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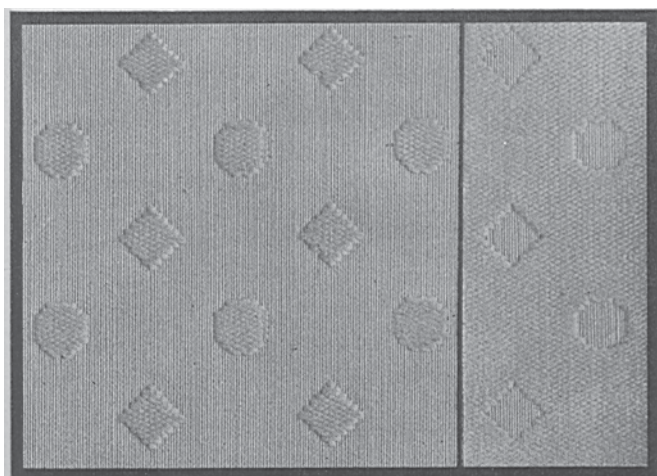
No. 2

WELTS, PIQUÉS, WORSTED COATINGS, MATLASSES, QUILTINGS, BEDSPREADS

(Continued from June issue.)

(b) Producing Raised Figures By Means of Floating the Filling.

Fabrics thus constructed are used for various purposes—Piqués, Toileting Cloth, Counterpanes, etc. Two systems of warp and two systems of filling are used in their construction, *viz*:



FACE

Fig. 59

BACK

- (a) Figure *i. e.*, Face Warp
- (b) Binder Warp
- (c) Figure Filling
- (d) Ground Filling

Both of the fillings form the face (and the back) of the fabric, one producing with the figure warp the ground of the fabric. The binder warp is the only one of the four sets of threads that does not show on the face of the fabric structure.

For the binder warp a considerably higher count (about twice as high) of cotton yarn is used compared to that used for the figure *i. e.*, face warp. In the same way the ground picks are of a much higher count (from 6 to 8 times as fine) than the figure picks. The latter are of a very low count (about 8's to 10's cotton yarn) and produce the bulk of the fabric, taking to a certain extent the place of the wadding picks referred to in former fabric structures.

Different proportions of the two kinds of warp and filling are used in the construction of this class of fabric structures.

ARRANGEMENT OF WARP AND FILLING:

Warp — 2 Figure: 1 Binder,

Filling — 2 Figure: 2 Ground.

Fig. 59 shows a photographic reproduction, actual size, of a fabric constructed by this combination, a diamond set on its point and a circle, both placed against each other after the plain setting arrangement.

Fig. 60 shows four repeats of the point paper design; repeat 32 by 32 squares and which equals:

32×3 (ends in arrangement) = 96 warp threads in repeat of weave complete, *i. e.*, its analysis, and
 32×4 (picks in arrangement) = 128 picks in repeat of weave complete, *i. e.*, its analysis.

Fig. 61 shows a portion of the point paper design Fig. 60 analysed, illustrating the square *a*, *b*, *c* and *d* of the latter treated.

15 squares in the design, considering warp $\times 3$ = 45 warp-threads in the analysis shown.

15 squares in the design, considering filling $\times 4$ = 60 picks in the analysis shown.

45 warp-threads and 60 picks are shown in analysis Fig. 61, illustrating the interlacing of warp and filling in square *a*, *b*, *c* and *d*, of the point paper design Fig. 60, and in turn the analysis of the complete design, or any other design that may be used.

Fabric reproduced in Fig. 59 has the following data for its construction:

Figure warp: 20's cotton yarn, 70 ends per inch; Take up 2 per cent.

Binder warp: 36's cotton yarn, 35 ends per inch; Take up 60 per cent.

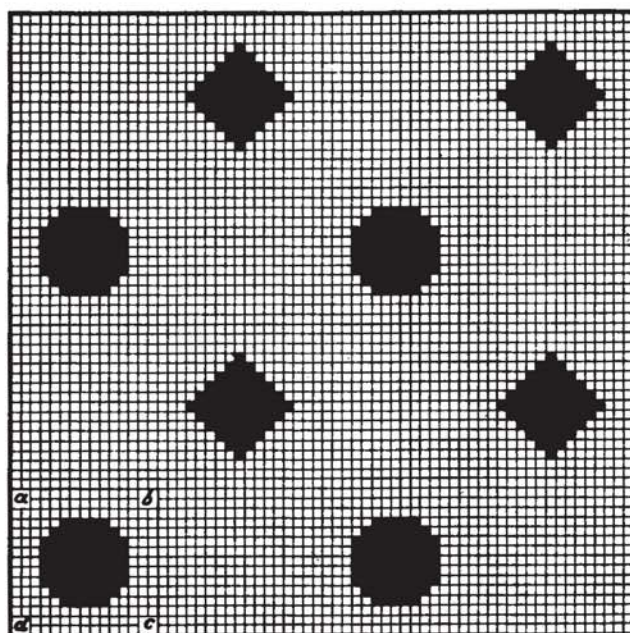


Fig. 60

Shrinkage in width: 19 per cent, hence for example for a fabric to come 26½ inches from loom lay it (31.53) 31½ inches wide in reed; for other widths of fabrics correspondingly. Put 3 ends (1 figure, 1 binder, 1 figure) in each dent.

Filling: 140 picks per inch; thus:
70 picks, Figure filling 8's cotton yarn
70 picks, Ground filling 60's cotton yarn.

DETAILS AS TO TYPE USED IN ANALYSIS FIG. 61.

Full type = Face warp-threads, all up on every Figure, *i. e.*, wadding pick.

Cross type = Binder warp-threads, interlacing uniformly 2 up 2 down on the 2 by 4 warp effect rib weave.

Dot type = Interlacing of Face warp-threads on the plain weave, on the two Ground picks.

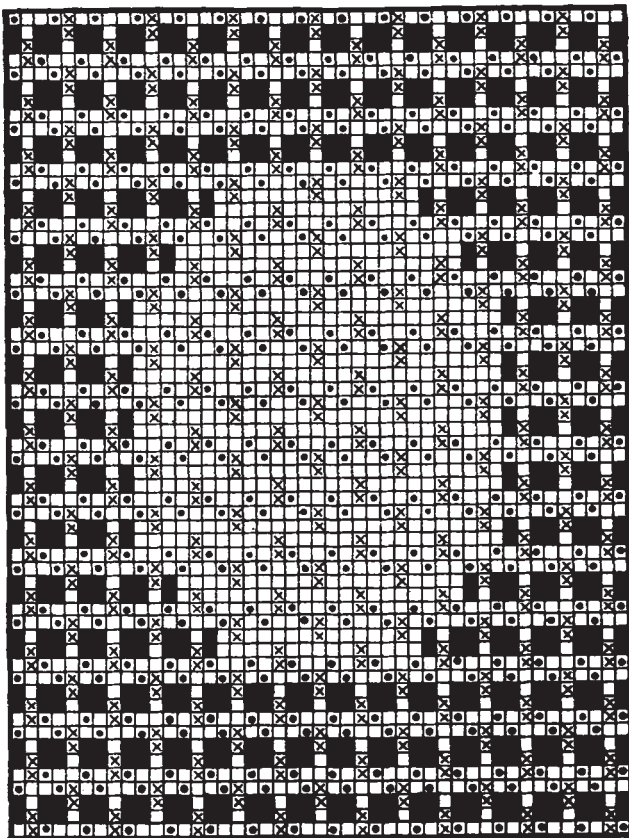


Fig. 61

This fabric structure is technically known as the *Four-Pick Structure*, its unit being 6 warp-threads and 4 picks, both for the embossed and the bound portions.

The Embossed Figure Spots are formed by the operation of compound harnesses and the Jacquard machine in conjunction with the figure warp-threads thus: The harnesses are raised in alternate order on the two fine face picks, so as to form the plain face cloth (represented by *dots* in the analysis Fig. 61), after which both mate threads in unison by the Jacquard are either raised or remain in lower shed on the next two coarse wadding picks (see *full* type or *empty* in the analysis).

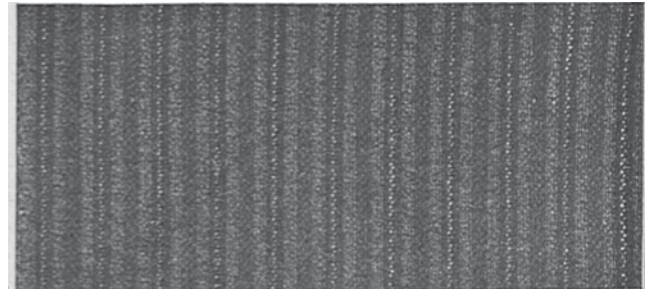
Provided they are raised they form ground effect in the fabric structure, the heavy count figure pick forming wadding, *i. e.*, backing effect, whereas if they are in the lower portion of the shed, said figure pick then forms the embossed figure on the face of the fabric, being tied down every sixth warp-thread by the binder warp, which is worked independent from the Jacquard by 2 or 4 common harnesses operated on the 2 by 4 rib weave, see *cross* type in analysis Fig. 61.

The Jacquard Cards are cut direct on a *Royle* Piano Machine from the point paper design Fig. 60, the Jacquard and the loom producing automatically the interlacing of the fabric as previously described.

Worsted Trousering.

Warp: 5940 ends; draw on 10-harness, fancy draw.

Dress: 12 sections, each containing 15 patterns @ 33 ends, or 495 ends, total.

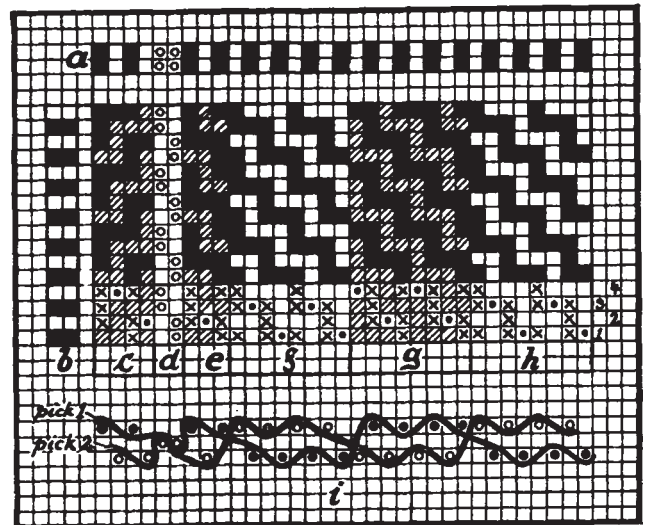


ACTUAL REPRODUCTION OF FABRIC

Arrangement of Warp:

1 end 2/48's worsted, black.	} × 2
1 end 2/52's worsted, gray mix.	
2 ends 2/52's worsted, silver gray.	} × 13
1 end 2/48's worsted, black.	
1 end 2/52's worsted, gray mix.	
1 end 2/48's worsted, black.	

33 ends repeat of pattern.



DETAILS OF FABRIC STRUCTURE:

Weave for Face and Back structure the plain weave.
a: Color Scheme for Warp.
b: Color scheme for Filling.
c, e and g: dark effect stripes.
d: two ends silver gray; single cloth weaving.
f and h: light effect stripe.
i: Fabric section, cut in the direction of the filling, showing the interlacing of picks 1 and 2 of the weave above.

Reed: 15, using 6 ends per dent; 66 inches wide, exclusion of selvage. Enter 2 ends silver gray always in one dent.

Filling: 86 picks per inch, arranged thus:

1 pick 2/42's worsted, black.
1 pick 2/52's worsted, gray mix.

2 picks in repeat.

Finish: Worsted finish, clear face, 56 inches wide.