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DESIGNING AND FABRIC STRUCTURE.

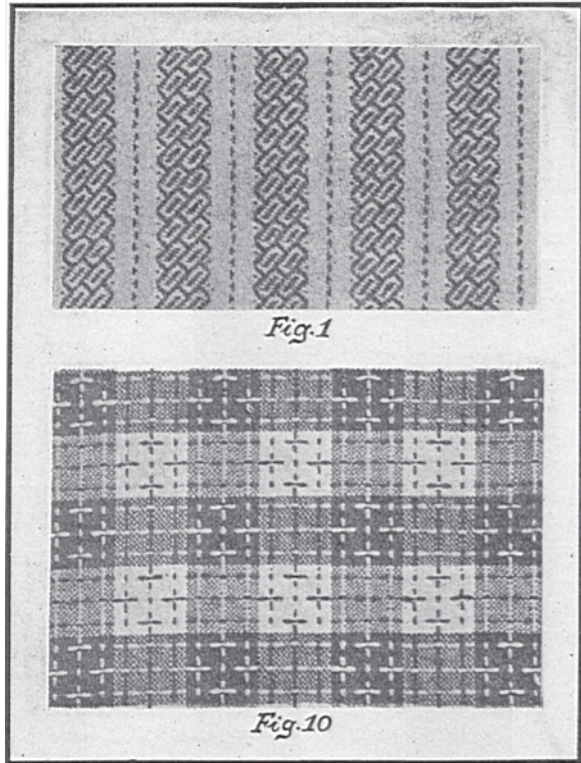
Shirtings.

(27 inches wide.)

Fig. 1. Actual reproduction of woven fabric.

Fig. 2. Complete Weave: repeat 36 warp-threads and 8 picks. Two repeats filling ways and four repeats warp ways are given.

Fig. 3. Drawing-in draft; 8-harness.



Basis of interlacing is the 4-harness even sided regular twill used in combination with the same weave arranged for a pointed twill, pointed warp ways and repeating on 4 warp-threads and 8 picks. The combination of these 2 twills, taking alternately 4 threads of each, results in the fancy (entwining) twill effect shown in the sample. The fine dotted stripe effect seen in the sample is produced by using 2 repeats in rotation of the pointed twill effect in the weave, after and before using regular twill, clearly shown by the drawing-in draft given below the weave, where harnesses 1 to 4 weave the pointed twill and harnesses 5 to 8 the regular twill.

Warp: 1944 ends (54 repeats of pattern.)

Dress: 10 ends dark
 7 " light
 2 " dark
 7 " light
 10 " dark

36 ends, repeat of pattern.

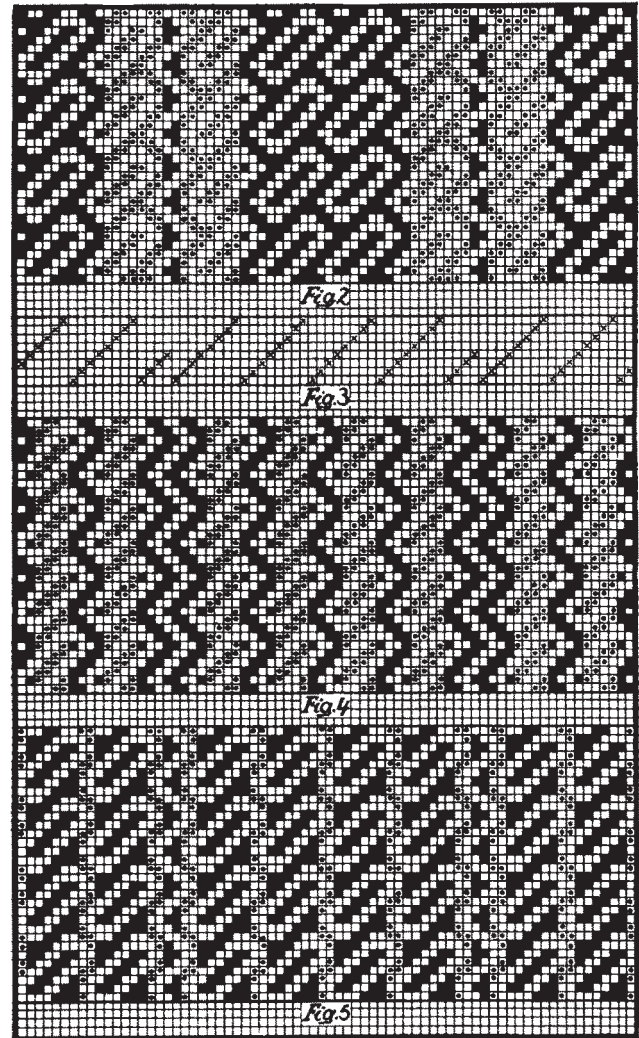
Dark warp, and for which use any fashionable color, is indicated in the weave by *full* type.

Light warp, and for which select any desirable color (to harmonize with the dark color) is indicated in the weave by *dot* type.

Filling: 65 picks per inch; plain, same color as used for light warp or any light shade to harmonize with that of the two colors used in warp.

SUGGESTIONS FOR DIFFERENT COLOR ARRANGEMENTS.

Weaves Figs. 4 and 5 illustrate two different arrangements of dressing the warp, using the same weave as before. They are given to illustrate, by means of practical examples, how to proceed to obtain different effects in the woven fabric without changing the weave, and are given to illustrate how

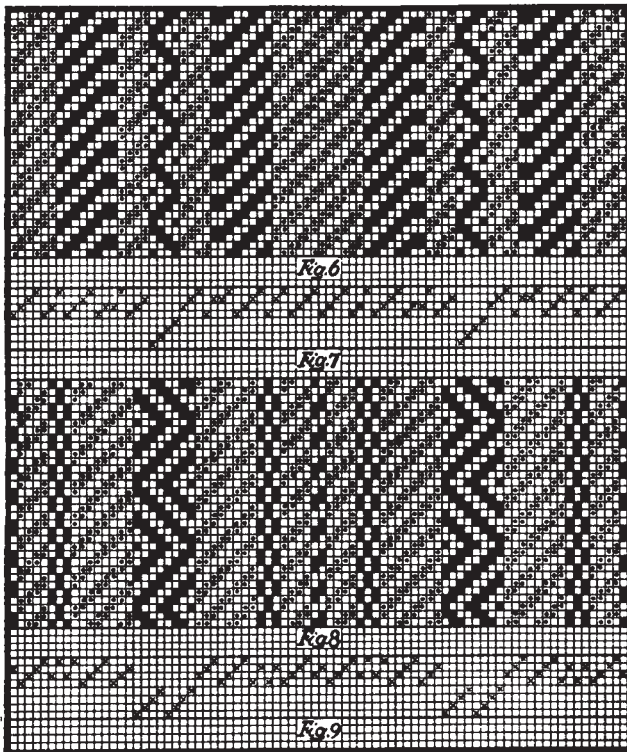


to proceed to produce different designs in a range of styles for a certain line of fabrics under consideration.

Fig. 4 has been designed more particularly to show the combination of the two twills forming the weave, *i. e.*, the regular twill as well as the pointed twill are clearly visible, each being brought up by a different color in the warp:

Dress: 2 ends dark
4 " light
4 " dark
4 " light
8 " dark
4 " light
4 " dark
4 " light
2 " dark

36 ends, repeat of pattern.



The dark warp is indicated in the weave by means of *full* type, the light warp by means of *dot* type, or the same arrangement as used in connection with weave Fig. 2.

Filling: Plain, same color as used for light warp, or any light shade to harmonize with that of the two colors used in the warp.

Weave Fig. 5 shows us another color effect produced by means of weave Fig. 2, having the following arrangement of colors used for the warp:

Dress: 1 end light
6 ends dark
2 " light
6 " dark
2 " light
2 " dark
2 " light
6 " dark
2 " light
6 " dark
1 end light

36 ends, repeat of pattern.

Filling: Plain, same color as used for light warp, or any light shade to harmonize with that of the two colors used in the warp.

SUGGESTIONS FOR DIFFERENT WEAVE COMBINATIONS.

Weaves Figs. 6 and 8 are given to illustrate how to proceed to obtain new weaves, *i. e.*, combination of weaves constructed on the 4-harness twill principle, and which will work on the same texture of warp and filling as weave Fig. 2.

Fig. 6 shows the following arrangement of colors used for the warp:

Dress: 6 ends light
8 " dark
4 " light
4 " dark
4 " light
8 " dark
6 " light

40 ends, repeat of pattern.

Repeat of weave: 40 warp-threads and 8 picks.

The four ends (13, 14, 27 and 28) in the repeat of the weave interlacing on *basket*, if so desired, may be changed to a third color.

Fig. 7 is the drawing-in draft for 8-harness, for weave Fig. 6, using the first four harnesses for carry-in the fancy stripe (pointed twill) the last four harnesses of the set carrying the threads interlacing $\frac{2}{2}$ throughout the repeat of the weave. As will be readily understood, the width of each individual stripe effect can be increased by adding 4 ends, or a multiple of it, to the weave, without requiring more harnesses. The subject is explained in connection with weave

Fig. 8, which shows the following arrangement of colors used for the warp:

Dress: 1 end dark
4 ends light
3 " dark
8 " light
8 " dark
8 " light
3 " dark
4 " light
1 end dark

40 ends, repeat of pattern.

Repeat of weave: 40 warp-threads and 16 picks.

The six ends (6, 7, 8, 33, 34 and 35) in the repeat of the weave interlacing on warp rib, if so desired, may be changed to a third color. In the same manner a fourth color may be used for the first and last thread of the repeat of the weave.

Fig. 9 is the drawing-in draft for 8-harness, for weave Fig. 8.

Fancy Gingham.

(27 inches wide.)

Fig. 10. Actual reproduction of woven fabric.

Fig. 11. Weave: Repeat 20 warp-threads and 20 picks, 3 repeats each way are given.

Fig. 12. Drawing-in draft; 6-harness.

Warp: 2040 ends (34 repeats of pattern.)

Dress:

4	ends	dark
2	"	light
8	"	dark
2	"	light
8	"	dark
2	"	light
4	"	dark
4	"	light
2	"	dark
8	"	light
2	"	dark
8	"	light
2	"	dark
4	"	light

60 ends, repeat of pattern, calling for 3 repeats of the weave.

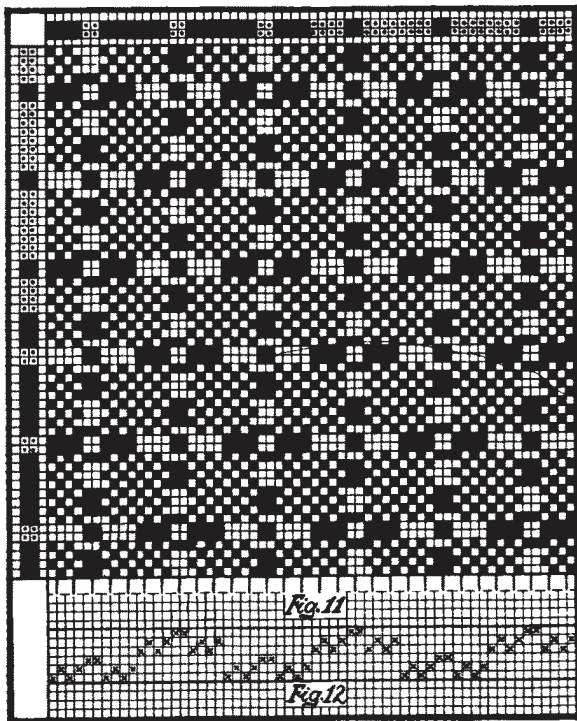
Color scheme for the warp is shown above the weave, using *full* type for indicating dark warp, and *dot* type for indicating light warp.

Below the weave is indicated, by means of dashes, the entering of the reed, *viz*: 2 ends per dents, splitting threads interlacing side by side the same, throughout the repeat of the weave, by means of the dent wires.

Filling: 90 picks per inch, same colors and arrangement of yarns as used for warp.

Color scheme for the filling is shown at the left hand side of the weave, using *full* type for indicating dark filling, and *dot* type for indicating light filling.

In reproducing this check gingham (or any similar check produced with a similar proportion of warp and filling texture) it will be advisable to reverse proportion of warp and filling texture and which in our example is 75 x 90, giving always the warp the higher texture where arrangements of warp and filling correspond in the repeat. Always give the check the



benefit of being slightly elongated in the direction of the warp, and not compressed as in our example, *i. e.* use one to four less picks per inch than there are warp-threads per inch in the finished fabric.

RIB WEAVES, CONSTRUCTED WITH BACKING OR RIB PICKS.

(Continued from page 88.)

Diagonal Effects.

The same are sub-divided into:

(a) such as using every other pick in the repeat of the weave for rib pick, and

(b) such as using every pick for part of the repeat of the weave as rib pick, said pick for the remaining part of the repeat of the weave interlacing with the warp as face structure.

Weaves 17 and 18 are given to explain division a.

Weaves 19 and 20 are given to explain division b.

(a) USING EVERY ALTERNATE PICK FOR RIB FLOAT.

In this instance, the rib pick floats for part the time of the repeat of the weave on the back of the structure, resting for the remainder of the repeat of the weave on its face.

Weave Fig. 17 repeats on 12 warp-threads and 24 picks; in this case every even number pick is used as rib picks (see *dot* type), interlacing $\frac{8}{4}$, the remaining picks, *i. e.*, every uneven number pick interlacing with the warp threads on the plain weave. By means of this weave the face of the fabric will show two distinct different effects in each repeat of the weave, *viz*., for one-third of the repeat a common diagonal rib of solid filling effect formed by every alternate pick, showing for the remaining two-thirds of the repeat of the weave rib effect produced by all the warp-threads and every other pick interlacing with the plain weave. The floating rib picks give to the fabric the characteristic rib effect structure, since they more readily contract during scouring, etc., as compared to the interlaced part of the structure, giving in turn to the cloth raised (oblique) rib line effect.

Weave Fig. 18, repeats on 16 warp-threads and 32 picks. In this instance every rib pick interlaces $14 \frac{2}{2}$ and every face pick $\frac{2}{1} \frac{2}{1} \frac{2}{1} \frac{2}{1} \frac{2}{1} \frac{2}{1} \frac{2}{1} \frac{2}{1}$.

This weave will produce oblique rib effects in the fabric, each effect being separated from the other by means of a regular prominent filling twill line formed by every pick throughout the repeat of the weave.

USING EVERY PICK PART THE TIME FOR RIB FLOAT AND PART THE TIME FOR FACE WEAVE.

Weave Fig. 19 repeats on 13 warp-threads and 26 picks. In this weave every pick in its turn and proper position floats for 6 warp-threads as rib pick on back of the structure, interlacing with the remaining 7 warp-threads on plain weave.

Weave Fig. 20 repeats on 19 warp-threads and 38 picks; it has every pick in its turn, and proper position, floating for 9 warp-threads on back of the structure as rib pick, interlacing the remaining 10 warp-threads with the 3-harness warp-effect twill.

Combining Different Weaves.

Weave Fig. 21 shows every other pick throughout the repeat of the weave, used as a rib float. The size of this float (see *dot* type) is for 8 warp-threads; for the joining 4 warp-threads said pick floats on the face. The weaves as used for interlacing the face