THE MILL

DRAPER COMPANY
HOPEDALE MASS.

J. D. Cloudman, Southern Agent, 40 So. Forsyth St.,
Atlanta, Ga.
Crompton & Knowles
LOOM WORKS
Builders of LOOMS for every known woven fabric

BETTER FACILITIES

for preparing Jacquard cards — The Royle Card-Cutting Machines. Automatic movements; dependable action throughout.

Write for catalog

John Royle & Sons
PATERSON, N. J., U. S. A.

PIANO MACHINES, LACERS, REPEATERS
Dictionary of Weaves

PART I.

A COLLECTION OF ALL WEAVES FROM FOUR TO NINE HARNESS

By E. A. POSSELT
Editor of Posselt's Textile Journal

Two Thousand Weaves Conveniently Arranged for Handy Use

Lexicon der Gewebemuster

Band I.


Manuel des Dessins du Tissage

Première Partie

Une collection de Tous Genres des Dessins du Tissage de Quatre à Neuf, Lisses. Deux Milles Dessins Classés à Convenance.

TEXTILE PUBLISHING COMPANY
2154 North 21st Street, Philadelphia
London, Eng.: Sampson Low, Marston & Co., Ltd.
PREFACE

The purpose of these Hand Books is to bring the Various Branches of the Textile Industry conveniently arranged before the reader so that he may consult whatever subject of the Industry he is more particularly interested in.

The present Volume of this Series of Hand Books, the

Dictionary of Weaves, Part 1,

covers a collection of all the Weaves for Four, Five, Six, Seven, Eight and Nine Harness, and which will be followed by successively issued parts, covering all the weaves possible to be made up to Twenty-four Harness. One of these parts will be issued regularly every year, the next part to deal with Ten, Eleven and Twelve Harness Weaves, etc.

In designing these weaves, stress has been laid on selecting such weaves as will be of practical value.

The various repeats of this collection of weaves have been kept separate as much as possible; the repeat of the warp-threads, i.e., number of harnesses necessary for each weave is indicated on top of each page, whereas the numerals on the bottom of each page indicate a summary of the repeats of all weaves given, both warp and filling ways. The numeral in front of the multiplication sign indicates the repeat for the warp-threads, the numeral after the multiplication sign that for the filling.

The grouping of the various repeats of weaves on each plate are such that the eye can readily grasp the repeat filling ways of any one of the collection of weaves given, by consulting the sets of numerals at the bottom of the page, and which, provided more than one set of numerals are used, are indicated corresponding side by side to that of the arrangement of the weaves in the collection above it.

Wherever possible to do so four repeats of the weave are given in order to convey a good idea of its general effect in the fabric. To simplify subject to the designer, in most all instances complete repeats of a weave are given, whereas with such weaves where more than one repeat is shown in order to bring such weaves within compass of the plate (referring to large pronounced effects) by consulting the proper set of numerals on the bottom line the eye will readily grasp the repeat of the pattern.

With reference to other Branches of the Textile Industry and which will be taken up in successively issued volumes of these Hand Books, besides the serial continuation of the Dictionary referred to, Books on the following subjects are now in course of preparation: Designing and Weaving of Narrow Ware Fabrics; The Finishing of Ribbons and Trimmings; The Analysis of Textile Fabrics; Silk from Cocoon to Loom, etc.
VORWORT

Der Zweck dieses Werkchens

Lexicon der Gewebemuster, Band 1,


Jedes Jahr wird ein neuer Band erscheinen; der nächste wird die Gewebemuster für Zehn, Elf und Zwölf Schäf te bringen.

INTRODUCTION

Le present volume d’une serie de manuels couvre une

Collection d’Armures, Première partie
toutes les armures pour quatre, cinq, six, sept, huit et neuf lisses.

D’autres volumes vont suivre, couvrant toutes les armures possibles jusqu’à vingt-quatre lisses.

Un volume va paraître chaque année, le prochain contiendra les armures à dix, onze et douze lisses.
FOUR HARNESS

4 \times 4  \quad  4 \times 6  \quad  4 \times 8
FIVE HARNESS

5 × 5
5 × 10
5 × 15
SEVEN HARNES
<table>
<thead>
<tr>
<th></th>
<th>8 x 8</th>
<th>8 x 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EIGHT HARNESS**
EIGHT HARNESS
EIGHT HARNESS
NINE HARNESS

9 × 9

9 × 36
NINE HARNESS

9 × 9

9 × 18
9 × 27
Jacquard Card Cutting and Repeating, for Fine Scale, Standard Scale and French Scale.
Card Lacing and Mill Banding.
Jacquard and Dobby Cards, in ton or carload quantities.
Corrugated Paper in Rolls and Sheets.
Ribbon Harness (Single and Double), Plain Harness.
Broad Silk Wire Harness, Jacquard Harness, Mail Harness, Lingoes.
Bobbins and Quills.
Warp Rods.
Lug Straps, Leather Pickers.
Loom Pickers, Loom Cords.
Twines, Yarns and Cordage.
Cable Laid Flax, Warp Cord and Harness Thread.
Lubricating Oils and Greases.
Alexander Belting it cannot be excelled.
Water, Steam and Oil Proof Belting, Special Spindle Belt.
Round Belt, Belt Lacing Leather Slabs.
Belt Oil.
Quick Set Belt Cement.

“**To Your Interest**”

You will buy Jacquard Cards right, if you buy from a Jacquard Card Cutter

We have been making this a study and a specialty for years, and know what is required of a Jacquard Card.

We are headquarters in this specialty, and carry the largest stock in the following grades:-

**CHIPBOARD**
**NEWSBOARD**
**DOUBLE MANILA LINED NEWS** and **CHIP BOARD**
**BROWN JUTE FIBRE**
**DOUBLE MANILA LINED-JUTE**
**SOLID MANILA**
**AIR DRIED GRANITE-BLEND**
THE ROSSENDALE-REDDAWAY
BELTING & HOSE CO.
NEWARK, N. J., U. S. A.

Beware of Imitations!
Look out for our Trade Mark!

“Camel” Belting, “Camel Hair” Belting

This belt is remarkable for its great strength (almost twice that of the leather belting), long life, small slippage, minimum stretching, straight true running, and for the fact that it is less affected by dampness or acid fumes than any other kind of belting. This belting is also sold under a guarantee that it will give longer, better service than any other style of belting running under the same conditions. Made in four thicknesses as follows:

SINGLE “CAMEL” which corresponds to single leather or to 4-ply canvas and rubber.

MEDIUM “CAMEL” which corresponds to heavy single leather or to 5-ply canvas and rubber.

DOUBLE “CAMEL” which corresponds to double, and heavy double leather or to 6- to 8-ply rubber and canvas.

Extra heavy “Camel” to correspond to triple leather and all extra heavy types of belting.

“BLACK-BIRD” WOVEN COTTON BELTING
FOR TRANSMISSION AND CONVEYOR WORK

An improved woven belt manufactured under high tension from the finest quality of long-staple cotton.

Impregnated with a special composition which protects the fibre, keeps the belt pliable, and prevents it from becoming hard and dry.

Will run well in steamy or wet places and on drives exposed to the weather.

We also manufacture Stitched Canvas Belting
in all plies and various weights

Incorporated 1890  Capital $150,000
SHAMBOW SHUTTLES

1. Weave fewer seconds
2. Preserve bobbins
3. Wear longest

"Weave better fabric at less expense"

SEND FOR SAMPLE AND PRICES OF OUR LATEST DESIGN "EFFICIENCY" SHUTTLE

WRITE

Shambow Shuttle Co.
Woonsocket - R. I.

THIS IS THE FIRM of new ideas. We are constantly originating improvements that enable you to do better work at less cost, hence it pays to find out what we are doing before you buy machinery. Just now, we are doing important work in Winders. Better write us for details.

THE SIPP MACHINE CO.
Keen & Warren Sts. & Erie R. R.
Paterson - New Jersey
Reeds, Heddles
Heddle Frames, Etc.

Reeds for Cotton, Woolen, Duck and Carpet Weaving
Soldered Reeds for Plush Weaving

Iron & Wood End Frames for all Classes of Weaving

Gauze & Doupe Reeds for Doupe Weaving

Iron & Twin Steel Wire Heddles

Slasher Combs  Doupe Heddles
Liece Reeds    Canvas Pickers
Raithes        Canvas Lug Straps

Liece Rods

We have helped a number of mills with reed troubles. Perhaps we can help you.

Write Us for Prices, Etc.

WALKER MFG. CO.
Kensington Ave. and Ontario Sts.
PHILADELPHIA, PA.
Technology of Textile Design

A Practical Treatise on the Construction and Application of Weaves for all Kinds of Textile Fabrics, Giving Also Full Particulars as to the Analysis of Cloth

By E. A. POSSELT
Editor of Posselt's Textile Journal


ABSTRACT OF CONTENTS:

DIVISION OF TEXTILE FABRICS ACCORDING TO THEIR CONSTRUCTION. SQUARED DESIGNING PAPER.

FOUNDATION WEAVES: PLAIN. TWILLS. SATINS.

DRAWING-IN DRAFTS.

DERIVATIVE WEAVES: RIB WEAVES. BASKET WEAVES. BROKEN TWILLS. STEEP TWILLS. RECLINING TWILLS. CURVED TWILLS. COMBINATION TWILLS. CORKSCREWS. ENTWINING TWILLS. DOUBLE TWILLS. CHECKERBOARD TWILLS. FANCY TWILLS. POINTED TWILLS. DOUBLE SATINS. GRANITES. COMBINATION WEAVES. COLOR EFFECTS.

SPECIAL SINGLE CLOTH WEAVES: HONEYCOMB WEAVES. Imitation GAUZE WEAVES. ONE SYSTEM WARP AND TWO SYSTEMS FILLING. SWIVEL WEAVING. TWO SYSTEMS WARP AND ONE SYSTEM FILLING. LAPPET WEAVING. TRICOTS.

DOUBLE AND MORE PLY CLOTH: REGULAR DOUBLE CLOTH. WORSTED COATINGS. MATELASSES. QUILTS. RIB FABRICS. THREE, FOUR, ETC., PLY FABRICS.

PILE FABRICS: VELVETEENS. FUSTIANS. CORDUROYS. CHINCHILLAS. CHENILLE. FRINGES. VELVETS. PLUSHES. TAPESTRY CARPETS. BRUSSEL'S CARPETS. DOUBLE FACED CARPETS. DOUBLE PILE FABRICS. TERRY PILE FABRICS. SMYRNA CARPETS AND RUGS. Imitation TURKEY CARPETS.

TWO PLY INGRAIN CARPETS. GAUZE FABRICS. THE JACQUARD MACHINE. GOBELIN TAPESTRY. ANALYSIS OF TEXTILE FABRICS.

NOVELTIES IN DESIGNING: DESIGNING WEAVES BY FOUR CHANGES. SHADED FABRICS. SOLEIL WEAVES. CHECK PATTERNS. CRAPE WEAVES. HUCK PATTERNS. WOVEN TUCKS. CRIMP STRIPES. BEDFORD CORDS. CROCODILE CLOTH. LARGE DIAGONALS. TO INCREASE THE THICKNESS OF A FABRIC WITHOUT SPECIAL BACKING THREADS. BRACKET WEAVES. FRINGES. PEARL EDGES.

THIS IS THE MOST IMPORTANT BOOK ON TEXTILE DESIGNING EVER PUBLISHED

Complete Circulars mailed upon application.

Textile Publishing Company
The cuts in the fabric are shown at the places indicated by e and f. Letter S indicates the place where the first warp-thread and the first pick meet—the point for commencing to "pick-out."

After the sample is prepared according to the illustration just given, raise the first pick about \frac{1}{4} of an inch with the "picking-out needle." See Fig. 1010.

Place the sample in the left hand as shown in diagram 1011, next ascertain the arrangement of interlacing pick number 1, warp-ways, until repeat is obtained. Every time a warp-thread is found situated above the filling, put a corresponding indication on the respective square of the designing paper (with pencil marks or prick holes with the needle), whenever you find the filling covering (floating over) one, two or more successive warp-threads, leave correspondingly one, two or more successive squares empty in the lateral line of small squares upon the designing paper.

After the intersecting of number 1 pick has been clearly ascertained liberate this pick out of the fringed warp edge and duplicate the procedure with pick number 2, to be followed by picks 3, 4, 5, etc., until the repeat is obtained. If dealing with a soft-spun filling yarn be careful in raising it, to avoid breaking the thread; also be careful that after the interlacing of the pick has been ascertained, it is entirely removed so that no small pieces of the thread remain in the fringed part of the warp; for if such should be the case it might lead to mistakes in examining the next adjoining pick.

III. Ascertaining Raw Materials Used in the Construction of a Fabric.

In most cases an examination of the threads liberated during "picking-out" with the naked eye will be sufficient to distinguish the material used in the construction of the fabric yet sometimes it is found necessary to use the microscope or a chemical test for their detection. For example: Tests might be required to show whether a certain thread is all wool or whether a certain thread is all silk, etc. For solving such questions, the following methods are given:

A common and ready method for ascertaining the difference between animal and vegetable fibres is to burn some of the threads of yarn in a flame. The vegetable fibre is composed of carbon, hydrogen and oxygen, while the animal fibre, in addition to these, contains nitrogen. By burning the threads used in testing the first mentioned fibre will result in carbonic acid and water, while those of the latter, or of animal fibre, result in combinations containing nitrogen which element readily makes itself known by its peculiar smell or disagreeable odor similar to burnt feathers. Another point which it is well to note is the rapidity with which the thread composed of vegetable origin burns as compared with the burning of the thread having an animal substance for its basis. In the latter case, only a little bunch of porous carbon forms itself at the end submitted to the flame, and it does not form a flame as in the case of the former. As in some instances these two tests will be found unreliable, a more exact analysis may be required. If so, proceed after one or the other of the following formulas:

\textit{To Detect Cotton or other Vegetable Fibre in Woolen or Silk Fabrics}.

Boil the sample to be tested in a concentrated solution of caustic soda or potash, and the wool or silk fibre will rapidly dissolve, producing a soapy liquid. The cotton or other vegetable
Posselt's Textile Journal
E. A. POSSELT, Editor and Publisher

From the standpoint of the practical information which it contains it is of value to every manufacturer, superintendent, overseer and operative, among whom it is widely circulated. It is the leading and by far the most valuable of all textile trade publications.

Special features in every issue: Discussions on Designing and Fabric Structure; Cotton, Woolen and Worsted Spinning; Silk from the Raw Fibre to the Finished Fabric; Cloth Analysis and Calculations; Dyeing and Finishing Processes; Reviews of the Market and Suggestions as to the Creation of New Styles, Color Combinations, etc.; as well as a general report on the News of the Textile Mills.

Another interesting subject this Journal contains is the serial issue of the "Dictionary of Technical Terms Relating to the Textile Industry" as appearing regularly every month, nothing of its kind being published in any language.

Subscription, $2.00 per year. Canada, $2.50. Foreign, $3.00
Sample copies mailed upon application.

The John F. Trainor Company
COTTON YARNS
AMERICAN, EGYPTIAN, SEA ISLAND
NATURAL AND MERCERIZED
291 Broadway New York City

Thomas H. Ball
WORSTED YARNS) ENGLISH & FRENCH SYSTEM
PHILADELPHIA, 15 So. 3rd Street - - - - BOSTON, 683 Atlantic Ave.
CLEVELAND, 2356 E. 43th Street - PROVIDENCE, 309 Industrial Trust Bldg.
NEW YORK, Knitting Yarns Office, 251 Fourth Ave. - - MILWAUKEE, 277 1/2 20th St.

HOFMANN & ELLRODT, Inc.
109-111 Spring Street New York City

Organ and Tram Silks
We are interested in buying Odd Lots of Raw, Thrown and Dyed Silks in skeins, on spools, warps or warp ends.
Cotton, Wool, Schappe, Spun Silk, Colored and Raw Silk Waste of every description.

F. ROLKER
RAW SILK IMPORTER
Specialty High Grade Italians for Single Weaving
23 EAST 26TH ST. NEW YORK CITY

DAVIDSON & WEYAND
Designing—Card Stamping—Repeating
For All Textile Fabrics
2525 North 2nd Street PHILADELPHIA, PA.
D. & J. RUSHTON
Textile Designers

Correspondence Invited

PATERNON, N. J.

WILLIAM S. BUTZ
Jacquard Designer and Sketcher

SMITH BUILDING

175 MARKET STREET

Telephone Connection

PATERNON, N. J.

Widmer Bros.,
Looms and Battons

106-114 North 7th St.,

Paterson, N. J.

H. RIGBY & SONS
Jacquard Harness Builders

Shaft Harness, Reeds, Shuttles and
General Mill Supplies

32 VINE STREET

PATERNON, N. J.

WM. COCHRAN CO.
Jacquard Card Cutters

For All Textile Fabrics

Repeating 51 and 52 Rows. French Scale.
Also Fine Index, 1304 Hooks

181-185 Ellison St.

PATERNON, N. J.

Telephone Connections
Thousand Spindle Creel

1000 SPOOLS
(2\(\frac{1}{2}\)" diam. 4" long)

Each row of spools has a comb reed to separate the ends before going over the porcelain roll at top of row.

A comb reed—used in front of the glass bars—having the same number of dents as there are pins on the creel, is furnished with each.

These creels are made for any size spool from 1\(\frac{1}{2}\) to 4\(\frac{1}{2}\) inches diameter, 3 to 7 inches long.

Occupies a minimum of floor space. Reed space but 50 inches. No excessive angularity. Tension reduced. One thousand ends under operator's vision in less space than any other creel.

*Full Particulars and Description upon request*

Chas. H. Knapp
Wait and Rye Streets    PATerson, N. J.
The Whitin Machine Works
WHITINSVILLE, MASS.
—Builders of—
Cotton Mill Machinery

DOBBY LOOM WITH LENO MOTION

Looms for weaving all varieties of Cotton Goods

Looms for Worsted and Silk Goods

Southern Agent, Stuart W. Cramer, Charlotte, N. C.
Of Iron Wire or Tempered Steel Twin Wire Sold ered
OUR Heddle equipment is the largest in the Country and capable of producing 200,000 heddles per day. Sizes range from No. 18 wire, for heavy cotton duck weaving, etc., to No. 35 wire, for fine yarns, silk, etc. We make all sizes of wire in any length and any size or shape of eye. All regular sizes are in stock for immediate shipment, and can fill orders promptly for special sizes to sample. Samples mailed anywhere upon application.
HOWARD BROS. MFG. CO., 44 and 46 Vine St., WORCESTER, MASS.

LOOM REEDS of uniform spacing with a smooth face
MATERIALLY AID IN THE PROPER EXECUTION OF A GOOD DESIGN
These qualities you are assured when you send your orders to

Bradley Stencil Cutting Machines and Shipping Dept. Supplies

ULRICH COMPANY GENERAL MILL SUPPLIES
Tel.: Sub. 6 N. Y. & N. J., 295
Ulrich Mill, PATERSO N, N. J.
Reeds, Harnesses, Lingo es, Shuttles.
Mails, Quills and Ribbon Blocks.
Wire and Red Eye Heddles and Baked Harnesses.
Wire Heddle Frames. We make a specialty of Fancy and all kind of Doup Harnesses.
Wool, Cotton, Silk
From Fibre to Finished Fabric

By E. A. POSSELT
Editor of Posselt's Textile Journal

In One Vol., Quarto. Bound in Cloth, 473 pages,
Thousands of Illustrations. Price Five Dollars,
Postage prepaid, Delivery guaranteed.

This book contains detail information as to the
various machines and processes used in the
manufacture of either Wool, Cotton or Silk,
from the Raw Material to the Finished Fabric, in-
cluding Weaving and Knitting.

The various chapters cover information as to the

Raw Materials: Wool, Cotton, Silk,
Flax, Hemp, Jute and Ramie.

Preparatory Processes: Carding, Drawing,
Spinning and Twisting.
Winding, Warping and Weaving.
Knitting.
Dyeing, Bleaching, Mercerizing.
Finishing Woolen and Worsted Cloth.
Heat, Power, Speeds and
Transmission.

The information contained in the chapters on Fibres,
the various Finishing Processes and its Machinery used is
a most complete treatise on the subject and will be found
of incalculable value by any Manufacturer or Finisher of
Cotton, Woolen or Worsted Fabrics.

Complete Circulars mailed upon application.

Textile Publishing Company
large, white, coarse, long wool, and the breed has become practically native to this country. The structure of the fibres is shown in Fig. 10. In the Cotswold, we find the lines indicating the edges of fibres are examined in the natural state with the microscope, we find extending through the centre a band of matter more or less broad, which is very much more opaque than the matter surrounding it.

The forms of this band are given in the illustration of Cotswold wools. It appears to be of irregular thickness and to allow more light to pass through at certain places than at others.

The Oxford Down Sheep is also of English origin, being a cross between the Cotswold ram and the Hampshire Down ewe. The wool produced by the Oxford Down is finer and firmer than that of the Cotswold and has a staple of from 5 to 7 inches in length, the average weight of the fleece being 9 pounds. Fig. 11 shows typical specimens of these fibres highly magnified. The wool of this sheep, as well as that from the Cotswold, the Leicester and the Lincoln are the most important classes of what we term long staple wools, vice versa, the Merino and the Southdown sheep, which are the most important breeds of sheep, producing what we term short staple, carding or clothing wools.

The Merino Sheep. The original home of this animal is Spain, from there they have been spread.
The Jacquard Machine
ANALYZED AND EXPLAINED:

The Preparation of Jacquard Cards and Hints to Learners of Jacquard Designing

By E. A. POSSELT
Editor of Posselt’s Textile Journal.


ABSTRACT OF THE CONTENTS:

History of the Jacquard Machine.
The Jacquard Machine — General Arrangement and Application.
Illustration of the different parts of the Jacquard Machine — Method of Operation, etc.
The Jacquard Harness — The Comber-boards.
Tying-up of Jacquard Harness.
   I. — Straight-through Tie-up.
   II. — Straight-through Tie-up for Repeated Effects.
   III. — Straight-through Tie-up using Front Harness.
   IV. — Centre Tie-up.
   V. — Straight-through and Point Tie-ups Combined.
   VI. — Straight-through Tie-up in Two Sections.
   VII. — Tying-up for Figuring with an Extra Warp

APPENDIX:

Preparing and Stamping of Jacquard Cards. |
   Piano Card-Stamping Machines.
   Dobby Card-Punching Machines. |
   Stamping, Repeating and Lacing.

HINTS TO LEARNERS OF JACQUARD DESIGNING:

Point Paper to Use, etc. |
   Transferring of the Sketch to the Squared Paper.
Sketching of Designs for Fabrics to be executed on the Jacquard Machine. |
   Outlining in Squares.
   Enlarging and Reducing Figures for Sketches |
   The Shading of Textile Fabrics by the Weave.

Complete Circulars mailed upon application.

Textile Publishing Company
ALFRED SUTER Textile Engineer
200 Fifth Avenue - - NEW YORK

Importer of
Baer's Yarn & Cloth Testing Apparatus.
Yarn Scales. Reels Twist Testers Evenness Testers Conditioning Ovens Strength & Elasticity Tester for Cloth & for Yarns

Ask for Prospectus on Suter's Universal Yarn & Cloth Analysing Set

LAVIGNE & SUTER

French Twisted Wire Heddles
German Soldered Wire Heddles
French Reed Wires
French Tricolore Cotton Heddles Reed Making Machine
Reed Cleaning Machine
Arcade Yarn Twisted & Braided Raw Hide Pickers.

WRITE for Samples and Prices
WALTER W. HODGSON

CARD STAMPING AND REPEATING

FOR ALL TEXTILE FABRICS

ALSO REPEATING FOR THROW OVERS FOR FINE AND FRENCH INDEX

315 West Lehigh Avenue

DIXON'S

FLAKE GRAPHITE—the perfect natural lubricant.

GRAPHITE BRUSHES—for motors and generators.

BELT DRESSINGS—solid and paste, for belts of all kinds.

PIPE JOINT COMPOUND—for all screwed or flanged joints.

SILICA-GRAPHITE PAINT—a perfect protection for all metal work.

BOILER GRAPHITE—to clean boilers and keep them clean.

SEND FOR CATALOG NO. 61

Made in Jersey City, N. J., by the

Joseph Dixon Crucible Company
SAUQUOIT SILK MFG. CO.
INSULATING AND BRAIDING SILKS

Organzine, Tram and Hosiery Silks

Fast Dye Organzines for Woolen Manufacturers a Specialty


New York Representative, Wm. Ryle & Co., 225 Fourth Ave.
Philadelphia Office, 4015 Clarissa St., Nicetown
Chicago Office, 206 So. Market St.
Boston Agents, Messrs. Stelle & Sherman, 78 Chauncy St.

For

Cotton, Silk, Artificial Silk, Worsted and Woolen Fabrics

there is a heddle made by the

STEEL HEDDLE MFG. CO.

World's leading Manufacturers of the Flat Steel Heddle, Universal and Ideal Frame

N-ever W-ever O-ut Doup Heddle, Reed Wire
Silk and Cotton Reeds
Textile Calculations
A Complete Guide to Calculations Relating to the Construction of all Kinds of Yarns and Fabrics, the Analysis of Cloth, Speed, Power and Belt Calculations.

BY
E. A. POSSELT
Editor of Posselt’s Textile Journal

In One Vol., Quarto. Bound in Cloth, 186 Pages, Numerous Illustrations. Price Two Dollars, Postage Prepaid, Delivery Guaranteed.

ABSTRACT OF THE CONTENTS

YARN AND CLOTH CALCULATIONS
Grading of the Various Yarns Used in the Manufacture of Textile Fabrics According to Size or Counts. To Find the Equivalent Counts of a Given Thread in Another System. To Ascertain the Counts of Twisted Threads Composed of Different Materials. To Ascertain the Counts for a Minor Thread to Produce, with Other Given Minor Threads, Two, Three or More Ply Yarn of a Given Count. To Ascertain the Amount of Material Required for Each Minor Thread in Laying out Lots for Two, Three or More Ply Yarn. To Ascertain the Cost of Two, Three or More Ply Yarn. To Find the Mean or Average Value of Yarns of Mixed Stocks. Reed Calculations. Warp Calculations. Filling Calculations. To Ascertain the Amount and Cost of the Materials Used in the Construction of All Kinds of Plain and Fancy Cotton and Woollen Fabrics.

STRUCTURE OF TEXTILE FABRICS
The Purpose of Wear that the Fabric will be Subject to. The Nature of Raw Materials. Counts of Yarn Required to Produce a Perfect Structure of Cloth. To Find the Diameter of a Thread by Means of a Given Diameter of Another Count of Yarn. To Find the Counts of Yarn Required for a Given Warp Texture by Means of a Known Warp Texture with the Respective Counts of the Yarn Given. Influence of the Twist of Yarns upon the Texture of a Cloth. To Find the Amount of Twist Required for a Yarn if the Counts and Twists of a Yarn of the Same System, but of Different Counts, are Known. Influence of the Weave upon the Texture of a Fabric. To find the Texture of a Cloth. To Change the Texture for Given Counts of Yarn from one Weave to Another. To Change the Weight of a Fabric without Influencing its General Appearance. To Find Number of Ends Per Inch in Required Cloth. Weaves Which will Work with the Same Texture as the two and two Twill. Weaves which will Work with the Same Texture as the three and three, four and four, etc., Twill. Selections of the Proper Texture for Fabrics Interlaced with Satin Weaves. Rib Weaves. Corkscrew Weaves. Two Systems Filling and One System Warp. Two Systems Warp and One System Filling. Two Systems Warp and Two Systems Filling.

ANALYSIS

SPEED, BELTING, POWER, Etc.:

Complete Circulars mailed upon application.

Textile Publishing Company
2154 North 21st Street
Example.—Find the proper texture for warp and filling, and also ascertain the weight of flannel per yard from loom (exclusive of selvage).Cloaking: Warp 5-run, filling 5-run, backing 23-run. Weave, see Fig. 40 (8 warp threads and 12 picks in repeat). Take-up of warp, 10 per cent. Width of cloth in reel, 72 inches (exclusive of selvage).

5-run = 8,000 yards per lb.

2,000, less 10 per cent. = 75 ends of 5-run yarn will lie side by side in one inch.

75 \times \frac{4}{3} = \frac{300}{8} = 50 ends of warp must be used per inch, and

50 \times 72 = 3,600 ends must be used in full warp.

\[
\frac{3,600 \times 100}{50 \times 72} = 8 \text{ oz.}
\]

3,444 = 7.5 oz., weight of warp.

52 picks (50 - 2 extra) of face filling, 1 are wanted per inch

26 picks (corresponding to face picks) of back filling, \( \frac{52}{23} \) are wanted.

3,444 + 500 = 7.5 oz., weight of face filling.

1,872 oz. of backing are required.

Warp, 8.00 oz.

Face filling, 7.50 "

Backing, 7.50 "

Total, 23.00 oz.

Answer.—Total weight of cloth per yard from loom (exclusive of selvage), 23 oz.

Section of the proper texture for fabrics backed with warp; i.e., constructed with two systems of warp and one system of filling.

To ascertain the texture of the warp in these fabrics we must first consider the counts of the yarn as used for the face structure, and secondly the weave.

After ascertaining this texture (for the single cloth) we must consider the weave for the back warp; i.e., the stitching of the same to the face cloth. If dealing with a weave of short repeat for the back warp (for example a \( \frac{1}{3} \)-twill) we must allow a correspondingly heavy deduction from the threads as ascertained for the face cloth (about 20 per cent. for the \( \frac{1}{3} \)-twill); whereas, if dealing with a far-floating weave for the back (for example the 8-leaf satin) we will have to deduct less (about 10 per cent. for the 8-leaf satin) from the previously ascertained texture of the face cloth. Since the 8-leaf satin is about the most far-floating weave, as used for the backing, thus, 10 per cent. will be about the lowest deduction, and as the \( \frac{1}{3} \)-twill is the most frequently interlacing weave, in use in the manufacture of these fabrics, thus, 20 per cent. deduction from the respectively found texture of the face cloth is the maximum deduction. To illustrate the subject more clearly to the student we will give both weaves as previously referred to with a practical example.

Example.—Find warp texture for the following fabric: Fancy worsted trousers.

Weave, see Fig. 41. Face warp, 236's worsted. Back warp, single 29's worsted.

236's worsted = 90 threads (side by side per inch).

Face weave \( \frac{2}{2} \)-twill = 4 threads in repeat and 2 points of interlacing.

\[
90 \times 4 = 360 + 6 = 366 \text{ threads, proper warp texture for the single structure.}
\]

12 (20 per cent. deduction caused by the back warp \( \frac{1}{3} \)-stitching in the face structure).
Textile Machinery Relating to Weaving

By E. A. POSSELT
Editor of Posselt's Textile Journal.

A treatise giving Descriptive Illustrations of the Construction and Operation of Various Looms, Jacquards, Warpers, Beamers, Slashers, Spoolers; also Illustrating and Explaining Different makes of Shuttles, Temples, Pickers, Reeds, Heddles, Harnesses, etc.,

FOR THE USE OF
Manufacturers, Mill Managers, Designers, Boss Weavers, Loom Fixers, Students and Inventors.

Published in Two Parts, each treating Different Machinery, Classified in Separate Chapters as follows:

Shedding Mechanisms. 
Box Motions and Shuttle Boxes.
Let-off Mechanisms.
Take-up Mechanisms.
Warp Beams.
Stop Motions.
Picking Mechanisms.

Shuttles.
Temples.
Reeds and Reed Motions.
Heddles and Harnesses.
Jacquards and Card Stampers.
Spoolers, Winders and Reels.
Warpers and Beamers.

Miscellaneous Machinery.

Both Parts, with Over 1200 Illustrations, describe nearly 500 items of different Machinery, Devices and Supplies, Relating Directly to the Weave Room.

Each Volume Bound in Cloth, Price $1.50, Postage prepaid. Delivery guaranteed.

Price of Both Volumes if ordered at one time $2.50, Postage prepaid, Delivery guaranteed.

Complete Circulars of both books mailed upon application.

Textile Publishing Company
2154 North 21st Street
THE KNOWLES SHEDDING MECHANISM

This mechanism is shown in the accompanying three illustrations, of which Fig 1 shows the complete shedding mechanism. Fig 2 shows the top and bottom cylinders, also the vibrator and jack attachment. Fig 3 shows the box mechanism for raising and lowering the shuttle boxes.

a. indicates arch of loom frame, b, the loom frame c, the bolts for fastening the arch a, on to loom frame b, d, indicates the top cylinder for operating shedding mechanism c, the bottom cylinder for operating shedding mechanism d. e, the part of top cylinder for operating shuttle boxes. f, the part of bottom cylinder for operating shuttle-boxes. k, the vibrator levers; k, the vibrator gears, h, the vibrator connectors; t, the harness jacks; t, the comb for keeping them in proper position.

Vibrator lever, gear and connector are the same for shedding and box mechanism, with the exception of the long connector k, used for raising single box.

w, arbor of harness jacks, termed to rod k, fastened to the lower extension of arch a, of the loom frame.

k, is a small rod running across the top of jacks for holding them down on the rod k.

\( f \), chain cylinder gear, fastened to the chain cylinder e, by means of a soft set screw (not shown), so that provided any catch occurs, no other breakage but the breaking of said soft set screw will result; \( f \), the boxes for holding chain cylinder and which can be raised or lowered by set screws \( f \).

m, two elliptical gears for transferring the characteristic fast and slow motion to chain cylinder \( e \). To the right of these two elliptical gears \( m \), are seen two spur gears, of which the lower situated is a double spur gear. The outside gear of the double spur gear is smaller and meshes into the teeth of the chain cylinder gear \( f \).

\( n \), the reverse key, held in position by casting \( n \), bolted on to loom frame \( a \). This reverse key acts as a stop for all the upper sections of previously referred to three sets of gears. It has a double key set in its shaft.

When the loom is in motion and the chain cylinder running forward, one of the lips fastens the top elliptical gear and also the previously referred to outside situated upper gear, which meshes with the chain cylinder gear \( f \) required to reverse the chain cylinder the reverse key \( m \), is drawn out, in turn liberating the top elliptical gear and fastening the middle spur
gear, which meshes with the bottom
double spur gear, thus in turn re-
verses the chain cylinder gear and
its cylinder.
Spring 6 connects to the lock
knife o. (See Fig. 1.) This lock
knife is operated by means of finger
o', fastened to rod 6' by a set screw,
and which finger in turn is operated
by a cam (not shown) fastened on
the bottom cylinder.

Three upright arms (one on each
end and one in centre of the head
motion) extending upward on shaft
e" hold lock knife o by means of
set screws.

As the chain ball (riser) of pattern chain P, comes
under the heel of the vibrator lever f, the cam which
operates the finger o" of the lock knife must be on its
highest part, which causes the knife to be out, allowing
the vibrator lever f, to change according to pattern
chain. As the low part of the cam comes around, the
spring o will immediately pull the lock knife in between the ends o,
the vibrator lever f, holding then steady while vibrator gears 9, are
rotating.
P is the chain rack for holding the
chain in position and away from the
jacks t.

Vibrator levers 1, are fulcrummed
on rod f, and held in position by shell f".

Every vibrator connector h, has
connected to it a follower-lever q,
the object of which is to keep con-
nector h, from lying back when the
harness rises. Every follower-lever is pressed down by means of a
spring q', held in position by rack
q" and turns on shaft q'". Cylinders
d and e, are driven by bevel gears r
and s', which in turn are driven by
bevel gears s and s' keyed to up-
right shaft f, driven either from
crank shaft or bottom shaft of the
loom as required.

h, is a hand wheel used by the
operator for turning harnesses by
hand when necessary.

This is the lever for a single box
lift (box No. 2), r, compound lever
for raising box 3 and g, t', brace for
holding compound lever in position;
1", the pulleys around which
box chain e", runs for raising the
boxes.
A. W. BUHLMANN
Textile-Engineer

200 Fifth Ave. New-York

Sole representative in the U. S. A. and Canada for

Herm. Schroers, Maschinenfabrik

CREFELD

The foremost builders of Silk-Velvet-and Plush looms.

Fine index Jacquard machines with endless paper card system "Verdol."

Saechsische Webstuhlfabrik

CHEMNITZ

Pioneer builders of Carpet-looms, for Wiltons, Brussels, Axminsters and Tapestry.

Looms for Hair-cloth, Felts, Turkish-towels, Astrachans and Specialties.
Cotton Manufacturing

A Complete Treatise on Modern Processes and Machinery Used in Connection with Cotton Spinning, Including all Calculations Required. Published in Two Parts.

By

E. A. POSSELT
Editor of Posselt's Textile Journal

Volume 1 Gives on 200 pages a Complete Description of the Manufacture of Cotton Yarns from Planting the Seed to the Sliver, ready for the Drawing or Combing; Covering: Fibre, Ginning, Mixing, Picking, Scutching and Carding.

Volume 2 Takes up the subject where Volume 1 leaves off, 300 pages, covering: Combing, Drawing, Roller Covering and Fly Frames, i.e., the transforming of the Sliver into Roving for the Ring Frame or the Mule.

Each Volume, Richly Illustrated, Bound in Cloth, Price Three Dollars, Postage prepaid, Delivery guaranteed.

Price of Both Volumes, if ordered at one time Five Dollars, Postage prepaid, Delivery guaranteed.

Complete circulars of Both Books mailed upon application.

Textile Publishing Company

with the flats, we find that the bristles are mounted in two double series (extending diagonally across the width of the roller) in lags A and extend through brass plates B. The length which these bristles extend outside of plate B is regulated by a screw C, thus permitting ready adjustment of the bristles when worn, in order that they penetrate the teeth of the flats to the proper extent. It will be readily understood that the bristles of the brush penetrate the clothing of the flats deeper than do the wire teeth D which do the actual stripping, whereas the bristles will effect a thorough cleaning of the foundation of the clothing of the flats. Above the brush is mounted a tooth clearer E which in its normal position has its wire teeth G held only slightly in contact with the wire teeth D of the brush by means of a spring F, the action of its wire teeth on the wire points of the stripping brush being only to press the stripings into the latter and thus prevent their falling into the flats again. When it is necessary to clean the brush, the clearer E is moved from its position above the brush down to the lower position E' shown in the illustration and then pressed inward so that its wire teeth G' will penetrate into the wire portion of the brush, and when in turn the clearer is bodily moved up to its former position E while the brush is rotated in the opposite direction, this procedure effectually cleaning the wire clothing of the brush: The brush when in operation is driven at a slow speed, from 5 to 10 revolutions per minute, and on account of this as well as the few bristles used in its construction and their manner of adjustment, does not require to be singed, permitting also at the same time ready replacing of the bristles when worn.

Another stripping and cleaning apparatus for cleaning the flats of revolving flat cards is shown in its section by Fig. 96. The apparatus consists of the combination of a separate wire stripping brush A and a separate spiral bristle brush B, both of small diameter, carried by two end discs C, and revolving or traveling round the axis of a central driving shaft D. Both brushes (A and B) are driven by special gear wheel arrangement in such a manner that they are caused to revolve on their own axes at the same time, and in the same direction as they are traveling round said central driving shaft D. A circular comb E, also driven by special gear wheel mechanism, is attached, which strips or clears both brushes (A and B) automatically while the apparatus is at work, and in this manner the two brushes are always kept clean and efficient to perform their work. A hinged guard
COMBING.

serves the purpose to keep the slivers better down on the spoons $G$, thus obtaining a prompt action of the stop motion. From the spoons $G$, the slivers pass down a specially shaped guide plate $H$, each sliver being kept separated from the others by means of grooves or channels $I$, through which they pass. The slivers are in this manner brought together and made into a comparatively level sheet without overlapping each other as they enter the series of drawing rolls $J$, side by side. The object of the machine is not to draw the slivers out, but to lay them side by side in the form of an even lap, for which reason the draft in the rollers $J$ is just enough to prevent bulkiness of the lap and should not exceed about $1\frac{1}{2}$ to 2. Emerging from the drawing rolls $J$, the cotton is conducted between a pair of heavy calender rolls $K$, which compress it into a sheet or lap which enables it to be rolled up. The top calender roller $K$ is weighted either by a spring or lever arrangement at each end, with from 80 to 140 lbs. pressure. After the cotton leaves the calender rollers $K$, it is wound in the form of a lap $L$, upon the wooden spool $N$. 
Cuts No. 1 and No. 2 show rewound filling bobbins, made any size from seven-eighths to two inches diameter, up to 12 inches long, and contain from 200 to 300% more than ordinary spinning bobbins. Any kind of coarse yarns can be rewound to advantage by spinning the filling on warp bobbins, which makes them large enough to fill one shuttle bobbin. By this process two doffings are saved in the spinning room, a perfect shuttle bobbin would be insured, free from knots, less waste, perfect selvages and fewer imperfections in cloth.

These bobbins are suitable for any kind of duck, tire fabrics, denims, upholsteries, asbestos, ratana or any kind of plain or fancy yarns for automatic or other looms.

Cuts No. 3 and No. 4 show cops to weave from the inside from seven-eighths to three inches diameter and up to fifteen inches long. Suitable for heavy woolens, linen, jute, cotton bagging, asbestos, cocoa matting, paper, etc.
POSSELT'S TEXTILE LIBRARY, Vol. II.

WOOL DYEING, Part 1

By WALTER M. GARDNER, F. C. S.
Director of the Dyeing Department of the Textile School in Bradford, England.

In one Vol., Quarto, Bound in Cloth, Illustrated. Price, $2.00. Postage prepaid. Delivery guaranteed.


POSSELT'S TEXTILE LIBRARY, Vol. VIII.

WOOL DYEING, Part 2

By GARDNER and KNAGGS.

In one Vol., Quarto, Bound in Cloth. Price, $2.00. Postage prepaid. Delivery guaranteed.

ABSTRACT OF CONTENTS:
Classification of Coloring Matters.

NATURAL DYESTUFFS:
Logwood; Soluble and Insoluble Redwoods; Madder; Cochineal, Kermes and Lac-Dye; Orchil, Cudbear and Allied Coloring Matters.

Yellow Dyes: Weld; Quercitron Bark and Flavin; Persian Berries; Young and Old Fustic; Turmeric; Catechu, Cutch, Gambier.

Indigo.

ARTIFICIAL DYESTUFFS:

Complete Circulars of both books mailed upon application.

Textile Publishing Company
BERLIN ANILINE WORKS
213-215 WATER STREET, NEW YORK

Acid and Chrome Colors
Metachrome Colors
Direct and Developed Colors
Sulphur Colors

BRANCHES:
BOSTON, PHILADELPHIA, CHICAGO, CHARLOTTE
MONTREAL: McArthur, Irwin, Ltd.

TORSION BALANCE
TEXTILE
SCALES

These scales have revolutionized Textile Testing. Determinations obtained without calculation or the use of weights.

SCALES FOR THE FOLLOWING PURPOSES:
Number of yards per pound; Number of ounces per yard; Size
Number of Cotton, Woolen or Worsted Yarns; Exact Weight per Pair or per Dozen Pair of Hose or Undergarments.
Dye Scales for Sample Batches.

The Torsion Balance Company
Factory: JERSEY CITY, N. J. Office: 92 READE ST., NEW YORK, N. Y.
San Francisco, Cal.

Style No. 5005
I. A. HALL & CO., Paterson, N. J. &

Manufacturers, Dealers and Importers of

Reeds, Harness, Shuttles, Quills,
and General Silk Mill Supplies

Sole agents for Grob’s Flat Steel Heddles

Twisted Wire Heddles :: Heddle Frames, Etc.

F. G. LENTZ & CO.

Designers, Card Stampers and Harness Builders

FOR ALL TEXTILE FABRICS

Mascher, Waterloo and York Streets
Both Phones

PHILADELPHIA, PA.
Charles BOND Company
MANUFACTURERS OF
OAK TANNED LEATHER BELTING
APRONS AND ROLL COVERS
IMPORTERS OF LEATHERS
FOR TEXTILE INDUSTRIES
GENERAL MILL FURNISHERS

520 Arch St. :: Philadelphia, Pa.

CHENEY SILK YARNS

The quality of the yarn determines the quality of the woven fabric.
Manufacturers of silks and silk-mixture goods have found by experience that Cheney Silk Yarns meet every demand for quality and uniformity.
Made in singles and doubles, organzines and trams — put up as desired on spools, cones, warped or in the hank.
Special silk yarns made to order for any purpose.
CHENEY BROTHERS, Silk Manufacturers
4th Ave. and 18th St., New York
This B is the best Mill and Loom Duster at the price on the market.

WRITE FOR PRICES AND WE WILL GLADLY SUBMIT SAMPLE ON REQUEST ON YOUR BUSINESS LETTER HEAD

WE MANUFACTURE & REPAIR MACHINE BRUSHES OF ALL DESCRIPTIONS

Let us estimate on your work

M. COCKER & CO., Phila., Pa.

CUT YOUR DESIGNS ON ONE OF THE GRADES OF LANE JACQUARD CARDS

LACE THEM WITH LANE CARD LACING AND GET RESULTS

ALBERT A. LANE

73 WARREN ST. NEW YORK
"GOOD WEAVING RESULTS"

use

Picker & Cards
Potter & Johnston Machine Co.,
PAWTUCKET, R. I.

Roving & Drawing Frames
Woonsocket Machine & Press Co.,
WOONSOCKET, R. I.

Spinning & Twisting Frames
Fales & Jenks Machine Co.,
PAWTUCKET, R. I.