## Table of Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designing and Fabric Structure for Harness Work</td>
<td>97</td>
</tr>
<tr>
<td>Ribbons, Trimmings, Edgings, etc.</td>
<td>97</td>
</tr>
<tr>
<td>The Manufacture of Overcoatings and Cloakings</td>
<td>99</td>
</tr>
<tr>
<td>Novelities from Abroad</td>
<td>100</td>
</tr>
<tr>
<td>A Practical Treatise on the Knowles Fancy Worsted Loom</td>
<td>102</td>
</tr>
<tr>
<td>Shuttle Operation Mechanism for Narrow-Ware Looms</td>
<td>104</td>
</tr>
<tr>
<td>Novelty in Jacquard Dress Goods</td>
<td>105</td>
</tr>
<tr>
<td>Perfect Roving for Woolen Yarns</td>
<td>105</td>
</tr>
<tr>
<td>The Ring Frame</td>
<td>106</td>
</tr>
<tr>
<td>Fly Frames</td>
<td>110</td>
</tr>
<tr>
<td>Warp Sizing</td>
<td>112</td>
</tr>
<tr>
<td>Silk Manufacturing and Atmospheric Moisture</td>
<td>113</td>
</tr>
<tr>
<td>Supplies Used in Silk Finishing</td>
<td>114</td>
</tr>
<tr>
<td>Soaps for the Scouring and Dyeing of Silk</td>
<td>114</td>
</tr>
<tr>
<td>Artificial Wools</td>
<td>115</td>
</tr>
<tr>
<td>Wool Scouring and Drying</td>
<td>116</td>
</tr>
<tr>
<td>Full Automatic Seamless Knitting Machinery</td>
<td>118</td>
</tr>
<tr>
<td>A New Ribbed Top for Hose</td>
<td>119</td>
</tr>
<tr>
<td>Japan’s Knitting Industry</td>
<td>120</td>
</tr>
<tr>
<td>Bleaching and Dyeing Artificial Silks</td>
<td>120</td>
</tr>
<tr>
<td>Bleaching Cotton with Peroxide of Sodium</td>
<td>122</td>
</tr>
<tr>
<td>Testing of Chemicals and Supplies in Textile Mills and Dye Works</td>
<td>123</td>
</tr>
<tr>
<td>The Influence of Acids on the Wool Fibre</td>
<td>123</td>
</tr>
<tr>
<td>Practical Points on the Shear</td>
<td>124</td>
</tr>
<tr>
<td>Dictionary of Technical Terms Relating to the Textile Industry</td>
<td>125</td>
</tr>
<tr>
<td>Dictionary of Weaves</td>
<td>127</td>
</tr>
<tr>
<td>Insoluble Soaps in Finishing</td>
<td>xii</td>
</tr>
<tr>
<td>Bleaching Half Silk with Peroxide of Sodium</td>
<td>xiii</td>
</tr>
<tr>
<td>Buyers’ Index</td>
<td>vi</td>
</tr>
<tr>
<td>Mill News</td>
<td>xiv</td>
</tr>
</tbody>
</table>

**COPYRIGHTED 1909**

By E. A. POSSELT

Entered as second-class matter February 10, 1908, at the postoffice at Philadelphia, Pa., under the Act of Congress of March 3, 1879.

E. A. Posselt, Publisher, 2028 Berks St., Philadelphia, Pa.

European Agents: Sampson Low, Marston & Co., Ltd., 100 Southwark Street, London, S. E.
This is the Well Known E Model

NORTHROP LOOM

IN ITS LATEST REVISED CONSTRUCTION
If interested in this or any other models
of automatic filling-changing looms,

write to

DRAPER COMPANY,
HOPEDALE, - MASSACHUSETTS

Southern Agent  J. D. CLOUDMAN,  40 South Forsyth St., ATLANTA, GA.
POSSELT'S
TEXTILE JOURNAL

A PRACTICAL AND
EDUCATIONAL JOURNAL
DEVOTED TO
THE TEXTILE INDUSTRIES.

2028 BERKS STREET,
PHILADELPHIA, PA.
THE WHITIN MACHINE WORKS
WHITINSVILLE, MASS.
BUILDERS OF
COTTON MACHINERY

CARDs, COMBERS, DRAWING FRAMES, SPINNING FRAMES, SPOOLERS
TWISTERS, REELS, LONG CHAIN QUILLERS, LOOMS

SOUTHERN AGENT
STUART W. CRAMER
CHARLOTTE, N.C., and ATLANTA, GA.
The METALLIC DRAWING ROLL CO.

33 Per Cent. More Production Guaranteed, at Less Cost
WRITE FOR PRICES AND PARTICULARS

SOLE MANUFACTURERS OF
Patent Metallic Rolls
For Fibrous Materials

THE METALLIC DRAWING ROLL CO., INDIAN ORCHARD, MASS.

A LITTLE INVESTMENT
you should make—purchase the Piano Card-Cutting Machine you have been considering for some time.
You already feel the need of the machine as the old one is about worn out, and work is increasing. Don’t wait until the work gets beyond the capacity of your card room, but order now. Later, we may not be able to give you as prompt shipment as now.

CATALOG ON REQUEST

JOHN ROYLE & SONS
PATERSON, N. J., U. S. A.

POWER AND FOOT-DRIVE PIANO MACHINES.
ALSO LACERS AND REPEATERS

“The HALTON JACQUARD”
For Fabrics of Every Description
HARNESS BUILDING
THOMAS HALTON’S SONS
Allegheny Avenue and C Street, Philadelphia
MASON MACHINE WORKS
... TAUNTON, MASS....

BUILDERS OF
COTTON MILL MACHINERY

Steel Heddle Mfg. Co.

Manufacturers of the
Flat Steel Heddle and
Heddle Frames

PHILADELPHIA, PA.

Don't discard your wooden clappers. They're all right.
It's the obsolete screw guide that's wrong.

IN THE Palmer
Adjustable Thread Guide

For Ring Spinning and Twisting you have a guide which allows perfect adjustment in every direction without heavy and expensive metal clappers and back rails.

SEND Two Clappers for Free Samples. For Circulars.

Patented and Manufactured by
THE I. E. PALMER COMPANY
Middletown, Conn., U. S. A.
MODEL D
WOOL WASHER

Not "A Has Been." Not "A Going To Be"
but a present day success.
Parallel Rake—Large Settling Bowl.
Self Contained Flushing Appliance.
ASK FOR BULLETIN No. 54.

Patent Winders for Filling Yarns
from the Skein to Shuttle Bobbins

These machines exceed the production of any other make of this type
of machines built and will under a guarantee defy its equal to appear.

There are many conditions in winding, we meet all, and we know how.

Spooling from the Skein, on fine yarns requires a machine that to give
production and quality of work is hard to get. Our latest improvement
enables us to meet all requirements.

In Warping, our latest type, with drying cylinders for fine yarns has
new improvements that gives them a speed, which means production.

With our Pinless device our Warpers obviate pin or section stripes.

Our Experience on Winding and Warping Questions at your services,
any time for the asking.

Established
1865
JACOB K. ALTEMUS TEXTILE MACHINERY
2824 North Fourth Street, Philadelphia, Pa.
# LIST OF ADVERTISERS

<table>
<thead>
<tr>
<th>Company</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altemus, Jacob K.</td>
<td>V</td>
</tr>
<tr>
<td>Berge, J. &amp; H.</td>
<td>XI</td>
</tr>
<tr>
<td>Brinton, H., Co.</td>
<td>VIII</td>
</tr>
<tr>
<td>Chapin, Geo. W.</td>
<td>IX</td>
</tr>
<tr>
<td>Cheney Brothers, South Manchester, Conn.</td>
<td>VII</td>
</tr>
<tr>
<td>Commercial Photo-Engraving Co., Philadelphia</td>
<td>XIII</td>
</tr>
<tr>
<td>Crosby &amp; Knowles Loom Works, Worcester, Mass.</td>
<td>IX</td>
</tr>
<tr>
<td>Crosby &amp; Gregory, Boston</td>
<td>XI</td>
</tr>
<tr>
<td>Draper Company, Hopedale, Mass</td>
<td>XVI</td>
</tr>
<tr>
<td>Farbenfabriken of Elberfeld Co., New York</td>
<td>IX</td>
</tr>
<tr>
<td>Firth &amp; Foster Co., Philadelphia</td>
<td>X</td>
</tr>
<tr>
<td>Globe Machine and Foundry Co., Inc.</td>
<td>X</td>
</tr>
<tr>
<td>Halton's, Thomas, Sons, Philadelphia</td>
<td>III</td>
</tr>
<tr>
<td>Holbrook Mfg. Co., The, New York</td>
<td>IX</td>
</tr>
<tr>
<td>Howson and Howson, Philadelphia</td>
<td>XI</td>
</tr>
<tr>
<td>Hunter, James, Machine Co., North Adams, Mass.</td>
<td>X</td>
</tr>
<tr>
<td>Frederick Jones &amp; Co., Philadelphia</td>
<td>X</td>
</tr>
<tr>
<td>Keyworth, Wm. C., Paterson, N. J.</td>
<td>XI</td>
</tr>
<tr>
<td>Kilburn, Lincoln &amp; Co., Fall River, Mass.</td>
<td>X</td>
</tr>
<tr>
<td>Kilpatrick, A. &amp; Co., New York</td>
<td>XI</td>
</tr>
<tr>
<td>Knapp, Chas. H., Paterson, N. J.</td>
<td>X</td>
</tr>
<tr>
<td>Lentz, F. G. &amp; Co., Philadelphia</td>
<td>X</td>
</tr>
<tr>
<td>Lever, Oswald Co., Inc., Philadelphia</td>
<td>XI</td>
</tr>
<tr>
<td>Litewski, Ludwig, New York</td>
<td>IX</td>
</tr>
<tr>
<td>Mason Machine Works, Taunton, Mass.</td>
<td>IV</td>
</tr>
<tr>
<td>Metallic Drawing Roll Co., Indian Orchard, Mass.</td>
<td>III</td>
</tr>
<tr>
<td>Metz, H. A. &amp; Co., New York</td>
<td>IX</td>
</tr>
<tr>
<td>New England Butt Co., Providence, R. I.</td>
<td>X</td>
</tr>
<tr>
<td>Palmer, Thos. E. Co., Middletown, Conn.</td>
<td>V</td>
</tr>
<tr>
<td>Philadelphia Drying Machinery Co., The, Philipinadelphia</td>
<td>XVI</td>
</tr>
<tr>
<td>Rossler &amp; Haslacher Chemical Co., New York</td>
<td>XV</td>
</tr>
<tr>
<td>Royal, John, &amp; Sons, Paterson, N. J.</td>
<td>III</td>
</tr>
<tr>
<td>Royal, William, &amp; Co., New York</td>
<td>X</td>
</tr>
<tr>
<td>Sauquett Silk Mfg. Co., Philadelphia</td>
<td>IX</td>
</tr>
<tr>
<td>Schaefer, Rob., Co., The, Providence, R. I.</td>
<td>XI</td>
</tr>
<tr>
<td>Schuchardt &amp; Schütte, New York</td>
<td>XIV</td>
</tr>
<tr>
<td>Sipp Electric &amp; Machine Co., Paterson, N. J.</td>
<td>VII</td>
</tr>
<tr>
<td>Stele Heddle Mfg. Co., Philadelphia</td>
<td>IV</td>
</tr>
<tr>
<td>Textile Publishing Co., Philadelphia</td>
<td>X</td>
</tr>
<tr>
<td>Troadler, Henry, Philadelphia</td>
<td>X</td>
</tr>
<tr>
<td>Vinal, Samuel S. &amp; Co., Boston</td>
<td>X</td>
</tr>
<tr>
<td>Weimer Bros., Philadelphia</td>
<td>X</td>
</tr>
<tr>
<td>Whitaker Reed Co., Worcester, Mass.</td>
<td>XIII</td>
</tr>
<tr>
<td>Whitin Machine Works, The, Whitinsville, Mass.</td>
<td>II</td>
</tr>
<tr>
<td>Woonsocket Machine &amp; Press Co., Woonsocket, R. I.</td>
<td>XV</td>
</tr>
<tr>
<td>Wright, Robert A., Philadelphia</td>
<td>XIII</td>
</tr>
</tbody>
</table>

---

## BUYERS’ INDEX

### Cotton Machinery

- Altemus, Jacob K.
- Crompton & Knowles Loom Works
- Crosby & Knowles Loom Works
- Draper Co.
- Halton's, Thomas, Sons
- Mason Machine Works
- Metallic Drawing Roll Co., The
- Philadelphia Drying Machinery Co.
- Schaefer, Rob., Co., The
- Schuchardt & Schütte
- Whitin Machine Works
- Woonsocket Machine & Press Co.
- Lever, Oswald Co., Inc.

### Designers

- Lentz, F. G. & Co.

### Design Paper

- Textile Publishing Co.

### Drawing Frames

- Mason Machine Works
- Whitin Machine Works

### Dye Stuff

- Farbenfabriken of Elberfeld Co.
- Kilpatrick, A. & Co.
- Metz, H. A. & Co.

### Electric Fans

- Sipp Electric & Machine Co.

### Engravers

- Philadelphia Drying Machinery Co.

### Grids for Lappers

- Schaefer, Rob., Co., The

### Harness Builders

- Crompton & Knowles Loom Works
- Halton's, Thomas, Sons
- Lentz, F. G. & Co.

### Harness Twine

- Littauer, Ludwig

### Heating and Ventilating Apparatus

- Philadelphia Drying Machinery Co.

### Heddles

- Steel Heddle Mfg. Co.
- Whitaker Reed Co.

### Jacquards

- Crompton & Knowles Loom Works
- Halton's, Thomas, Sons

### Jacquard Card Stamping, Lacing and Repeating Machinery

- Royle, John & Sons

### Knitting Machinery

- Brinton, H., Co.
CHENEY
SILKS
INCLUDING ALL KINDS OF
Spun Silk Yarns (In the Gray or Dyed)
Trams, Organizes and Singles. On Spools or on Cones, Warped or in the Hank.
Special Yarns to order for all sorts of Silks or Silk Mixture Goods.

16 Ounces to the Pound Pure Silk—Fast Colors Warranted
Knitting Silks, Ribbons and Piece Goods for Trimming Knit Goods.

All Kinds of Dress Silks
Satins, Linings, Printed Pongees, Foulards, Decorative Silks, Sashes, Plushes,
Velvets and Upholstery Goods.

Manufacturers’ Orders Promptly Executed

CHENEY BROTHERS, Silk Manufacturers
South Manchester, Conn.

Salesrooms:
477 Broome St., NEW YORK Hayworth Bldg., CHICAGO 79 Chauncy St., BOSTON
SAN FRANCISCO, Chronicle Bldg. 929 Chestnut St., PHILADELPHIA

The SIPP
Warper
Patent Applied For
The Latest and Best
WITH THE HOVER SWISS ATTACHMENT
The most important improvement in warpers in ten years.

MADE AND SOLD EXCLUSIVELY BY US
Section marks positively avoided and saving of time effected. You are cordially invited to inspect these machines at work, and as they must be seen to be appreciated, we hope you will accept our invitation.

The SIPP Electric and Machine Company
PATERSON, N. J.
BUYERS’ INDEX—Continued

Reels.
Draper Co.
Knap, Chas. H.
Sipp Electric & Machine Co.

Revolving Flat Cards.
Mason Machine Works.
Whitin Machine Works.

Ribbons and Piece Silks for Trimming Knit Goods.
Cheney Bros.
Sauquuit Silk Mfg. Co.

Scales and Weights.
Trommen, Henry.

Silk Machinery.
Altemus, Jacob K.
Crompton & Knowles Loom Works.
Halton,™ Thomas, Sons.
Keyworth, Wm. C.
Knap, Chas. H.
Mason Machine Works.
Sipp Electric & Machine Co.

Silk Yarns.
Cheney Bros.
Littauer, Ludwig.
Ryle, William, & Co.
Sauquuit Silk Mfg. Co.

Spools.

SPINDLES.
Draper Co.

Spinning Frames.
Mason Machine Works.
Schuchardt & Schütte.
Whitin Machine Works.

Spinning Rings.
Draper Co.
Whitaker Reed Co.

Tank and Tubs.
Philadelphia Drying Machinery Co.

Tapes, Braids and Edgings.
Chapin, George W.
Weimar Brothers.

Temple.
Crompton & Knowles Loom Works.
Draper Co.

Threads.
Chapin, George W.
Littauer, Ludwig.

Thread Guides.
Palmer, The E. E. Co.
Whitin Machine Works.

Tinsel.
Littauer, Ludwig.

Twisters.
Draper Co.
Mason Machine Works.
Whitin Machine Works.

Winding, Beam ing and Warping Machinery.
Altemus, Jacob K.
Draper Co.
Globe Mach. & Pty., Co., Inc.
Knapp, Chas. H.
Lever, Oswald Co., Inc.
Sipp Electric & Machine Co.
Whitin Machine Works.

Wool Combers.
Crompton & Knowles Loom Works.

Woolen Machinery.
Altemus, Jacob K.
Crompton & Knowles Loom Works.
Lever, Oswald Co., Inc.
Philadelphia Drying Machinery Co.
Schuchardt & Schütte.
Woonsocket Machine & Press Co.

Woolen Yarns.
Littauer, Ludwig.

Wool Washing Machinery.
Philadelphia Drying Machinery Co.

Yarn Testing Machinery.
Knapp, Chas. H.
Sipp Electric & Machine Co.
Henry Troemner
Manufacturer of
Scales and Weights
For the Chemist and Dyer
The Analysis of Yarns and Fabrics
911 Arch Street - Philadelphia

F. G. Lentz & Co.
Designers, Card Stampers and Harness Builders
For All Textile Fabrics
Mascher, Waterloo and York Sts.
Both Phones

Frederick Jones & Co.
Race above Fourth Street, Philadelphia
Textile Design Papers
For all Fabrics

Samuel S. Vinal & Co.
Cotton Dealers & Exporters
Burnt and Reclaimed Cotton a Specialty
52 India Street, Boston, Mass

Posselt's Textile Journal
Volumes I, II and III
Complete sets of the above are now on hand and ready for delivery.

Price: $1.50 Each Volume
This will give you an opportunity to get back volumes in order to complete the series of articles appearing now in the Journal on:

- Cotton Spinning (The Ring Frame)
- The first authentic treatise on the American Frame in print.

Dictionary of Weaves
Comprises over 2000 practical weaves on 8 to 12 harness, taken from woven fabric structures.

Lessons on Designing
Harness and Jacquard Work; a series of practical discussions and instructions on these subjects, based on the Editor's life experience and practical work.

Dictionary of Technical Terms
Relating to the Textile Industry, the first complete and authentic collection of words, trade names, phrases, etc., compiled.

A Treatise on the Knowledge of Loom
Covering its construction, etc.

The Manufacture of Narrow-Ware Fabrics
Ribbons, Trimmings, Edgings, Webblings, Elastics, etc.

Testing of Chemicals, Dyestuffs, Etc.
Also hundreds of articles on new machinery, processes, etc.

The supply being limited we would suggest that those who desire the same would order at once, remitting by money, check or registered mail.

CHROMICACLS AND APPARATUS
FOR THE DYE TRADE
J. & H. BERGE
Established 1854.
Old South Building - - Boston, Massachusetts
PATENTS AND PATENT CAUSES
Textile Work a Specialty

KILBURN, LINCOLN & COMPANY
LOOMS FOR
COTTON AND SILK WEAVING
FALL RIVER, MASS.

HOLBORN AND HOWSON
ATTORNEYS AT LAW
West End Building, 32 S. Broad Street
Philadelphia
SOLICITORS OF PATENTS
New York, 38 Park Row
Washington, 918 F Street

THE SCHAEFFIBAUM GRID
The grid with a comb is getting
in general use all over the coun-
try. It does the work. You get
better cleaning and lose less
cotton in the process than by
any other grid.

The ROB. SCHAEFFIBAUM CO.
288 Dyer Street, Providence, R. I.

Keyworth “Model B”
Silk Thread Finishing Machine
for Best Results—WHY?
Because the new features embodied in “Model B” do
away with all the difficulties to be met with in silk thread
finishing and make it the peer of any machine ever placed
on the market. Investigate and see the number of dupli-
cate orders we have received to date. Summed up, our
success is due to the fact that we have the best and most
complete system, and always honestly represent it and
say to those who have tried the rest to try the best and
see the difference. In ordering solutions, state the class
of goods you wish to make. Correspondence solicited.

Wm. C. Keyworth, Engineer and Designer
219 Van Houten St., Paterson, N. J.

OSWALD LEVER CO., Inc.,
BUILDERS OF
TEXTILE MACHINERY
Lehigh & Mascher Sts.
PHILADELPHIA, PA.
SPECIALTY: WINDING MACHINERY IN ALL VARIETIES
FOR ALL CLASSES OF WORK

Illustrations, Actual Size, Showing What We Do. We Invite Comparison.

Amount of yarn on tube 456 grains or 1368 yards.

B: Single 12's soft spun Cotton Yarn.
Amount of yarn on tube 458 grains or 660 yards.

Send Samples for Rewinding and We will convince you
Where you are short.
THE combined efforts of our experienced builders are directed toward a steady advancement year after year in all our varieties of weaving machinery. We want you to expect the best in every machine bearing our name.

CROMPTON & KNOWLES LOOM WORKS

WORCESTER PROVIDENCE PHILADELPHIA
DESIGNING AND FABRIC STRUCTURE FOR HARNES WORK.

75° STEEP TWILL.

The same are another subdivision of our regular twills, being obtained from the latter by means of drafting from any one of our regular twills every fourth warp thread for the resulting steep twill, which in this instance will show on the point-paper a much steeper twill effect than that of the 70 deg. steep twills, explained in the February issue of the Journal.

Using only every fourth warp thread of the regular twill, for the new steep twill, will indicate to us that with any foundation weave which is evenly divisible by 4, only one-quarter of the number of harnesses as required for the foundation twill, are necessary for the new steep twill; again foundation twills the repeat of which is divisible by 2 but not by 4, will require only one-half the number of harnesses that are respected for the foundation twill, for that of the steep twill.

In this way, a 24-harness regular twill will result in a 6-harness 75 deg. twill, for the fact, that, 24 divided by 4 equals 6.

Now we take an example of the other kind of foundation number previously referred to; for instance let us consider a 34-harness regular twill. 34 is evenly divisible by 2 but not by 4, and for which reason the resulting 75 deg. steep twill will repeat on 17-harness.

Regular tweeds, not divisible by 2 or 4, if used for foundation, will not reduce the number of harnesses required for its mate steep twill.

We will now explain the subject by means of a few examples:

Fig. 1 is the 1-1-1-1-1-1-1 48-harness regular twill: the weave being shown in two kinds of crochet type, i.e., every fourth warp thread of the twill is shown in full type, the other three warp threads being shown by dot type. Only using the warp threads shown in full type, i.e., omitting those shown in dot type in Fig. 1, results in the 75 deg. steep twill shown in Fig. 2, the same repeating on 12 warp threads and 48 picks.

Remember that no reduction in the repeat of the steep twill, filling ways, takes place, the repeat of the latter and that of the foundation twill being identical.

Fig. 3 shows us the 75 deg. steep twill, obtained from its mate 1-1-1-1-1-1-1-1 28-harness regular twill, the steep twill weave, Fig. 3, repeating on 7-harnesses and 28 picks.

The reading of the first warp thread of any 75 deg. steep twill, will always indicate the foundation for its mate regular twill, if following then the rule given in the November 1907 issue of the Journal: After indicating on your point-paper the interfacing of the first warp thread, remember that every successive warp thread interfaces correspondingly, beginning with the successive pick.

Weave Fig. 4 shows us a steep twill repeating on 8 warp threads and 32 picks, Fig. 5 shows us a 75 deg. steep twill repeating on 9 warp threads and 36 picks, and Fig. 6, a 75 deg. steep twill, repeating on 10 warp threads and 40 picks.

These five examples given, will thoroughly explain to the student how to construct these 75 deg. steep twills, from our foundation twills; an endless number of them may be constructed, we quoting in the interest of the reader, i.e., the student.

Questions:
Construct 75 deg. steep twills from the following regular twills:
1-1-1-1-1-1-1-1-1 20-harness twill.
1-1-1-1-1-1-1-1-1 24-harness twill
1-1-1-1-1-1-1-1-1 28-harness twill.
1-1-1-1-1-1-1-1-1 32-harness twill.
1-1-1-1-1-1-1-1-1 32-harness twill.

RIBBONS, TRIMMINGS, EDGINGS, ETC.
By O. Both.
(Continued from page 68.)

Velvet and plush fabrics.

These fabrics consist in a ground structure into which are secured (interlaced during weaving) cut threads, forming bunches of fibres protruding from the ground structure, said pile threads being cut, and
composed either of cotton, wool or silk. These fabric structures form a most important division, in the manufacture of narrow ware fabrics.

The threads which form the velvet or plush are known as pile threads. If a pile thread rests only below one pick, respectively warp thread, previously to entering and leaving the ground structure, such interlacing is known as *Pileup* (see diagram Fig. 93). If however said pile thread interlaces with several of the ground threads previously to again leaving the ground structure, the same is termed *Pilethrough* (see diagram Fig. 94 and where the pile thread interlaces on plain, for three ends).

There are three distinct pile fabric structures, *vis:*

1. Filling velvet on velveteeen,
2. Warp velvet or plush, and,
3. Loop fabrics.

![Fig. 93](image1)

![Fig. 94](image2)

**Filling Velvet.**

*Rule:* After inserting one ground pick, interlacing tightly with the warp threads, insert several picks floating for a certain number of warp threads; the length of the float being regulated by the height of the pile desired.

Drawing the woven fabric warp ways under tension over a table, will prominently raise said floats of the filling and which are then cut in their centre with specially shaped, sharp knives, the pile ends thus produced being then in turn by means of finishing, brushing, etc., felted. The longer the float, the higher the resulting pile.

Fig. 95 shows us such a filling velvet weave (pile-up) with one pick taffeta to alternate with 5 picks pile. Repeat of weave, 10 warp threads and 12 picks. The weave used for the interlacing of the pile picks is the 5-harness satin, considering only every other warp thread.

Weave Fig. 96 is the filling velvet weave technically known as the *Genoa cordarey* weave (so termed after Genoa, the prominent city of Italy, and where the same was first used). The arrangement used in connection with this weave is: 1 ground pick to alternate with four pile picks. The weave employed for interlacing the ground structure is the 3-harness twill, warp effect. Two sizes of floats are formed, one over six warp threads, the other over eight warp threads, this combination imparting to the cord a nice round effect.

Amongst these filling velvet weaves we also find such as used in the manufacture of Velveteen Bindings, as used for dress protectors. These ribbons are made either with a single or a twofold filling, consisting in a ribbon having a velveteeen edge attached to it during weaving. The ribbon, *i.e.,* Binding, is made either a plain, smooth structure or a fancy structure, figured either by warp or filling effects, in some instances they being woven of a conical shape, serving for connection to the edge of the garment; or they are made in double cloth structures (and when the upper ribbon is worked as a figured braid) between which the edge of the garment is inserted.

On the ribbon loom each set of warp threads, technically known as a *gang* (one of the sections of the complete warp) serves for forming two of these Bindings. Diagram Fig. 97 is given to illustrate the subject. *a-b* indicate one of the Bindings, woven in the regular way either as single or double cloth structure. Next several dents are missed in the reed after which a few cutting threads *d* are drawn in the reed; to be followed by empty dents and in turn the mate Binding *b-a*.

*c* indicates end warp threads placed there for specially taking up some of the pile picks. The arrangement of interlacing the filling depends upon the quality of a Binding under consideration, more picks being introduced between points *c-c* than between points *a-a*, *i.e.,* not all the picks enter into the fabric structure *a-b* and *b-a*, some of them only traveling between warp threads *c-c*, being by means of the latter attached to the Binding.

For weave we use in connection with lower grades of Bindings, double cloth weaves, whereas with the better grades of fabrics, fancy effects are produced by having warp threads (*a-b* and *b-a*) of the Binding work in 3 to 6-ply structures. Wool and worsted are used in connection with the better class of these fabrics, cotton for the lower grades.

After the Binding is woven, the same is severed lengthways in the centre of cutting threads *d* and the latter drawn out of the two Bindings. These cutting threads *d* may be also omitted, the eye then being the only guide in the matter of severing the two fabric structures, each provided on one side with a velour, velvet or velveteeen edge. If dealing with a wooden filling, by means of a suitable finishing process, for instance steaming, etc., the cut pile edges will become more bushy, and the more picks per inch inserted, the fuller the pile.

*(To be continued.)*

In the last decade while there has been an increase of upwards of 3,750,000 spindles in New England, the larger proportion has been along the lines of finer fabrics.
THE MANUFACTURE OF OVERCOATINGS AND CLOAKINGS.


(Continued from page 2.)

(4) Warp 2 : 1, Filling 3 : 1

If, for example, a fabric constructed with weave Fig. 19, as given in the January issue, should be wanted in a somewhat lighter texture, or a fuller face desired, or the backing to use be of too heavy a count, i.e., working through on the face, the arrangement of 3 picks face to alternate with 1 pick back will then be a most suitable arrangement to substitute, leaving the arrangement of face and back warp undisturbed; or in other words, we will use in proportion more face picks and correspondingly reduce the number of back picks.

Diagrams, Fig. 23, a, b, c, and d, have been designed to illustrate the treatment. In the same—

(a) shows the weave for the face, the 4-harness broken twill, warp effect, shown in full type, and which is the same weave as was used in connection with diagram Fig. 19a.

(b) shows the weave for the back, the 4-harness broken twill, warp effect, shown in cross type, and which is also the same weave as we used in connection with diagram Fig. 19b. The next point to be taken under consideration is the stitching and which naturally, on account of the change in the arrangement of the face and back filling to be used in our new weave, must differ with the one shown in diagram Fig. 19b.

(c) shows the stitching used, the filling effect of the 4 by 8 broken twill, broken filling ways, shown in circle type.

(d) shows the complete double cloth weave, repeating on 12 warp threads and 16 picks; shown in kind type corresponding to that as was used in diagrams a, b, and c, plus dot type as is used in connection with any double cloth weave for indicating the raising of every face warp thread on every backing pick.

We have used different kinds of crochet type for indicating face and stitching in the weave, to clearly show its construction, permitting at the same time changes or other combinations, as the case may require, to be made more readily by it.

(5) Warp 3 : 1, Filling 1 : 1

Diagrams Fig. 24, a, b, c, and d, are given to illustrate such a combination.

(a) shows the weave for the face, the 4-harness broken twill; warp effect, shown in full type.

(b) shows the weave for the back, and which corresponds with the face weave, shown in cross type.

(c) shows the weave used for combining face and back, the 4-harness broken twill, filling effect, shown in circle type.

(d) shows the complete double cloth weave, (repeating on 16 warp threads and 8 picks), executed in crochet type to correspond with such as used in diagrams a, b, c, plus dot type as used for raising all the face warp on every back pick.

(6) Warp 3 : 1, Filling 2 : 1

This combination of face and back, both in warp and filling, is shown in connection with diagrams Fig. 25, a, b, c, and d and of which

(a) shows the weave for the face (4-harness broken twill, warp effect) shown in full type.

(b) is the weave for the back structure (the plain weave) shown in cross type.

(c) shows the weave (4-harness broken twill, filling effect) as used for stitching face and back structures.

(d) is the double cloth weave repeating on 16 warp threads and 6 picks, executed in different crochet type, to clearly show foundation weaves used in its construction, etc.

(7) Warp and Filling 3 : 1

Such a combination of face and back, in warp and filling, is shown in diagrams Fig. 26, a, b, c, and d, and where,

(a) shows the weave for the face structure, the 4-harness broken twill warp effect, shown in full type.

(b) the plain weave, for the back structure, shown in cross type.

(c) the stitching of the two plies shown in circle type, and

(d) the complete double cloth weave, repeating on 16 warp threads and 16 picks, executed again in different crochet type, to clearly show the foundation weaves used in its construction, etc.

(To be continued.)
NOVELTIES FROM ABROAD.

(Light Weight Worsted for Men's Wear.)

Worsted Trousering.

**Warp:** 8096 ends, 2/60's worsted, plain and silk twist.

**Weave:** See Diagram Fig. 1; repeat 68 warp threads and 8 picks; 20 harness fancy draw.

**Reed:** 15 1/2 @ 8 ends per dent, 124 ends per inch, 65 1/8 inches wide in reed.

**Dress:**

- 20 ends A
- 12 " B
- 1 end A
- 1 " B
- 1 " C
- 1 " D
- 1 " B
- 8 " B

68 ends in repeat of pattern.

**Description of Yarns to use:**

- A = 2/60's worsted, dark grey mix.
- B = 2/60's worsted, black.
- C = 2/60's worsted, black and grey twist.
- D = 2/60's worsted, black, twisted over with 11/13 denier white silk.

17 Sections @ 476 ends; 7 patterns to each section.

**Filling:** 110 picks per inch, arranged thus:

- 1 pick 2/60's worsted dark grey mix.
- 1 " 2/60's worsted black.

2 picks in repeat of pattern.

**Finish:** Worsted finish; 56 inches wide.

Worsted Suiting.

(Stripe Effect)

**Warp:** 4543 ends, 2/52's worsted and 3/60's mercerized white cotton.

**Weave:** See Diagram Fig. 3; repeat 59 warp threads and 4 picks; 8, 12 or 16 harness fancy draw.

**Reed:** 17 1/2 with 13 dents @ 4 ends, 1 dent @ 3 ends, 1 dent @ 4 ends; 66 1/2 inches wide in reed.

**Dress:** 2 ends 2/52's worst. dark slate

- 1" " " grey mix
- 1" " " dark slate.
- 1 end 3/60's mercerized white cotton.

1 end 2/52's worst. dark slate

- 1" " " grey mix
- 1" " " dark slate.
- 1" 3/60's mercerized white cotton.

59 ends in repeat of pattern.

11 Sections @ 413 ends; 7 patterns to each section.

**Filling:** 65 picks per inch, arranged thus:

- 2 picks 2/52's worsted grey mix.
- 2" " " dark slate.

4 picks in repeat of pattern.

**Finish:** Worsted finish; 56 inches wide.