

back in weaves Figs. 12 and 13.

Weave Fig. 12 repeats on 11 warp threads and 11 picks, and refers to a closer interlacing fabric structure, as compared to one produced with

Weave Fig. 13, and which repeats on 13 warp threads and 13 picks.

FANCY TWILLS.

One example, showing how to arrange these weaves for false back structures, is given in connection with weaves Figs. 14 and 15.

Weave Fig. 14 shows us the $\frac{3}{2}-\frac{1}{3}$ 8-harness twill-single cloth structure, and

Fig. 15 its arrangement for a false back structure, repeating on 15 warp threads and 15 picks.

Consulting the latter weave plan more closely, will clearly show its construction *viz.*: drafting one repeat of the foundation twill on every other warp thread of the new weave plan, inserting a second repeat of the foundation twill on every thread not drafted for in the weave, being careful to keep the two twills equally distant apart. The latter item, in connection with our weave, means one pick, and which will result in a most perfect fabric structure; again, if so desired, two picks may be missed between the two twills in one repeat of the false back weave, producing in turn a somewhat looser interlacing of warp and filling as compared to that of weave Fig. 15.

FIGURED TWILLS.

Arranging these weaves for false backs is shown by weaves Figs. 16 and 17.

Weave Fig. 16 shows a neat, figured granite effect twill, repeating on 8 warp threads and 24 picks.

Fig. 17 shows this weave arranged for a false back; repeat 17 warp threads and 51 picks.

GRANITE WEAVES.

Two examples explaining the application of these weaves for false back structures are given, using two of our most popular granite weaves for this purpose.

Fig. 18 is a granite weave repeating on 8 warp threads and 8 picks.

Fig. 19 is its false back; repeat 13 warp threads and 13 picks.

Fig. 20 is again a granite weave, repeating on 8 warp threads and 8 picks.

Fig. 21 is its false back; repeat 15 warp threads and 15 picks.

Arrangement of Warp: 2 @ 1.

Provided a fuller face in the fabric is desired, single cloth weaves may be arranged for false back in an average proportion of 2 face @ 1 back.

To illustrate subject, weaves Figs. 22-34 are given, presenting in several instances weaves treated before as 1 @ 1, hence will explain most readily how to produce a false back by the new combination of face and back.

Fig. 22 is our 4-harness even sided twill.

Fig. 23 shows this weave arranged for false back; repeat 13 warp threads and 13 picks. Should it be found that this weave produces a fabric too hard to the touch of the hand, the arrangement given in connection with weave Fig. 24 will overcome this trouble, although the latter weave has an inclination to show

one of the filling effect twill lines more prominently compared to the other *i. e.* resembling somewhat an 8-harness repeat for the face in place of 4. Repeat of weave 25 by 25.

Fig. 25 is the $\frac{3}{2}-\frac{1}{2}$ 8-harness twill (see Fig. 14) and

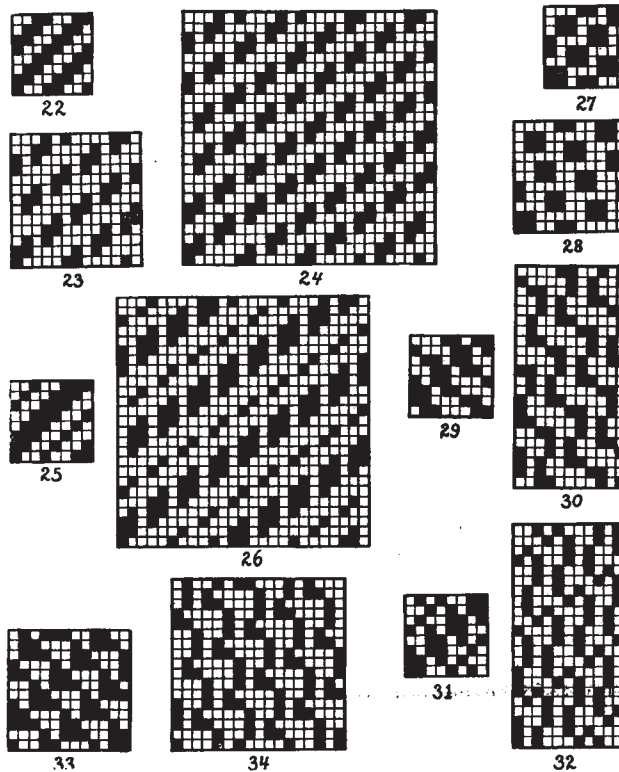


Fig. 26 its arrangement for false back 2 @ 1; repeat 25 by 25.

Fig. 27 is an 8-harness granite (see Fig. 18) and Fig. 28 its arrangement for false back 2 @ 1; repeat 11 by 11.

Fig. 29 is an 8-harness granite (see Fig. 20) and Fig. 30 its arrangement for false back 2 @ 1; repeat 11 by 22.

Fig. 31 is an 8-harness granite and

Fig. 32 its arrangement for false back 2 @ 1; repeat 11 by 22.

Fig. 33 is a 12-harness granite and

Fig. 34 its arrangement for false back 2 @ 1; repeat 17 by 17.

RIBBONS, TRIMMINGS, EDGINGS, ETC.

Producing Figures in Smooth Ribbons.

(Continued from page 143.)

Fig. 171 is a sketch for a ribbon, to be produced with one system warp (ground warp) and three systems filling; one system for the ground and two systems for the figure.

Fig. 172 is the corresponding point paper design.

In the loom (weaving ribbon face down) place your ground pick in the lower box, placing in the middle box the filling which has to produce the widest weaving portions of the figure, and in the top box the filling producing the more innermost working portions of the figure. Provided we would reverse position of these two figure picks, the ends would catch with each other, resulting not only in waste (looping around

each other) of yarn, but at the same time producing a useless rigid effect upon the back of the fabric structure, which in this case is considered *up* in the loom.



Fig. 171

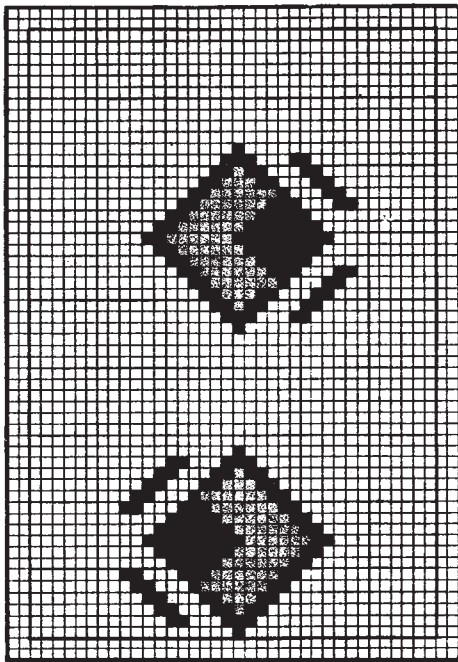


Fig. 172

As will be readily understood, two figure picks have to be built for each horizontal row of squares of the point paper design where two colors appear, otherwise only one, considering for one pick *full* type and for the other pick *cross* type for risers. Where only one of these types show on the point paper, as mentioned before, only one figure pick is to be cut.

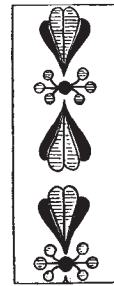


Fig. 173

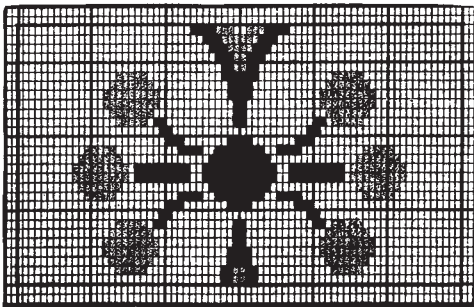


Fig. 174

In connection with Fig. 172, the point paper design (one repeat), the arrangement of the filling is as follows:

- 1 pick ground
- 1 " figure (centre box) } × 2

- 1 " ground
- 1 " figure (top box)
- 1 " figure (centre box) } × 13

- 1 " ground
- 1 " figure (centre box) } × 2
- 11 picks ground
-
- 58 picks, repeat.

Two repeats of this arrangement of filling produce one repeat of complete weave.

Fig. 173 shows a three shuttle design in which off and on, one or the other figure pick is used. In this instance, place the ground pick in the lower box, in the centre box, that figure pick which is used the most, and in the top box the figure pick which is used for the least number of picks.

This arrangement of the picks is done to prevent catching of the figure picks, *i. e.*, that they clear each other at weaving. Enter the ground pick first, next enter the first figure pick from left to right to be followed on the next pick with the second figure shuttle, entering also from left to right. For the fourth pick the ground filling is entered, for the fifth pick the second figure filling, and for the sixth pick the first figure filling (see point paper design 174).

Figure picks entered before the ground pick is entered, are in turn used as the next pick after said ground pick. This will clear the two figure picks and prevent catching of the threads, in turn preventing the formation of ridges on the back of the fabric (which is woven face down) previously referred to.

In connection with sketch Fig. 173 and point paper design Fig. 174, for example, we considered the texture to be 90 warp threads and 60 ground picks, to the inch. The various figure picks respectively considered, call for the same number of picks as the ground pick, for which reason the paper to use either 6 : 4 or 12 : 8.

(To be continued.)

THE INFLUENCE OF THE TWIST OF THE YARN UPON THE FABRIC.

(Continued from page 120.)

Having thus referred to the difference of the twist, in connection with the plain weave, it will be readily

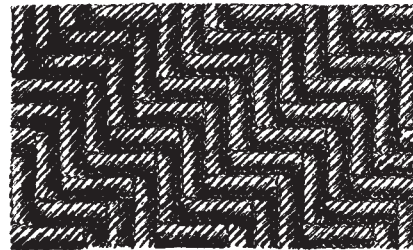


Fig. 3

understood that this difference is so much more pronounced, when dealing with floating, *i. e.*, far apart

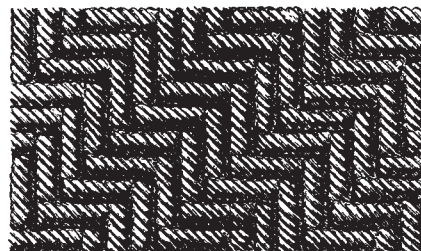


Fig. 4

interlacing weaves, since then the twist has a greater influence to show light and shade effects. The ac-