

REVERSIBLES (HARNES AND JACQUARD WORK).

Spotted Patterns.

(Continued from January issue.)

Fig. 12 shows the construction of a spotted effect, repeating on 32 warp-threads and 32 picks.

Diagram *a* shows one repeat of the weave-plan 32 x 32, with the figure-effect shown in *shaded* type, and which represent *yellow* in practical work; ground left *empty*.

Diagram *b* shows the double plain, added in *full* type, to the various figure parts of the design, and which, for example, means blue or black in practical work.

Diagram *c* shows the mate double plain, inserted in *cross* type into the ground of the design, and which means red in practical work.

Diagram *d* shows one repeat of the complete weave executed for the working design on the loom, *i. e.*, the combination of diagrams *b* and *c*. *Full* and *cross* type indicates warp up, *shaded* and *empty* warp down.

By following details given in connection with Fig. 13, any figured effect in double plain can be designed, painting first the figure in yellow, in turn inserting one of the double plain weaves in the ground portion of the fabric in one color and its mate double plain in the figure effects in another color.

When dealing with large surfaces (either in figure or ground portion) in the design, such portions may

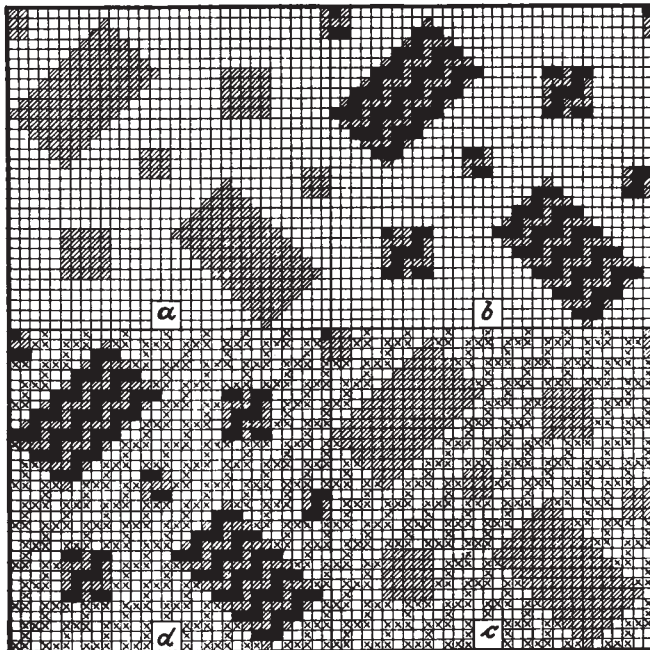


Fig. 12

be stitched, as previously alluded to, either by the back warp interlacing in the face filling or the face warp in the back filling.

Using Twills or Baskets for the Weaves of the Plied-Stripe Effects.

Fig. 13 shows a reversible stripe effect in which both plies are interlaced with the 4-harness regular twill.

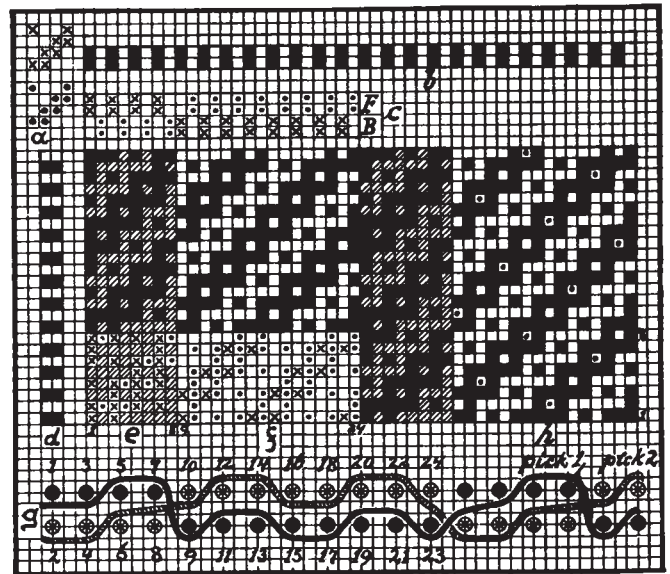


Fig. 13

- a*: 4-harness twill, shown in *cross* and *dot* type.
- b*: Arrangement of warp, one end dark, one end light, taken alternately throughout the repeat of the weave.
- c*: Arrangement of face and back warp in repeat of pattern, the sets being indicated respectively by *F* for Face and *B* for Back section.
- d*: Arrangement of filling.
- e*: Construction of the reversible, showing black (or dark) effect.
- f*: Construction of the reversible, showing light (or medium) effect.
- g*: Section of fabric structure, cut in the direction of the filling.
- h*: Illustrating stitching of the two plies, if dealing with large surfaces.

Considering fabric structure *e*, picks 1, 3, 5 and 7 show face picks, using the 4-harness twill, see *cross* type in *a* and *e* to correspond. Picks 2, 4, 6 and 8 are back picks, see *dot* type in *a* and *e* to correspond. *Cross* type on picks 2, 4, 6 and 8 illustrate rule for the double cloth: "Raise all face warp-threads on every back pick." *Shaded* type equal in value to empty, being used to indicate the dark effect produced in the fabric.

With reference to the light effect stripe shown in diagram *f* the face warp-threads are then indicated by *dot* type and the back warp-threads by *cross* type. Raise all the face warp-threads on every back pick is shown by *dot* type on every uneven number pick.

Diagram *g*, the fabric section, illustrates the interlacing of picks 1 and 2, representing respectively a dark and a light pick. The 24 warp-threads in the repeat of the weave are indicated by corresponding numerals accompanying full and shaded circles, representing respectively dark and light ends. The interlacing of each pick on face and back of the fabric by the 4-harness twill is plainly shown.

CHECKERBOARD EFFECTS.

Fig. 14 shows a broken twill, broken warp and filling ways every 6 warp-threads and picks, having

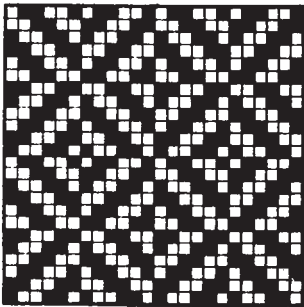


Fig. 14

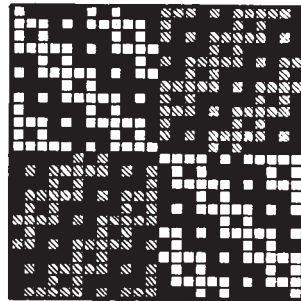


Fig. 15

the 4-harness twill for foundation and repeating on 12 by 12.

Fig. 15 is a reversible broken twill having weave Fig. 14 for the interlacing of each ply structure, *i. e.*, 12 ends (reversible) twill from left to right alternating with 12 ends twill running in reverse direction, both warp and filling ways.

The combination of face and back threads in the weave is uniform for warp and filling, one end face to alternate with one end back, hence 2 ends of one

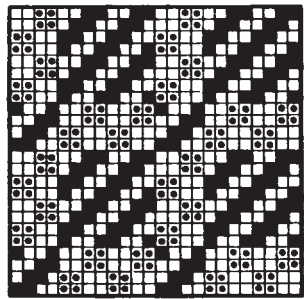


Fig. 16

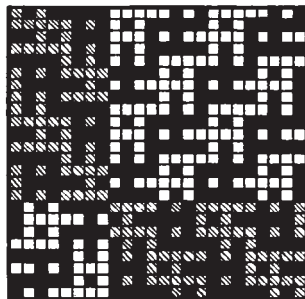


Fig. 17

color must be used in warp and filling where the reversible effects occur in the fabric structure, the arrangement being:

$$\begin{array}{l} 1 \text{ dark} \\ 1 \text{ light} \end{array} \left. \vphantom{\begin{array}{l} 1 \text{ dark} \\ 1 \text{ light} \end{array}} \right\} \times 6$$

$$\begin{array}{l} 1 \text{ light} \\ 1 \text{ dark} \end{array} \left. \vphantom{\begin{array}{l} 1 \text{ light} \\ 1 \text{ dark} \end{array}} \right\} \times 6$$

Repeat of Weave: 24 warp-threads and 24 picks.

Fig. 16 is a checkerboard, twill and basket effect combination, repeating on 12 by 12, with 4 ends changing against 8 ends. Twill is shown by *full* type, basket by *dot* type.

Fig. 17 is the reversible, having weave Fig. 16 for its face effect. The combination of face and back in warp and filling is uniform, one end face to alternate with one end back, the arrangement of the colors in warp and filling being:

$$\begin{array}{l} 1 \text{ light} \\ 1 \text{ dark} \end{array} \left. \vphantom{\begin{array}{l} 1 \text{ light} \\ 1 \text{ dark} \end{array}} \right\} \times 4$$

$$\begin{array}{l} 1 \text{ dark} \\ 1 \text{ light} \end{array} \left. \vphantom{\begin{array}{l} 1 \text{ dark} \\ 1 \text{ light} \end{array}} \right\} \times 8$$

Repeat of Weave: 24 by 24.

Wherever in the weave the face-ply interlaces twill effect, the back-ply interlaces basket, and vice versa where the face-ply interlaces basket, the back-ply interlaces twill. The latter weave is made to run in the reverse direction from that of the face twill on the point paper, hence runs in the same direction on the back of the fabric structure as the face twill does on the face of the fabric structure.

(To be continued.)

THE MANUFACTURE OF RIBBONS, TRIMMINGS, ETC.

(Continued from January issue.)

Entering Threads.

The same refer to fancy edges of ribbon produced by an outside warp-thread or threads floating for a certain number of picks outside of the body of the fabric structure, after which the same interlace similar to the filling into a portion of the ribbon, in turn producing a fancy edge (loop) to the fabric. Either one or both sides of the ribbon may thus be ornamented. These warp-threads are called entering threads, for the reason that they are entered into the body of the fabric structure by means of the filling pulling them into the shed and thus interlacing them.

These entering threads may be used either for the formation of raised figures, for the embossing of warp figures, for producing multi-colored effects, and finally to substitute a cheaper yarn in certain places of the ribbon for a more expensive one.

The chief requirement for a perfect entering of said warp-threads in the body of the fabric structure is that they are let off from their spools under a very loose tension, whereas the filling must come from its bobbin under sufficient tension to pull the entering thread (after engaging with it) for a certain distance across, and into the fabric. Single, two or more fold threads may be used as an entering thread.

If the entering thread rests on the right hand side of the fabric, as shown in Fig. 113, then draw said entering thread, after all the body warp-threads are drawn in the harness, as the next warp-thread towards the right, using for it a separate harness.

Considering fabric sketch Fig. 113 we see that the filling is first entered for portion *a* to *b* of the fabric in its regular way (plain weaving, for example, throughout the width of the fabric) the entering warp-thread *x* not interlacing with the filling. At *c* we then see that the filling, as entering into the shed from the left, then interlaces with plain weave, up to *d*, the point to which the entering warp-thread *x* is drawn into the fabric structure; from *d* to *e* only those warp-threads are raised as are to rest above the entering thread *x*.

The entering warp-thread, according to its twist, is either raised at the first entering pick and lowered at the second, or vice versa; being caught by the filling, on account of its slack tension, it then can be readily drawn by the latter into the fabric structure.

The second entering pick, coming from the right, after having itself interlooped with the entering warp-thread, pulls the latter into the fabric for the portion *e* to *d* of the shed, which for this purpose corresponds with that of the previous pick, whereas from *d* to *c*