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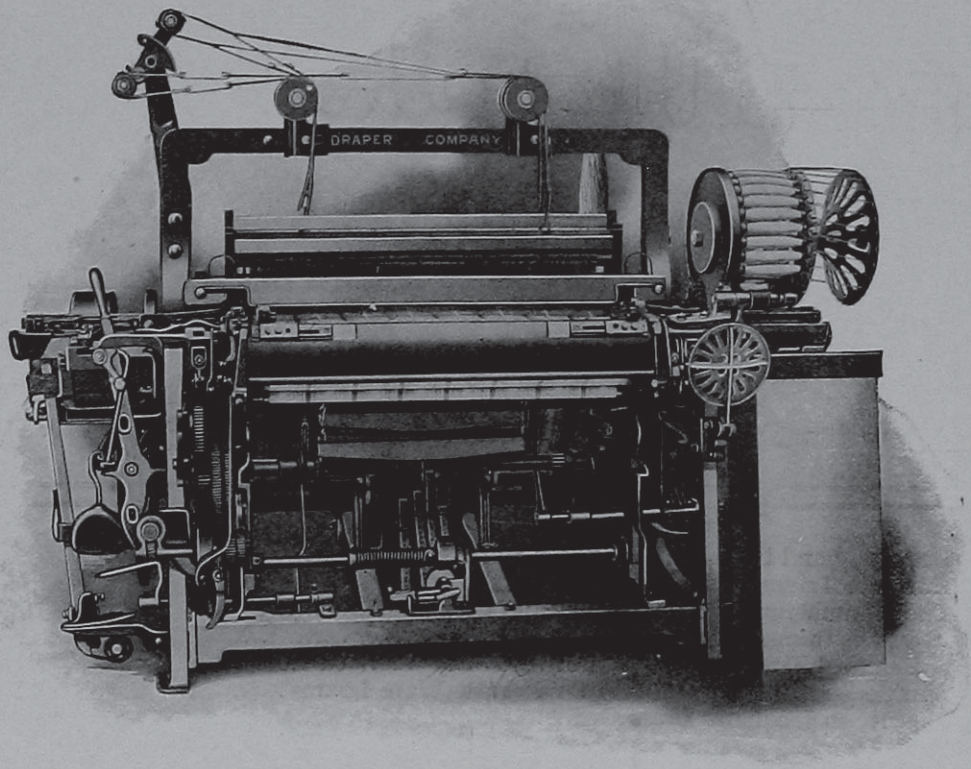

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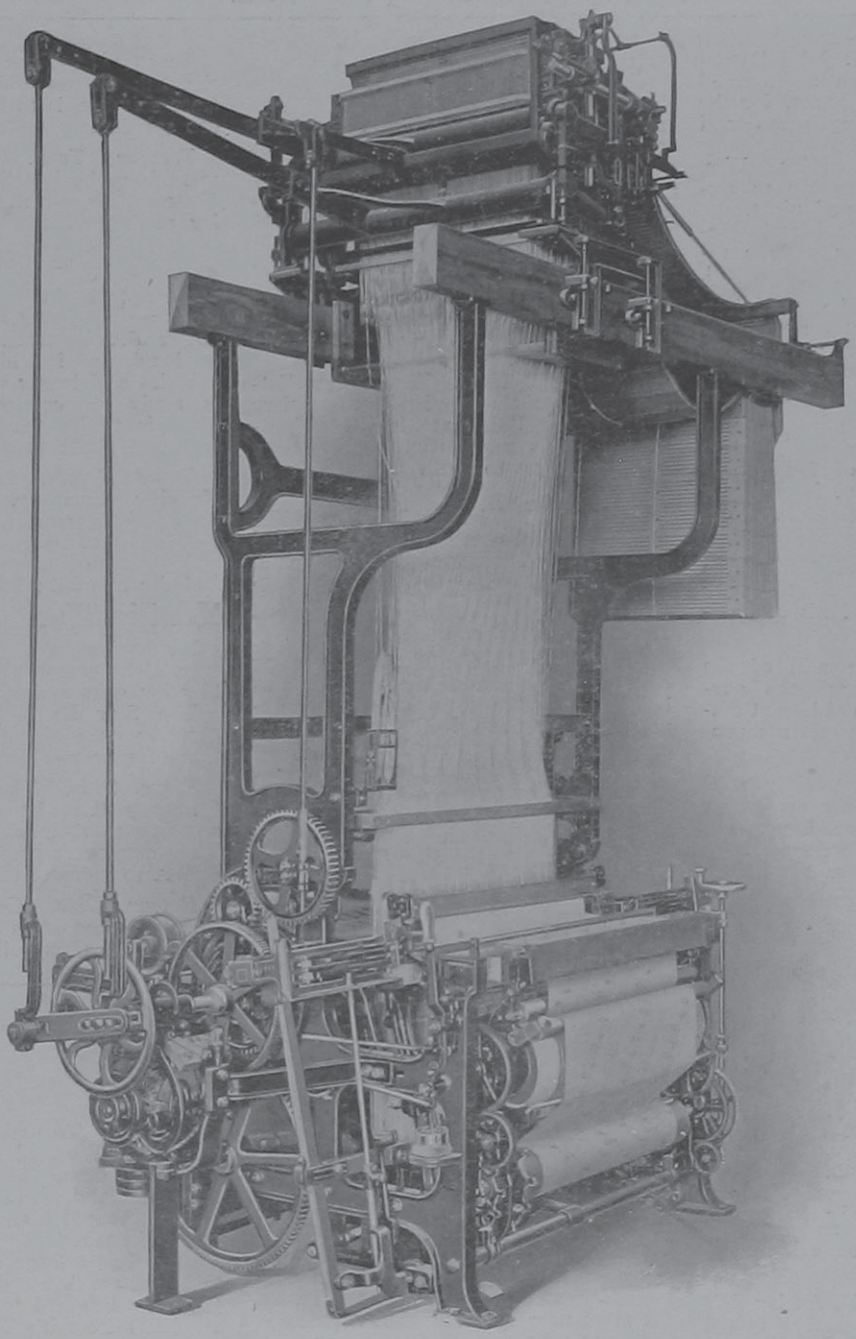

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Posselt's Textile Journal

Vol. IV. **April, 1909.** **No. 4.**

DESIGNING AND FABRIC STRUCTURE FOR HARNESS 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 required 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 for 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 twills, 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 $\frac{2}{4}\frac{8}{4}\frac{8}{2}\frac{8}{2}\frac{8}{2}$ 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.

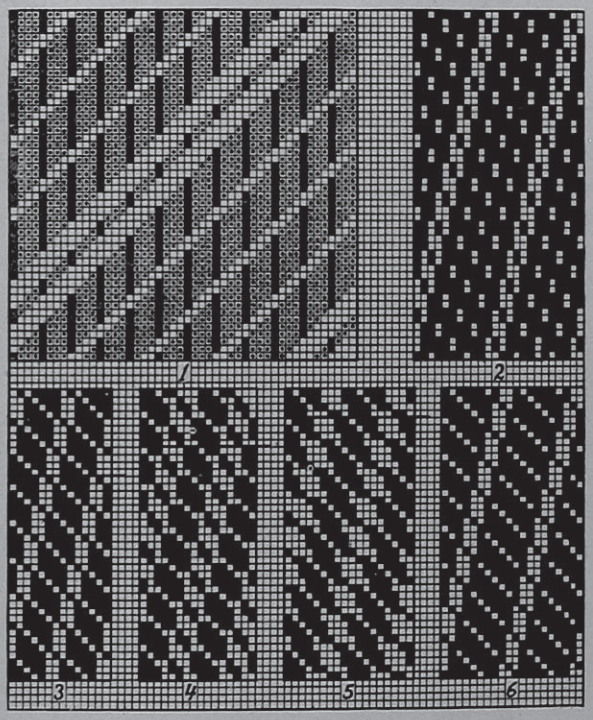
Remember that no reduction in the repeat of the steep twill, filling ways, takes place, the repeat of the latter and that of the foundation twill being identical.

Fig. 3 shows us the 75 deg. steep twill, obtained from its mate $\frac{1}{4}\frac{4}{4}\frac{4}{1}\frac{4}{1}\frac{4}{1}$ 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 interlacing of the first warp thread, remember that every successive warp thread interlaces 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:

$\frac{4}{6}\frac{4}{1}\frac{4}{1}$ 20-harness twill.

$\frac{2}{1}\frac{2}{4}\frac{4}{1}\frac{4}{1}\frac{4}{1}$ 24-harness twill

$\frac{1}{3}\frac{1}{1}\frac{1}{2}\frac{1}{1}\frac{1}{3}\frac{4}{1}\frac{4}{1}$ 28-harness twill.

$\frac{2}{4}\frac{3}{4}\frac{4}{1}\frac{4}{1}\frac{4}{1}\frac{3}{1}$ 32-harness twill.

$\frac{3}{2}\frac{2}{2}\frac{1}{1}\frac{1}{2}\frac{1}{2}\frac{1}{2}\frac{1}{1}\frac{2}{2}\frac{4}{4}$ 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, *viz:*

(1) Filling velvet on velveteen,
(2) Warp velvet or plush, and,
(3) Loop fabrics.


Fig. 93


Fig. 94

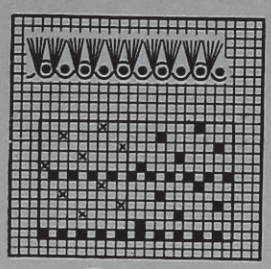


Fig. 95

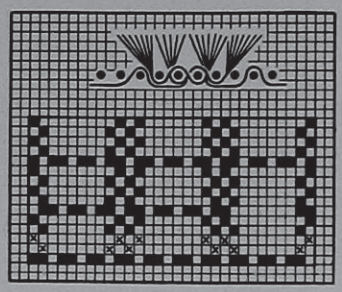


Fig. 96


Fig. 97

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 corduroy* 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 velveteen 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 velveteen edge. If dealing with a woolen 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.

C. Using Two Systems of Warp and Filling.

(*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. 19[a].

(*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. 19[b]. 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. 19[c].

(*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 kinds of 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

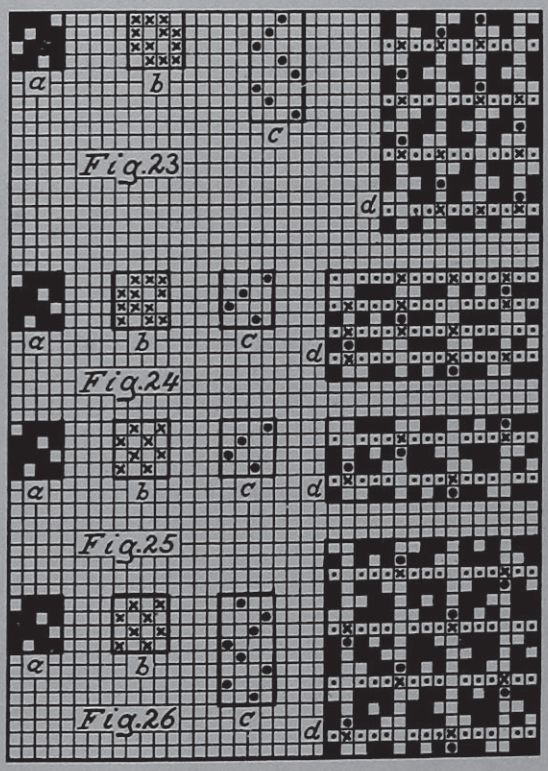
This combination of face and back, both in warp and filling, is shown in connection with diagrams Fig. 25, *a, b, c,* and *d* and of which

(*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) Wakp 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.

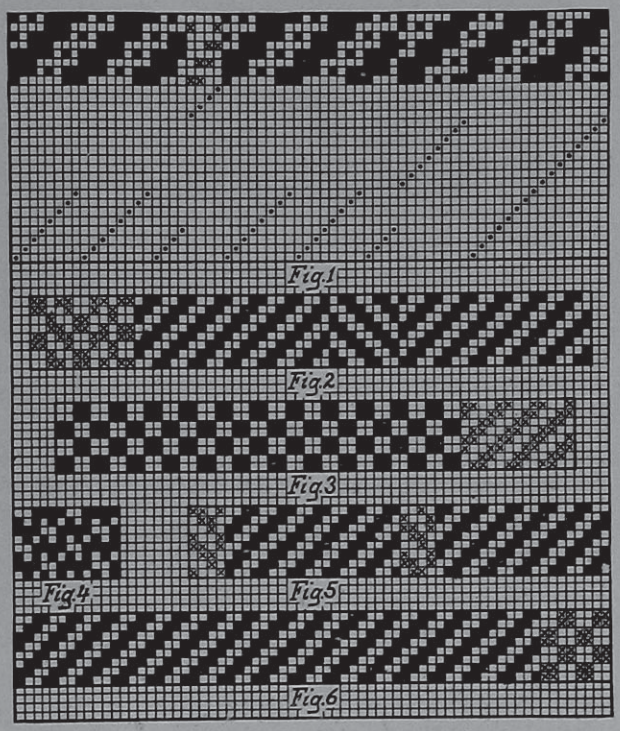
(*c*) the stitching of the two plies shown in *circle* type, and

(*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 Worsteds 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: 15½ @ 8 ends per dent, 124 ends per inch, 65⅓ inches wide in reed.

Dress:

20	ends	A
4	"	B
12	"	A
1	end	A }
1	"	B } 4 times
1	"	B }
1	"	C } 4 times
1	"	D }
1	"	B } 4 times
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 Trousering.

Warp: 3456 ends, 2/20's, 2/30's and 2/32's worsted.

Weave: See Diagram **Fig. 2**; repeat 64 warp threads and 4 picks; 8, 12 or 16 harness fancy draw.

Reed: 13½ @ 4 ends per dent, 54 ends per inch, 64 inches wide in reed.

Dress:

2	ends	A } twice
3	"	B }
2	"	A
6	"	C
8	"	B
8	"	C
1	end	D }
2	ends	B } twice
1	end	D }
8	ends	C
8	"	B
6	"	C

64 ends in pattern.

Descriptions of Yarns to use:

A = 2/30's worsted, black and grey twist.
B = 2/32's worsted, black.
C = 2/32's worsted, light grey and dark grey twist.
D = 2/20's worsted, black, reverse twist.

9 Sections @ 384 ends; 6 patterns to each section.

Filling: 47 picks per inch, 2/32's worsted, black.

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: 17½ with 13 dents @ 4 ends, 1 dent @ 3 ends, 1 dent @ 4 ends; 66½ inches wide in reed.

Dress:

2	ends 2/52's worst. dark slate }	11 times.
2	" " " grey mix }	
2	" " " dark slate.	
1	end 3/60's mercerized white cotton.	
1	end 2/52's worst. dark slate }	5 times.
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.