

POINTS ON JACQUARD DESIGNING.

(Continued from July issue.)

Duplicating Finished Samples.

In connection with a great many fabric structures, like carpets, curtains, some silk dress goods, ribbons, etc., the fabric as produced on the loom equals about that of the finished fabric and consequently the designer's work refers more particularly only to sketching, painting, color harmony, *i. e.*, more or less what we may call applied designing. Other fabric structures, like for instance woolen, worsted or mohair dress goods, damasks, etc., will require by the designer some technical knowledge of fabric construction as well as the various finishing processes cotton, linen, wool,

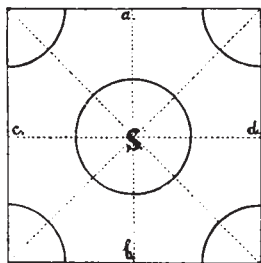


Fig. 9

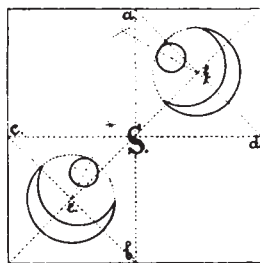


Fig. 10

worsted and silk fabrics as well as their admixtures are subjected to after leaving the loom and previous to them reaching the market.

Some fabrics, when leaving the loom are practically finished, only requiring possibly singeing or shearing or pressing, either of which process will make no material change in width or length of the fabric thus treated, whereas fabrics which require fulling, scouring, stretching, wetting, etc., as the case may be, will shrink, *i. e.*, take-up considerable. Fabrics which are dried over hot cylinders are thus pulled out in their length, whereas fabrics dried on tender frames are pulled out more particular width ways, and when, in connection with the latter system of drying, the finished width of the structure can be more satisfactorily regulated than compared to the drying over cylinders. Again, we will meet with any number of special fabrics, requiring special finishes, and which may have a tendency to vary the respective take-up of the fabric one way or the other, or both ways, which in turn will change the design proportionately between the fabric received from the loom and its finished state. A good example with reference to this variation in take-up between the loom and its finished state may be quoted in connection with a crepon fabric, constructed of a mohair and a cotton warp, and a pure cotton filling, a fabric which during the finishing process is treated with caustic soda, in order to mercerize the cotton for the purpose of contraction, the process in itself, not affecting the mohair yarn, which naturally then will produce a raised, curled effect upon the face of the fabric, more particularly in those places where the mohair warp floats over the ground structure. It will be noticed that fabrics of this kind will shrink up to about 20 per cent both ways, and when naturally the designer is compelled, at the start, when laying out his design, to take this contraction warp and filling ways of the fabric during the finishing process, compared to that of the woven fabric, into consideration. Although this may be an extreme percentage of take-up, still, the designer will come in contact with any amount of

fabrics, where from 5 to 10 per cent, either warp or filling ways, or both ways, in the fabric, as the case may be, are a common take-up to be considered by him.

Details thus far given will show that there is a variety of Jacquard designers connected with the textile industry, every one of which caters after his line, although in the broad principle of their profession they aim at one point. For this reason, for example, a man working on Brussels carpets would be at sea if asked to produce a worsted dress goods, and for a fact so would a designer of the silk dress goods line. Carpets and upholstery fabrics might be worked in unison, except the latter refers to a very intricate fabric construction, but the average designer on Damasks would make little success (at first anyway) on the previously mentioned class of fabric structures.

Methods of Setting Figures.

The principles employed for the setting of figures in Jacquard textile fabrics are based either on the "plain setting" in all its varieties, comprising setting on the "square", the "diamond", the "rectangle", the "drop" as they are variously named; the "turn-over" or "point-setting", and the various "satin settings".

Plain Setting on the Square.

The same is little used, producing rather unsatisfactory results in fabrics. One figure with its details covers one repeat of the pattern, forming line effects more or less prominent either horizontally, vertically, or in both directions; again they may form a line effect in one or the other oblique direction. This line effect becomes so much more prominent provided a part of the figure is more conspicuous than the rest of it.

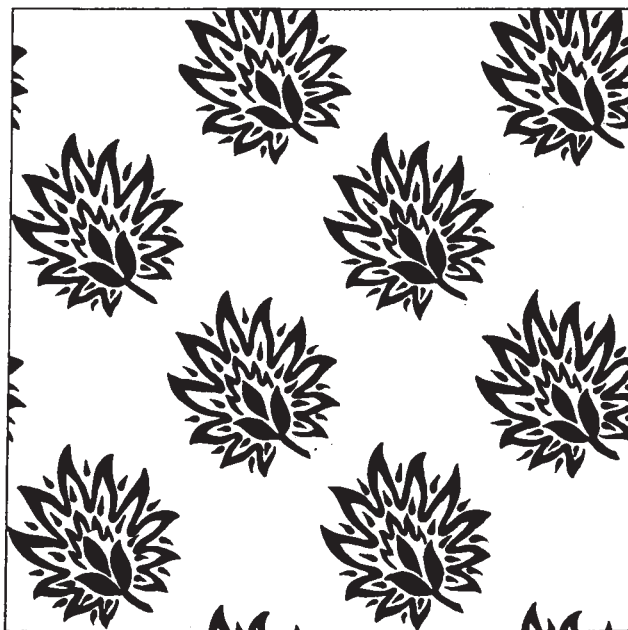


Fig. 11

Plain Setting on the Diamond.

This is an arrangement extensively used, Figs. 9 to 14 showing specimens of it. In Fig. 9 the space allowed for one repeat is shown divided horizontally

and vertically into two equal parts each way (see dotted lines $a - b$ and $c - d$ giving S as centre). The repeat of the design contains two circles, one of which is shown with its centre at S , the other circle, divided

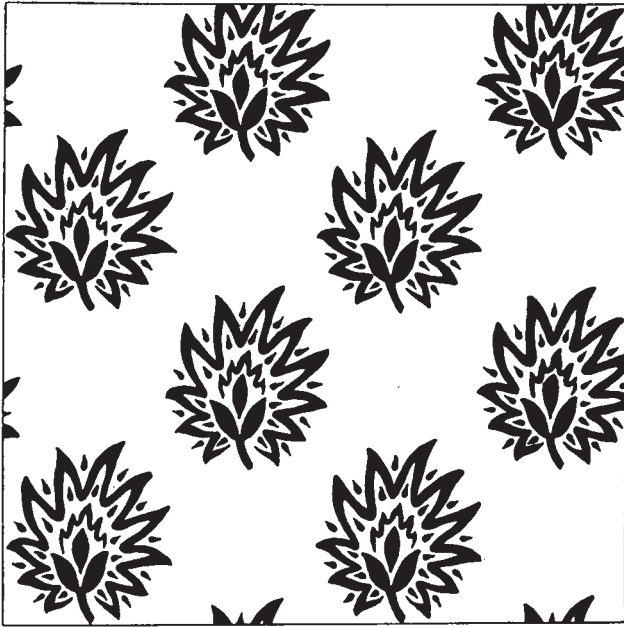


Fig. 12

in four quarters, being shown in the four corners of the square, *i. e.*, repeat of the design.

In Fig. 10 two figures are used in one repeat of the pattern; a half-moon with a small circle near it, the combination figure being set in two directions, a feature

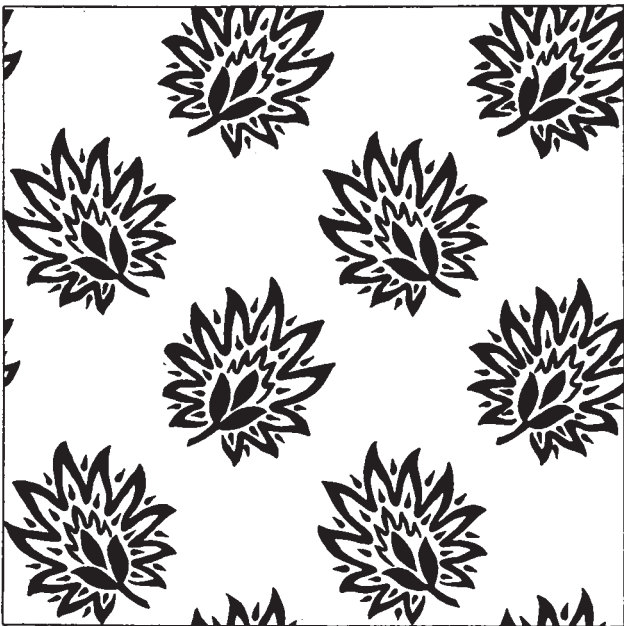


Fig. 13

which will produce a more pleasing effect than if both figures were set in the same position. To more clearly explain this feature, designs Figs. 11, 12 and 13 are given, representing the same figure set plain on the diamond in three different positions.

In Fig. 11, the two figures set in the same oblique position in turn are apt to show a line effect in the direction the two figures point.

Fig. 12 shows the same two figures in one repeat of the pattern set again in the same position but being placed more vertically, overcoming in this instance to some extent the disadvantages of showing an oblique line effect in the woven fabric.

The latter trouble is overcome in placing the two figures as shown in Fig. 13 and where one of the figures (the left hand lower one) is shown in the same position as shown in Fig. 11, the other figure in the repeat of the pattern having been reversed, a feature which will produce a more pleasing pattern, besides omitting any chance for a line effect.

(To be continued.)

Applying Logwood to Cotton.

A method of applying logwood that found some practical success years ago on certain classes of cotton goods, now has renewed interest in view of the increased utilization of logwood for the production of blacks.

The method consists in passing the material first through a solution of the natural coloring matter, and, after squeezing, through a solution of a mordant, fixing, or oxidizing agent.

The first may be a solution of logwood extract, or a mixture of logwood and fustic extracts, according to the shade of black required.

The mordant or fixing bath may be a solution of any (or a mixture of any) of the salts of iron, copper, chrome, aluminum, or other metallic salts commonly employed as ordinary mordants for logwood blacks.

For examples, the first liquor may be, for a blue shade of black, logwood extract 10 deg. Tw., heated to 130 deg. F.; for a jet or green shade of black, logwood extract 10 deg. Tw. (160 parts) and fustic extract 10 deg. Tw. (30 parts) heated to 120 deg. F.; and for a blue color, logwood extract 3 deg. Tw., heated to 120 deg. F. The fixing liquors may be composed of (1) 60 parts acetate of iron 8 deg. Tw. and 30 sulphate of iron 8 deg. Tw.; (2) 60 parts acetate of iron 8 deg. Tw. and 60 sulphate of copper 8 deg. Tw.; or, (3) 60 parts acetate of chrome 8 deg. Tw. and 60 acetate of iron 8 deg. Tw.

After being impregnated sufficiently with the coloring material the goods are passed through the fixing bath simply long enough to take up sufficient of the mordant or oxidizing liquor, then squeezed between rollers, and at once passed into and through a chamber containing steam at a temperature of about 212 deg. F., but not under pressure, whence they issue by a suitable opening (preferably water-sealed or luted) as soon as the action of the steam has effected the combination between the mordant or oxidizing agent used and the coloring matter. The goods are then passed to and through a washing liquor immediately or shortly afterwards.

Outing Cloth.

A patent has just been granted to Frank G. Murch. of Methuen, Mass., for an outing cloth to be used for garments of both men and women. Its purpose is to provide a cloth of peculiar brightness and characteristic luster, one which will be cool in warm weather, keeps its shape and can be washed without losing its luster.

The warp is to be either single or preferably 2-ply cotton, and for the filling Mr. Murch patents the use of one pick of combed mohair to alternate with one pick of spun or of artificial silk, preferably the latter.