

and those of the first color plain.

Assuming that the scale of the harness is doubled, and that the rods are raised in the order indicated at *F* (by which one of the fillings is interwoven in 8-leaf satin and the other in 16-leaf satin order in the ground), the full weave to correspond with the lower portion of diagram *E* is indicated in diagram *G*. It will be seen that the plain cutting of the figure produces a $\frac{2}{2}$ filling rib weave under each kind of filling float.

Working Comberboards.

In this system of Jacquard harness mounting each harness cord is knotted in such a position that the knot rests on the comberboard when the harness mail is at the bottom line of the shed. The knots do not prevent the cords from being raised individually by the Jacquard machine in the ordinary manner, whereas by lifting the comberboard all the cords, whose knots rest upon it, are raised together. In the manufacture of Brussels and Wilton carpets only one comberboard is employed, but for Marseilles quilts and satin quilts the board is made in two longitudinal sections, and for 2-ply Ingrain carpets in four longitudinal sections, which enables the ends to be raised in groups separately. The latter system of mounting is shown in diagram Fig. 6.

The four longitudinal sections of the comberboard previously referred to are now termed Journals, indicated that way respectively in our diagram, which illustrates the arrangement of neck-cords with the heddles (through the harness-cords). There are two separate bottom boards in the machine indicated by *A* and *B* respectively for ground and figure, also two corresponding lifter-boards, or inverted Jacquards, as the case may be.

With reference to threading the four Journals,

The 1st warp-thread is drawn on Journal 1	
" 2nd " " " " " "	3
" 3rd " " " " " "	2, and
" 4th " " " " " "	4.

This arrangement of threading 1, 3, 2, 4 is repeated until the complete warp is taken up.

The Journals are arranged as follows: 1st and 2nd Journal for ground, 3rd and 4th Journal for figure.

The tie-up shown refers to a texture what is termed *extra fine*, *i. e.*, calling for 416 warp-threads to one-half yard wide fabric, of which 208 each refer respectively to ground and to figure effect. Two repeats (*i. e.*, the regular yard wide fabric) are given, more are used when dealing with Art Squares. In the illustration are only shown the first 8 harness-cords and the last four harness-cords (404, 408, 412 and 416) passing through the rear Journal. The first row (1 to 8) illustrates the principle of tying-up the harness and the leasing of the heddles; whereas the four heddles in the rear (404, 408, 412, and 416) show the practical commencement of the tie-up, *i. e.*, four neck-cords in succession to four heddles of the Journal.

Besides the Jacquard and shaft mountings thus referred to there are any number of mountings for special fabrics met with, *viz*: book-harness mounting,

pressure harness, self twilling Jacquard, tapestry mounting, double-plain cloth Jacquard, special gauze Jacquard, Madras gauze mounting, and pile carpet Jacquards.

WARP SPOTTING

(Continued from page 62.)

Using Ground and Combined Ground and Figure Warp.

In this instance some of the threads are used throughout the repeat of the weave as ground warp-

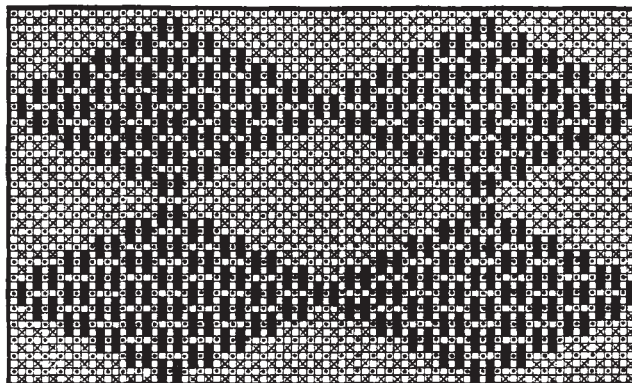


Fig. 20

threads, while others are used part ways as ground, part ways as figure warps. The arrangement of these threads is either:

- 1 figuring and ground: 1 ground, or more often
- 2 figuring and ground: 1 ground.

Weaves Figs. 20, 21, 22 and 23 are given to illustrate subject.

Fig. 20, arrangement: 1 ground 1 figuring and ground warp $\times 20 = 40$ warp-threads and 24 picks

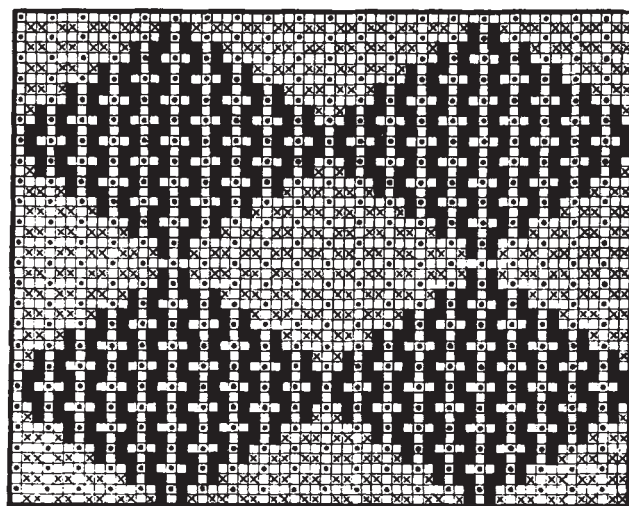


Fig. 21

repeat of pattern. Two repeats of the pattern each way are given to better illustrate the general effect of the design in the fabric.

The figure float (see *full type*) floats alternately over three picks and below one; when not forming figure effect the threads then form with their mate ground warp-threads, plain weave.

Fig. 21 shows the arrangement of one end ground

to alternate with two ends figuring and ground warp
 $\times 10 = 30$ warp-threads and 24 picks, repeat of pat-

effect, interlace with the ground as was explained in
 previously given example. The same also refers to

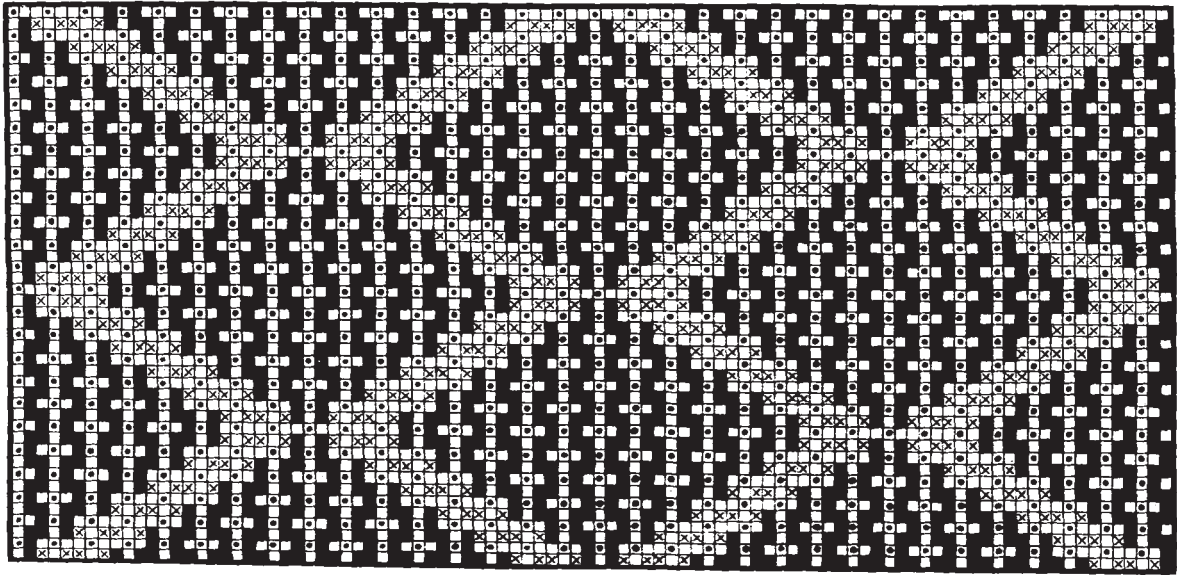


Fig. 22

tern. Two repeats each way are given, to clearly
 show the general effect in the fabric.

The figure float (see *full type*) floats over three
 picks and below one; when not forming figure effect

Fig. 23. Two repeats of each of the two weaves
 are given to simplify subject for the reader, *i. e.*, how
 to produce new effects by means of examples and
 explanations given.

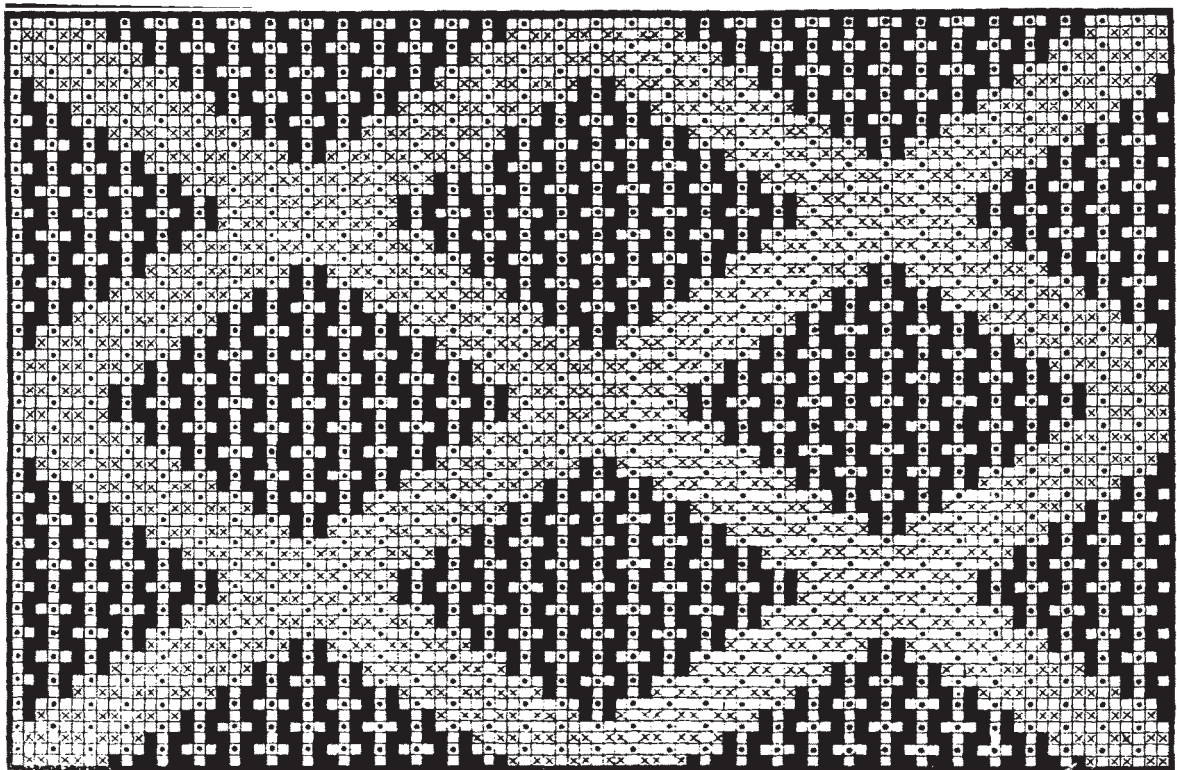


Fig. 23

these threads form with the ground warp $\frac{2}{1}$ filling
 rib, (see *cross type* and *dot type* respectively). Repeat
 of weave 30 warp-threads and 24 picks.

Figs. 22 and 23 are designed similar to Fig. 21,
 one ground thread alternating with two figuring and
 ground threads. The latter, when not forming figure

In all four cases the floats are restricted in length
 to 3 picks, which, combined with plain, or $\frac{2}{1}$ rib struc-
 ture of the ground makes a firm fabric.

In weaves Fig. 20, 21 and 22, the diamond forms
i. e., the figures are joined, whereas in connection with
 weave Fig. 23 they are detached.