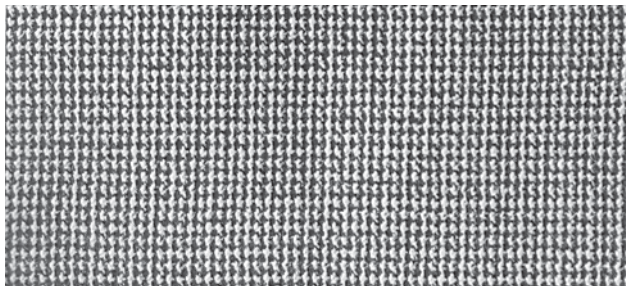


NOVELTY IN MEN'S WEAR FROM ABROAD.**Worsted Suiting.**

Warp: 6720 ends.

Dress: 14 sections, each containing 80 patterns @ 6 ends, or 480 ends total.

Weave: $\frac{3}{8}$ 6-harness twill.



ACTUAL REPRODUCTION OF FABRIC
from which details of fabric structure given, are taken.

Arrangement of Warp:

- 2 ends 2/60's worsted, black.
- 2 " " " , black and white twist.
- 2 " " " , white, bleached.

6 ends in repeat of pattern.

Reed: 17 with 6 ends per dent = 66" width of fabric, exclusive selvage, in reed.

Filling: 86 picks per inch, arranged thus:

- 2 picks 2/60's worsted, black.
- 2 " " " , black and white twist.
- 2 " " " , white, bleached.

6 picks in repeat of pattern.

Have each color of the Filling cover its own color in the warp, *i. e.* all the black warp must be in lower part of shed on *both* black picks, all the white warp must be in lower part of shed on *both* white picks, and all the black and white twist warp must be in the lower part of the shed on *both* picks when its mate color is inserted.

Finish: Worsted finish; scour well, clear face, 56" finished width.

To Make Fabrics Impervious.

The fabric is for this purpose coated with an adhesive, sufficient coatings being applied to ensure satisfactory results. When the fabric is dry, it is treated on both sides with a solution of agar-agar, in the proportion of $\frac{1}{2}$ oz. agar-agar to one quart of water. The fabric is then placed in a digester, wherein a vacuum is produced for the purpose of introducing into it vapor given off by a solution, when heated, of:

25 parts by weight	potassium bichromate,
20 " "	formol,
55 " "	water.

This operation is continued for about fifteen minutes. The vapor acts on the agar-agar so as to render the fabric impervious. The fabric is afterwards washed, and finally treated with a mixture of glycerine and water.

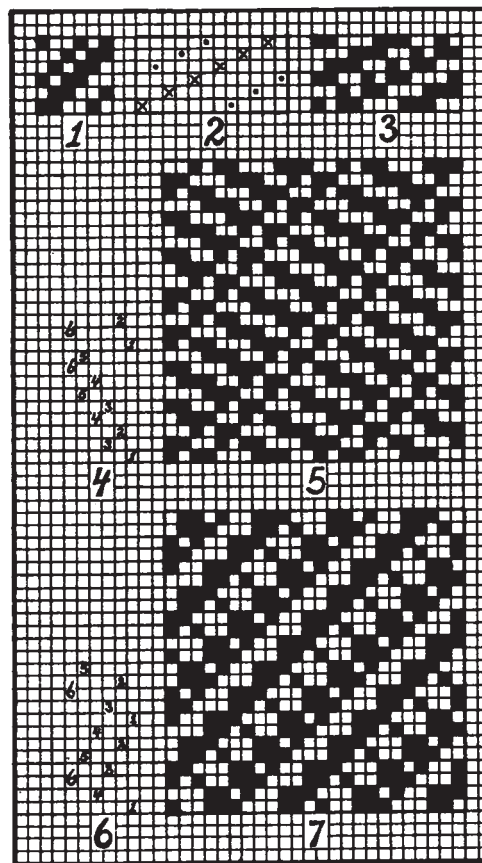
CRÊPE WEAVES.

(Continued from page 114.)

**Drafting from a Foundation Weave
Warp-threads and Picks after a Given Fancy Draw.**

This method of designing crêpe weaves results in somewhat more elaborate weaves, as compared to those explained in the February, March and April issues, producing in many instances clever Jacquard imitation effects, so popular at present. This feature should commend the designer to pay attention more particularly to this sub-division of crêpe weaves, the construction of which we will explain with a few examples:

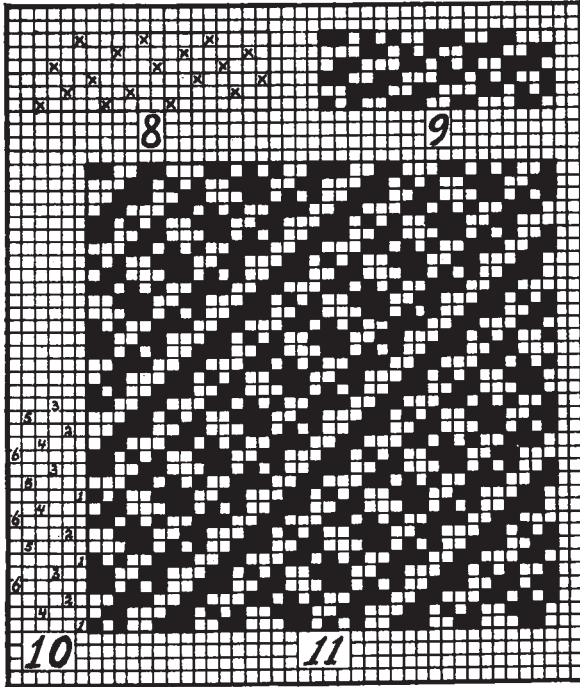
A feature in favor of this new method of constructing fancy crêpe weaves rests in that, after drafting the warp-threads, and thus designating the method of drawing-in the warp, the drafting of the picks (from the previously obtained weave), can be varied, resulting in every instance in a new crêpe weave, and this minus having to change the drawing-in of the warp in its harness in the loom, to suit every individual pattern.



Weaves and Drawing-in Drafts, Figs. 1 to 7 inclusive, are given to illustrate the procedure of how to obtain from one foundation weave, by means of one drawing-in draft of the warp-threads, two totally different fancy crêpe weaves.

Fig. 1 is our foundation weave, *i. e.*, the $\frac{2}{2}$ - $\frac{1}{1}$ 6-harness, even sided 45° twill, repeating on 6 warp-threads and 6 picks.

Fig. 2 shows us the drawing-in draft selected for threading the warp-threads in the harness, the



6-harness double satin draw, shown in two kinds of type, to simplify explanations.

Fig. 3 is the weave-effect, obtained by means of draft Fig. 2, from weave Fig. 1.

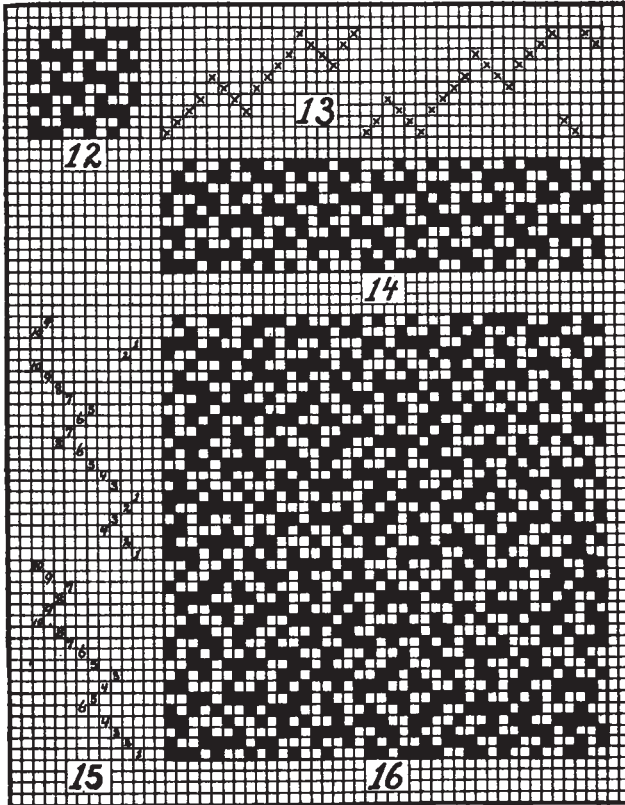


Fig. 4 shows the filling drafting selected to obtain from weave-effect Fig. 3 the new crêpe weave shown in Fig. 5, repeating on 12 warp-threads and 12 picks.

The arrangement of this filling drafting observed is thus:

Pick 1 of Fig. 5	calls for	Pick 1 of Fig. 3
2	" " " " " "	3 " " "
3	" " " " " "	2 " " "
4	" " " " " "	4 " " "
5	" " " " " "	3 " " "
6	" " " " " "	5 " " "
7	" " " " " "	4 " " "
8	" " " " " "	6 " " "
9	" " " " " "	5 " " "
10	" " " " " "	1 " " "
11	" " " " " "	6 " " "
12	" " " " " "	2 " " "

Fig. 6 shows another arrangement of filling drafting, which if used in connection with weave-effect Fig. 3 will produce the new crêpe weave given in Fig. 7, repeating also on 12 warp-threads and 12 picks.

The arrangement of drafting observed in this instance is thus:

Pick 1 of Fig. 7	calls for	Pick 1 of Fig. 3
2	" " " " " "	4 " " "
3	" " " " " "	6 " " "
4	" " " " " "	3 " " "
5	" " " " " "	5 " " "
6	" " " " " "	2 " " "
7	" " " " " "	4 " " "
8	" " " " " "	1 " " "
9	" " " " " "	3 " " "
10	" " " " " "	6 " " "
11	" " " " " "	2 " " "
12	" " " " " "	5 " " "

Foundation weave Fig. 1, if used in connection with fancy warp drawing-in draft Fig. 8 will result in its weave-effect Fig. 9, repeating on 18 warp-threads and 6 picks.

Filling drafting plan Fig. 10, if used with weave-effect Fig. 9, will produce the new crêpe weave Fig. 11, repeating on 18 warp-threads and 18 picks.

In the same manner as we thus produced three new crêpe weaves from one foundation weave, any amount of these crêpe weaves can be obtained from the immense number of different foundation weaves at our disposal, since every other system of weaves, besides the regular twill used in our examples, may be employed for a foundation weave. In the same manner, both the drawing-in draft for the warp-threads for obtaining the respective weave-effect, as well as the drafting of the picks, may be varied by the designer indefinitely, indicating that there is no end to the possibilities of obtaining new crêpe weaves by this method of weave-formation.

Using Granite Weaves for Foundation.

One example will suffice to illustrate subject in connection with previously given explanations.

Fig. 12, the 10-harness granite, one of the most useful weaves of this class, repeating on 10 by 10.

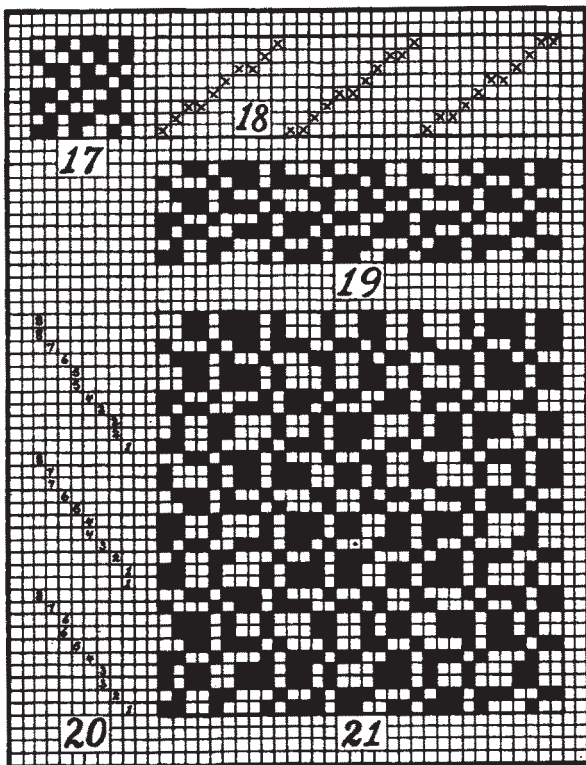
Fig. 13 is the fancy draw used for obtaining from weave Fig. 12 the weave-effect Fig. 14. Four warp-threads are drawn straight, next one harness skipped and four warp-threads drawn straight in reverse direction, next one harness skipped and the pro-

cedure repeated (5 times over) until the repeat of draft (40 ends) is obtained.

Fig. 14 is the weave-effect previously referred to; repeat 40 warp-threads and 10 picks.

Fig. 15 shows the filling drafting, arranged correspondingly to that of the warp drafting.

Fig. 16 is the crêpe weave obtained from granite weave Fig. 12, by procedure described in connection with diagrams 13, 14 and 15. Repeat of the new crêpe weave is 40 warp-threads and 40 picks.



Drafting Double Ends and Picks.

In this instance two warp-threads and two picks are drafted to interlace the same at regular distributed intervals. The distributing of these two warp-threads and picks, as working the same, is done after the principle of constructing, *i. e.*, counting-off, satins; *vis:* for 8-harness foundation weaves changes in groups of 3-harness are permissible, *i. e.*, draft 2 ends single on 2 harnesses to alternate with 2 ends drawn on the next (third) harness, and repeat over. The same procedure is observed in the filling drafting, *i. e.*, 2 picks drafted in succession to interlace with 2 picks in a shed, and repeat. This will distribute the two warp-threads and two picks interlacing the same, uniformly over the repeat of the pattern, both warp and filling ways. For 10-harness foundation weaves, changes in groups of 3-harness is also correct, since 3 is prime to 10. For 12-harness groups of 3 or 4 harnesses will not do, since neither 3 or 4 are prime numbers to 12; in this case groups of 5 or 7 (the same as in counting of our regular satin weaves) must be used.

One example will readily illustrate the subject. Fig. 17, foundation weave, 8 by 8 granite.

Fig. 18, warp drafting: 2 single 1 double.

Fig. 19, weave-effect obtained, and from which by means of

Fig. 20, filling drafting plan,

Fig. 21, the new crêpe weave, repeating on 32 warp-threads and 32 picks, is obtained.

THE NEW SHADES FOR COSTUME CLOTHS.

Fashion is an important controlling factor, and now the demands associated with the new shades which have suddenly come into vogue call, in the majority of cases, for dyeings which shall appear much the same when viewed under artificial lights as in daylight. In the case of a dyeing which may be produced by the use of only one coloring matter, there is really not much difficulty in meeting the requirement, but most of the present fashionable shades are compound colors, which need the use of more than one coloring matter.

Some of the new shades, particularly for ladies' dress materials, have to show a more or less pronounced tinge of fluorescence, and the main trouble is that these are called for in rather small lots at a time. The vexed question of dealing with small lots in a large works is one that has had to be tackled for a large number of years, and seems to have been met best by providing a series of dyeing vessels of smaller, but appropriate size, and capable of dealing with lots as low as twenty pounds in weight. By this means the cost of steam and coloring matter is brought to a more reasonable point than when the ordinary-sized vessels have to be used.

In the larger piece-dyeing establishments, where many foremen dyers are employed, the work is usually divided among them according to the colors. In some instances there may be a "black" dyer and a "fancy" dyer, while in others the division will go farther, and comprise besides those mentioned one for "blues," another for "drabs," and "browns," and so on. There is obviously much to be said in favor of so dividing the work, since the person daily engaged in producing colors of a similar class, soon becomes expert in that line. This specialization is a great advantage, and is turned to good account in producing *mode* shades when they appear.

The costume cloths at present in great favor are mainly diagonals and whipcords, and the color required is principally a shade of navy blue, either a dark blue with a fine blue overcast, or a reddish tone of blue. These goods are dyed such shades with the aid of the fast acid dyestuffs, some members of which give alone a dark navy blue, with good properties of fastness to light and to the finishing operations, as well as to the action of rubbing.

It is advisable to employ the old liquor as far as possible in the dyeing of successive lots, running in a sufficient amount of cold water to cool it to the required temperature. Although advantages are to be gained by continuing the use of the old liquor, the practice is not without its drawbacks. In time the liquor becomes overcharged with salts, which tend to precipitate the coloring matter, and in that way the resulting dyeings suffer in respect to fastness to rubbing. For this reason it is better not to retain the old liquors for more than one week. Colored and white cotton effect-threads present in the material remain unaltered by