

DESIGNING NEW FABRICS

A SHORT CUT

This article will concern all weavers who have multiharness looms with a comparatively easy tie-up. As we all know only too well designing new experimental fabrics is a tedious occupation, because each fabric requires a new threading, and it is a rule and not an exception, that it takes several samples to find finally the fabric which will satisfy all our requirements. Thus it is very important to be able to make these samples with a minimum of effort.

Fortunately in case of multiharness looms there is a short cut based on the principle that whenever we use straight threading (12345678 etc), and also straight treadling - the tie-up draft is identical with the draw-down. In other words the tie-up gives the picture of one repeat of the fabric, although turned at right angle.

The whole problem of designing a fabric is reduced to making its draw-down in the space reserved for the tie-up, and then replace the black spaces in the draw-down with marks for the ties.

We start with outlining on a piece of graph-paper a rectangle with as many divisions in the horizontal direction as the number of frames in our loom, and with as many divisions in the vertical direction as the number of treadles. In case of an 8 frame loom with 12 treadles we have a rectangle as in fig.1:

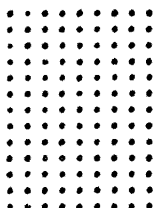


Fig.1



Fig.2



Fig.3

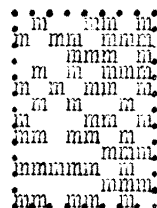


Fig.4

In this space we may design anything we like. With a definite idea of a fabric in mind we shall probably mark first the floats in weft, and then in warp as in fig.2. Then we mark the floats in weft black (fig.3). Finally we decide what to do with the rest of the free space. We can fill it with tabby or some sort of twill. Anything goes except that none of the floats can go right across the whole space from end to end, or this particular warp-end or pick of weft would not be woven at all. Each must be tied at least once. Thus we reach the final stage as in fig.4.

To translate the draw-down into a tie-up we first turn the rectangle by 90°, and then make a sign for a tie in each black square as in fig.5.

The main object of our work is to experiment, to make samples, therefore the warp which we shall make will be a comparatively

narrow one, from 6 to 8 inches. The sett of warp must be average, as for twills, and not for tabby. The yarn for warp should be fairly fine and of a neutral colour. The length of warp depends on the number of samples we intend to make. By the way, one should not try to make all samples possible with plain threading on a 8-frame loom. The theoretical number of them is so high that it even has no name, and when written would have 160 zeroes.

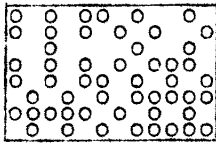


Fig.5

The more frames and treadles, the more possibilities. Let us take for instance a case of 12 frames with 16 treadles. We have a space of 12 by 16 or 192 squares to play with (fig.6). In such a space a variety of weaves and even small patterns can be designed.

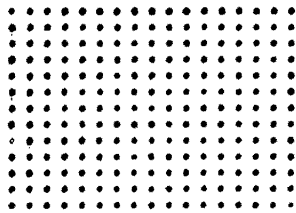


Fig.6

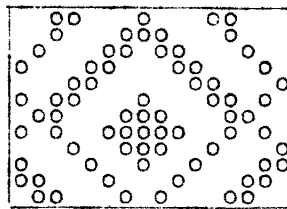


Fig.7

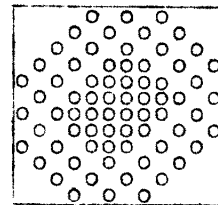


Fig.8

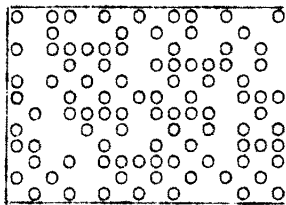


Fig.9

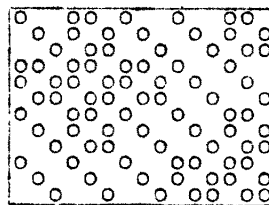


Fig.10

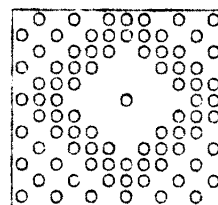


Fig.11

Examples are shown on figs: 7,8,9,10, and 11. Fig.7 is an unsymmetrical diamond twill with the longest float of 5. Suitable for curtains etc. Fig.8 is a sort of a very strong waffle - baby blankets, and blankets in general, bath-towels. Fig.9 is a modern "texture", and can be used practically for anything except upholstery. No.10 is based on 1:2 turned twill, and it is definitely a pattern weave; since it has very short floats it is very suitable for upholstery. No.11 is a firm weave because of the large percentage of tabby - curtains, table covers.

Obviously the method described is good only for making samples. A larger project would require some sort of borders which would have to be threaded in a different way, and also a different order of treadling, which would allow the weaver to alternate the feet when treadling.

E R R A T A : Master Weaver No.29, page 3, figure 7. There should be a black square right in the center of the pattern. We apologise!