

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

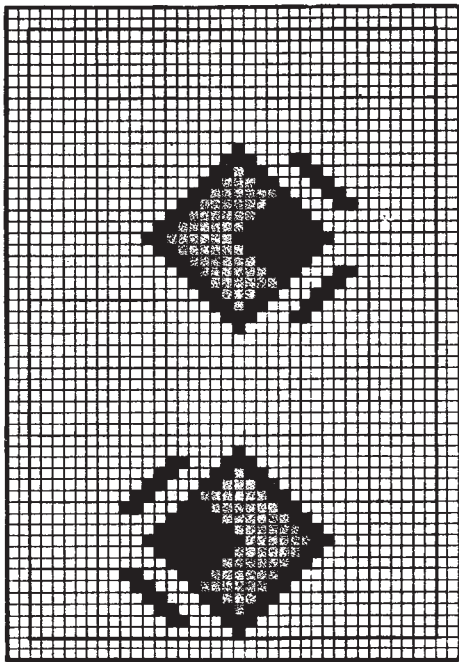


Fig. 172

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.

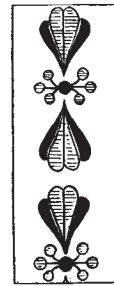


Fig. 173

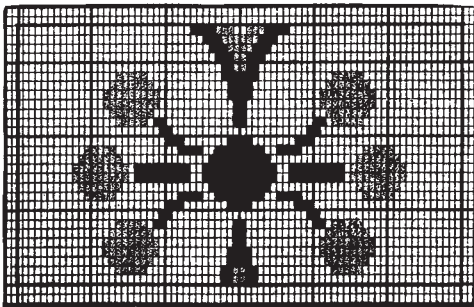


Fig. 174

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

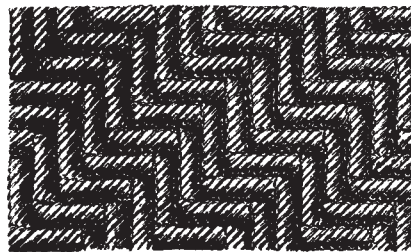


Fig. 3

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

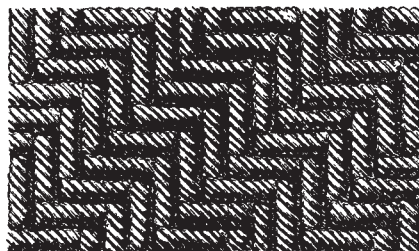


Fig. 4

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

companying sixteen diagrams of fabric structures (enlarged) are given to more clearly explain the subject.

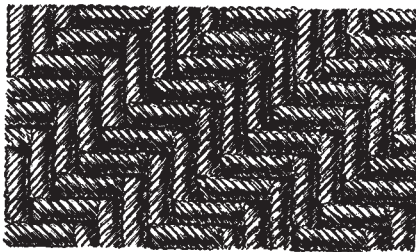


Fig. 5

Fabric structures Figs. 3 to 8 are interlaced with the  $\frac{3}{3}$  6-harness twill, effect running from left to right.

Fabric structures Figs. 9 to 14 show the same twill

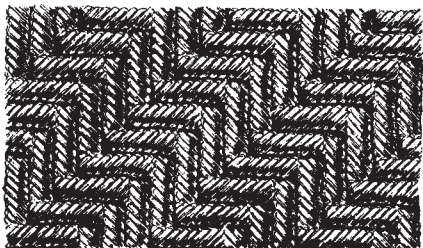


Fig. 6

weave used, however, the direction of the twill is reversed, *i. e.*, the same runs from right to left.

In connection with fabric shown in Fig. 3, the warp is right hand twist, the filling left hand twist.

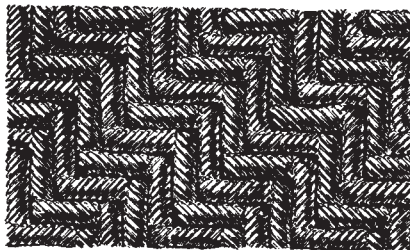


Fig. 7

In connection with fabric illustrated in Fig. 4, the warp is left hand twist, the filling right hand twist.

Examining both fabric structures, it will be noticed that in both cases, the direction of the twist, for warp and filling, runs parallel, *i. e.*, runs in the same direc-

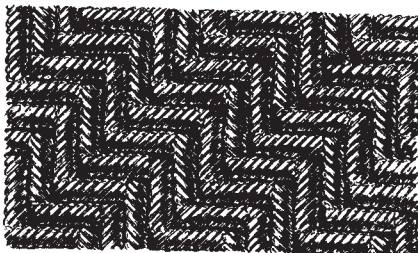


Fig. 8

tion in the fabric, or as we might say, the twist of the two systems of threads runs into each other.

Effect Fig. 5: warp and filling right hand twist.

Effect Fig. 6: warp and filling left hand twist.

In connection with these two fabric structures, using the same direction of twist for warp and filling, the result shows that the twist of the warp and filling threads meet each other at right angles in the woven fabric.

Fabric structure Fig. 7 shows the arrangement of warp and filling to be: one end right hand twist to alternate with one end left hand twist, in both sys-

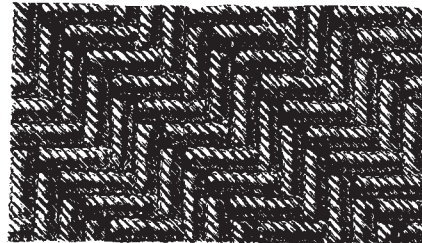


Fig. 9

tems. This illustrates a most interesting subject, showing an even distribution of light and shade, since the effect of using opposite twist, in both systems of threads, balance each other.

Provided different twist yarns are used in the mill, and the same are of one color, be careful that these

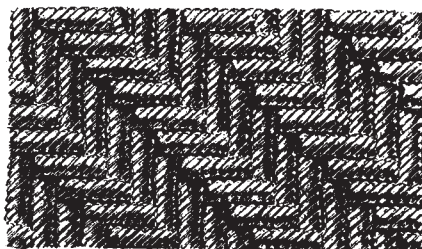


Fig. 10

yarns are spun on distinctly different bobbins, or different colored cops, in order to prevent mistakes in the spooling, dressing as well as the weave room. Possible mistakes at the loom, in connection with the warp, can be more or less prevented (if such is possible to be done) by drawing the ends of the different

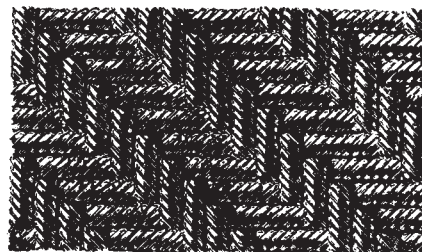


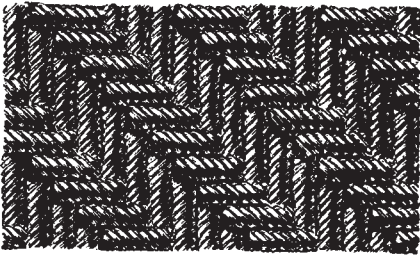
Fig. 11

twists on separate (marked) harnesses, and when the weaver, in case a thread breaks, will know which twist he has to deal with. At the same time, it may be advisable to insert a rod next to the whip roll, having the one twist of threads running above, the other twist below said rod, or in other words, simplify matters as much as possible for the weaver.

Fabric shown in Fig. 8 is constructed thus: warp one end right hand twist to alternate with one end left hand twist; filling all left hand twist. This combina-

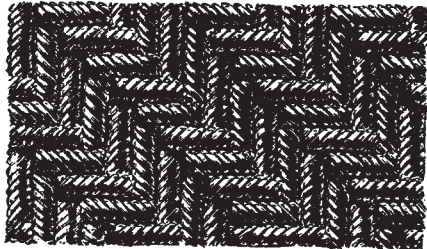


tion shows that the contrasting effect, obtained in the previous example, in this instance, is not as complete.



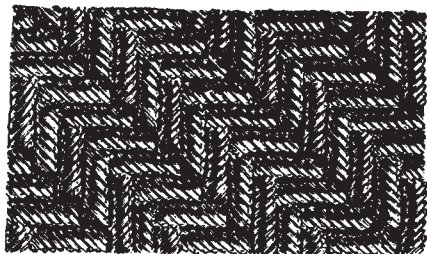
*Fig. 12*

Explanations thus far given, in connection with effects Figs. 3 to 8, refer also to such as require to



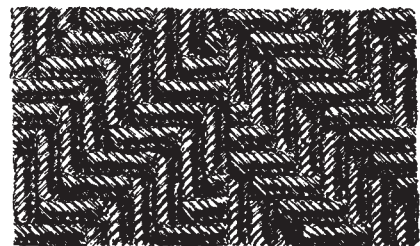
*Fig. 13*

be given in connection with effects Figs. 9 to 14, the



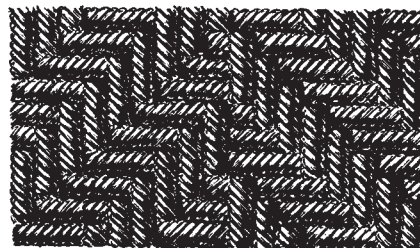
*Fig. 14*

only difference being, that in the latter case the direction of the twill is reversed, and in the same way in



*Fig. 15*

every example (except Figs. 13 and 14) the direction of the twist in warp and filling, *viz*:



*Fig. 16*

Effect Fig. 9: warp left hand twist, filling right hand twist.

Effect Fig. 10: warp right hand twist, filling left hand twist.

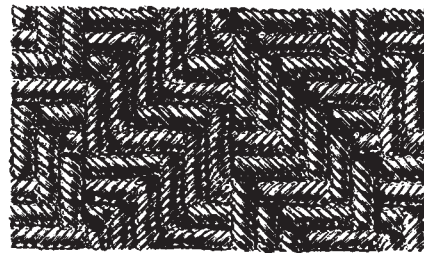
Effect Fig. 11: warp left hand twist, filling left hand twist.

Effect Fig. 12: warp right hand twist, filling right hand twist.

Effect Fig. 13: warp and filling one end right hand twist to alternate with one end left hand twist.

Effect Fig. 14: warp one end right hand twist to alternate with one end left hand twist, filling all right hand twist.

Effects Figs. 15 to 18, inclusive, are given to illustrate the influence of right and left hand twist for warp and filling, in connection with broken twills; examples being given to illustrate the importance of the twist, with reference to the effect in the fabric in connection with the changes in the direction of the twill in the weave.



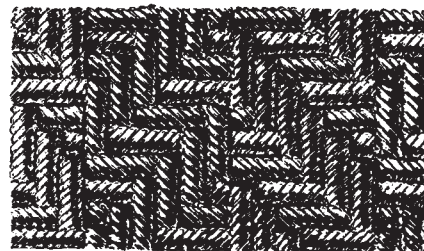
*Fig. 17*

Effect Fig. 15: warp and filling right hand twist.

Effect Fig. 16: warp and filling left hand twist.

Effect Fig. 17: arrangement of warp, right hand twist for one direction of the twill to alternate with left hand twist for the warp threads forming the reverse direction of the twill; filling one end right hand twist to alternate with one end left hand twist.

Effect Fig. 18 with reference to warp is similar to the previous example, only that in this instance, we used in connection with the warp, left hand twist, where in the preceding example with said direction of the twill we used right hand twist, and vice versa;



*Fig. 18*

the arrangement of the filling is the same as in the previous example. The result is a difference in appearance of the fabric, compared to that of fabric structure Fig. 17.

*Providence, R. I.* The regular monthly meeting of the Southern New England Textile Club was held on Saturday afternoon June 17th at the Warwick Club. Features of this meeting other than the election of officers were games and renewing of old acquaintances.