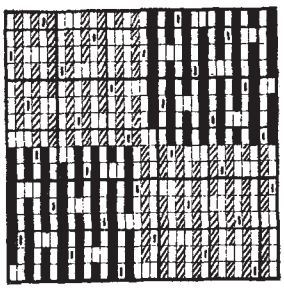
double faced satin, obtained by combining weaves Figs. 13 and 14 (take *dot* type in Fig. 14); repeat 16 warp threads and 8 picks.

Figuring with Double Faced Satins.

With proper color combinations, double faced satins may be used (by means of exchanging the effects) for producing figured effects. Figs. 17 to 20 explain how to proceed.

Fig. 17 illustrates figuring, after the plain motive (checkerboard effect) with the 5-leaf double faced satin as a basis.

Only one repeat of either effect is used, in order to keep diagram to its lowest possible dimensions on



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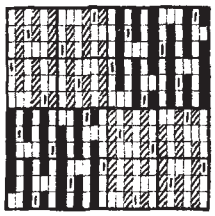

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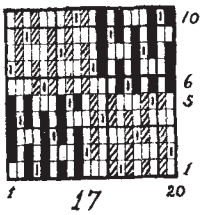

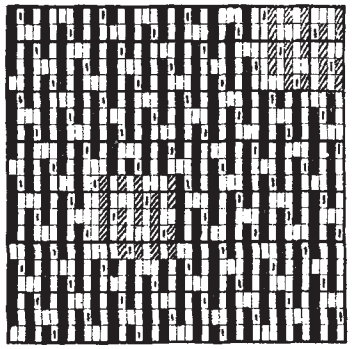

20

the point paper; using more ends for either effect requires only a corresponding number of repeats, both warp and filling ways, of each effect.

To more readily explain subject, we have shown the two systems of warp in two colors, viz:

Color 1, *full* type.

Color 2, *shaded* type.

Dot type indicates where the respective back warp threads interlace into the face warp; indicated uniform for both colors.

Warp threads 1 to 10 in conjunction with picks 1 to 5 produce color 1 on face and color 2 on back of fabric.

Warp threads 11 to 20 in conjunction with picks 6 to 10 produce similarly color 1 on face and color 2 on back of fabric.

Warp threads 11 to 20 in conjunction with picks 1 to 5 produce color 2 on face and color 1 on back of fabric.

Warp threads 1 to 10 in conjunction with picks 6 to 10 produce color 2 on face and color 1 on back of fabric.

Dressing of warp to be:

1 end color 1
1 " " 2 } 5 times

1 end color 2
1 " " 1 } 5 times

Repeat of pattern 20 by 10, with 10 by 5 for each square of the checkerboard.

Fig. 18 illustrates a double faced satin, checkerboard effect, having the 6-leaf satin for its basis. Repeat 24 by 12.

Fig. 19 illustrates a double faced satin, checkerboard effect, having the 8-leaf satin for its basis. Repeat 32 by 16.

The same as was mentioned in connection with weave Fig. 17, only one repeat of each effect has been used with weaves Figs. 18 and 19, larger effects in the loom calling for a corresponding number of repeats to each effect, both warp and filling ways, previously to changing onto the other effect.

Fig. 20 illustrates figuring by plain setting (spotting) with the 5-leaf double faced satin as basis. Repeat 40 by 20.

The same as in previously given examples, only one repeat of each effect has been used before changing onto the other, in order to keep design to its lowest possible size; larger effects on the loom will call for a corresponding number of repeats of each effect, both warp and filling ways, previously to changing onto the other effect.

The dressing of the warp is uniform throughout the repeat of the weave; 1 end color 1 to alternate with 1 end color 2.

RIBBBONS, TRIMMINGS, EDGINGS, ETC.

Producing Figures in Smooth Ribbons

(*Continued from page 90.*)

Fig. 167 shows us a sketch for a ribbon, calling for two systems of figure warp, and one system of ground warp, in connection with one system of filling. The effect of one system of figure warp is shown in *black* effect, that of the other in *gray* effect. Six repeats of the design are given; the lower portion of the sketch is shown ruled-off by means of dotted lines to correspond to the heavy ruled squares on the point paper design Fig. 168, which shows three repeats.

The same as with previously given example Fig. 165, the ground warp threads are not shown on the point paper design Fig. 168; the two figure warp threads are represented on the same row of squares in a vertical direction, one system in one color (see *full* squares) and the other system in another color (see *gray* squares). The point paper used is 6 : 6, which means that figure warp threads (considering the two systems where they appear on one line as one thread) equal in texture the picks.

Fig. 169 shows the weave formation for design Fig. 168. The ground warp threads are shown by means of *dot* type, the two figure warp threads by means of *full* and *gray* type, respectively.

We will now consider designing figured ribbons, in connection with one system warp and two systems of filling. Let us consider Fig. 164 as the sketch for a fabric, the figure to be produced by means of a special figure pick, in place of an extra figure warp as done before. This system of producing figures has the advantage of a saving in yarn, since the pick will only float where so required by the design, whereas in connection with figuring with the warp, said figure threads, where not required on the face, float uselessly on the back. However, using two systems of filling has the disadvantage of having to use a proportionally higher number of picks per inch, with its corresponding increase in cost of weaving, compared to using only one system filling in connection with a figure warp.

The point paper design for ribbons constructed with two systems filling is made in the same way as those where using a figure warp. This point paper design is then used directly for building the figure picks for the harness chain (or cutting the figure cards in connection with Jacquard work); the weave for the ground picks referring to simple weaves, as for instances, the plain, the 3- or 4-harness twills, or some small, well broken-up granite weave. As a rule, these fabrics are woven *face down* on the loom.

Fig. 170 illustrates the subject, showing at the bottom one repeat of the point paper design and which

Fig. 167

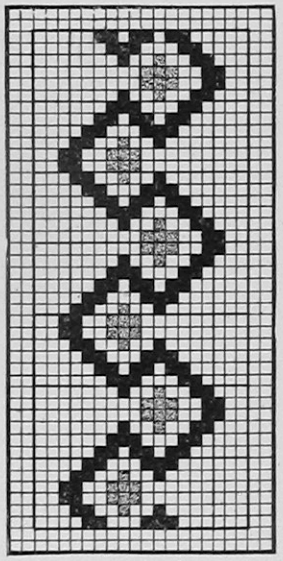

Fig. 168

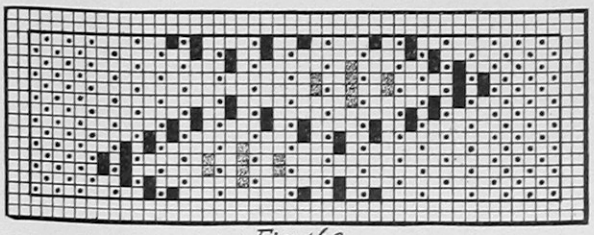

Fig. 169

corresponds to Fig. 165. The same calls for 22 figure picks, in one repeat of pattern, and for which reason, in connection with the use of the plain weave (22 bars) for the interlacing of the ground picks, 44 bars will be the repeat of the chain, considering the arrangement of ground; figure pick to be 1 : 1.

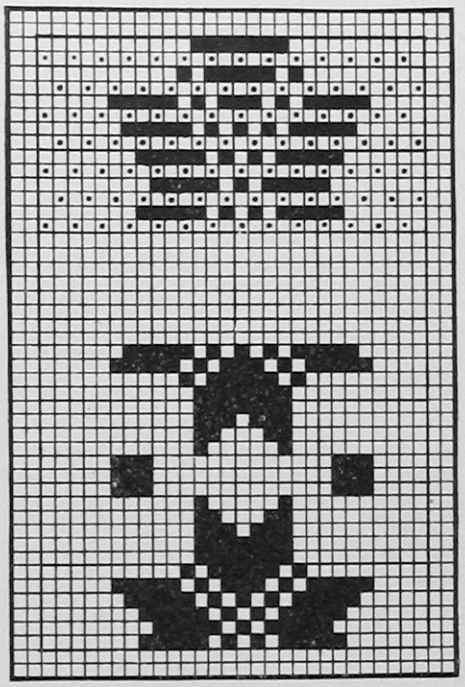

Fig. 170

A portion of this chain (14 bars), showing the analysis of the fabric, is given in the upper portion of Fig. 170, showing the first 7 ground and 7 figure picks; the ground picks being indicated by *dot* type, the figure picks by *full* type, respectively. On account of weaving design Fig. 165 face up and design Fig. 170 face down in the loom, the two designs are identical. If weaving design Fig. 170 face up read *empty* squares for warp up, *full* and *dot* squares for filling up, *i. e.*, warp down.

(*To be continued*)

Leafy Cotton.

When a cotton sample is considered leafy it means that only parts of the fleshy blade of the leaf ought to be present, and these ought not to be large—say, only from $\frac{1}{8}$ to $\frac{1}{4}$ inch. Anything below or above the two sizes mentioned would give rise to other names; for instance, if the leaf present in the sample is very large, it causes it to have a blotchy appearance, and the term *blackjack staple* has sometimes been applied to it. But when the leaves are very minute, but numerous, the sample has a black, powdery appearance, and has given rise at times to the term *pepperdust staple*. Other examples are met with in which there is not only portions of leaf present, but pieces of the veins, both primary and secondary, varying from $\frac{1}{4}$ to 1 inch in size. These veins are rough on their margins, which causes them readily to adhere to the fibres of cotton like some burrs do in the woolen manufacture; and cotton which contains these prominent veins is difficult to sell, since these impurities are difficult to remove in cotton spinning. When veins of leaves are conspicuous in cotton samples they are spoken of as *legs* and *sticks*.