

# HUCK & LACE

COMBINED

In this issue we are going to present a solution of problems which involve weaving areas of tabby, huckaback, and huck-lace, all in one project. Although we divide this subject into two parts: four-shaft projects, and multishaft projects, the first article should be read as an introduction to the second.

To make the presentation clearer we shall adopt a different type of drafting the huckaback. The type we have used so far may be called American, when the one we shall adopt now is Scandinavian. For four shafts the American method is better, but for multishaft drafts the Scandinavian one is clearer. Thus to be able to use the four-shaft drafts as an introduction to the higher techniques we must adopt the same way of drafting for both. Fig.1 shows the relationship between the two drafts:

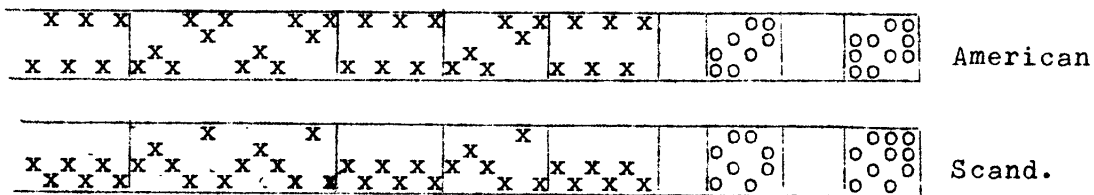


Fig.1

The difference between these two drafts is: 1) that the shaft No.1 becomes No.2; shaft 2 - 3; shaft 3 - 4; and shaft 4 - 1; and 2) that the order of treadles is also changed, so that tabby is on the left. Such order of treadles would not be very practical but it helps with the theory.

Thus the shafts 1 and 2 are now "ground shafts", and the remaining shafts: "pattern shafts". Exactly the same order will be observed regardless of the number of shafts and treadles, that is: shafts 1 and 2 will be always ground shafts or tabby shafts, and the last two treadles counting from the right will be tabby treadles.

Each complete block of pattern (lace, or huck) takes two extra shafts, and two extra treadles, but there is also a possibility of weaving half-blocks, which makes the whole problem more interesting but also more complicated.



treadling, with the tabby adjusted as may be necessary. Fig.3 shows an example of such a small pattern in which all four textures were used: half-a-unit of vertical huck, half of horizontal huck, and half of lace.

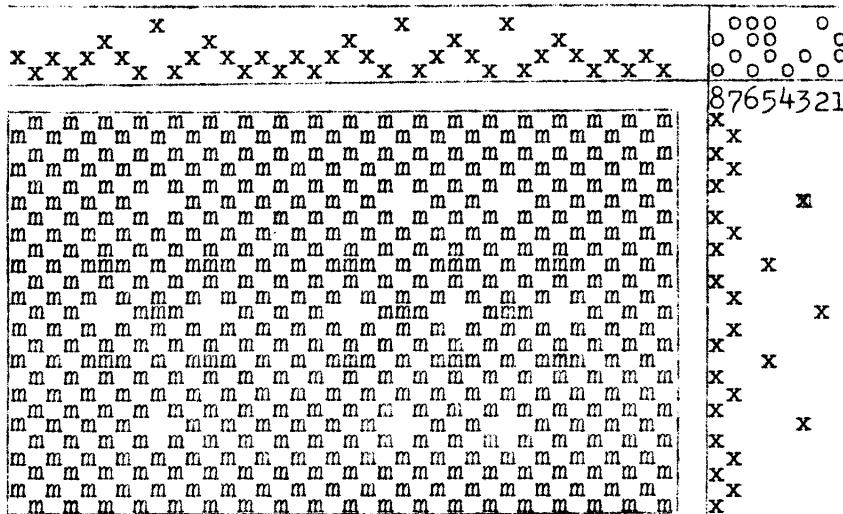


Fig.3

There is a large number of possible combinations of these textures, and experiments should be done on the loom rather than on graph-paper.

We shall give drafts for two PRACTICAL PROJECTS. The yarn, sett of warp etc. are as usual for huckaback. Fig.4 shows a draft for large blocks, and fig.5 a draft for small patterns.

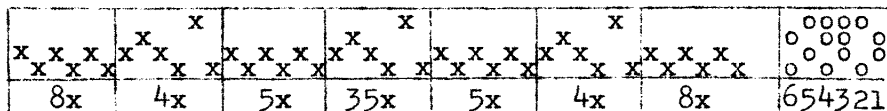


Fig.4

Treadling: 656565 - 12x; 636545 - 4x; 656565 - 5x; 616525 - 50x; 656565 - 5x; 636545 - 4x; 656565 - 12x.

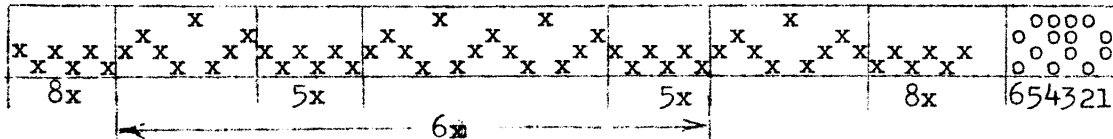


Fig.5

Treadling: 565656 - 12x;  
 (525616525616525; 656565 - 5x; 6; 525636545616525616545636  
 525; 656565 - 5x;) - 9x;  
 525616525616525; 656565 - 12x.

Here as in all huckaback project it is very important to weave an exactly 50:50 fabric.

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MULTISHAFT HUCK & LACE

With a higher number of shafts we have not only a higher number of blocks of pattern, but also the possibility of having independent areas of huck or lace in both directions, and not only in the vertical, as is mainly the case with four shafts. Figs.6 and 7 illustrate some of these possibilities.

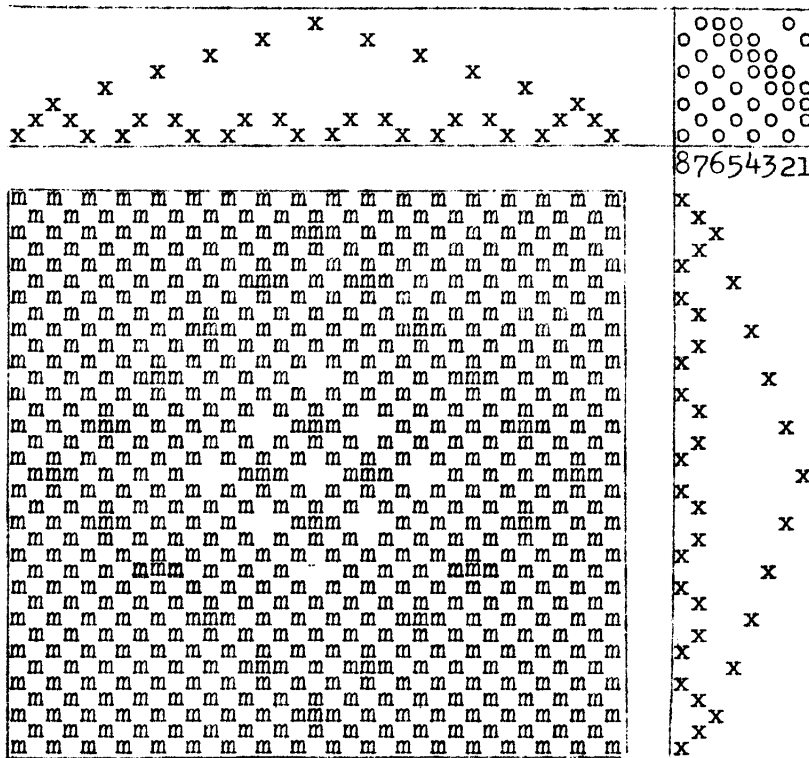


Fig.6

In fig.6 we have a large diamond of horizontal huckaback, a small diamond of vertical huck inside, and 1½ unit of lace right in the centre. Actually the lace and vertical huck merge. The tie-up except for tabby looks more as a high twill than a huckaback. This is because we are not using here both treadles of each block of pattern.

How do we arrive at the tie-up then?

The method used for large blocks is comparatively easy, and we shall describe it first. Patterns shown in fig.6 must be handled in a different way.

When working with large patterns written in full units of huckaback, we first make a sketch of the pattern desired, and then a short draw-down on graph-paper. We use four different symbols for the four textures. For instance blank spaces for tabby, "-" for horizontal huck, "o" - vertical huck, and "x" - lace.

Then of course we analyze the pattern in the same way as for instance Swivel where different symbols must be used for different colours. Since the draw-down is made as a short draw-down (block-out), after analysis we shall get a profile instead of a threading draft, a short treading draft, and finally a short tie-up with the same symbols as used in the draw-down. Fig 7 is an example of such analysis.

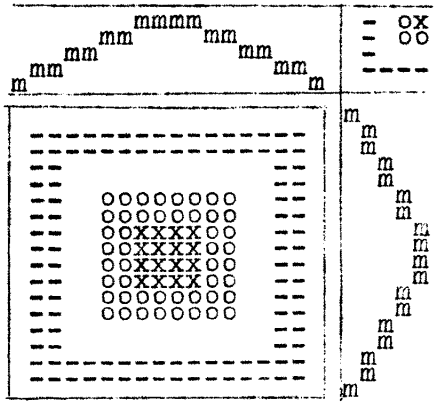


Fig.7

To develop this short draft into a full one we first replace squares ("m") in the profile by units of huck or tabby. These units are as follows (numbers indicate shafts): ground (the lowest line of the profile): 212121; 1-st block of pattern - 232141; 2-nd block - 252161; 3-rd block - 272181; 4-th block - 2,9,2, 1,10,1. And so on. Thus our draft

will be as in fig.8. We replace here each "m" in the profile by 3 units of huck. It could be as well 4, 5, 6, or more units according to the size of the woven article.

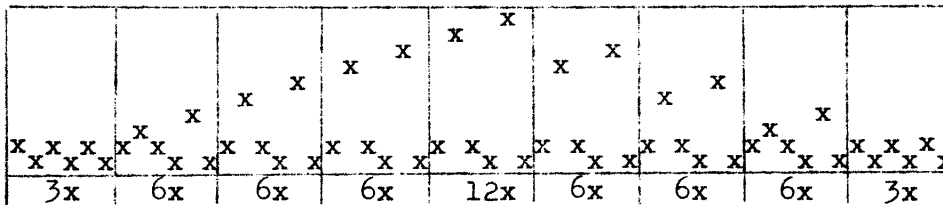
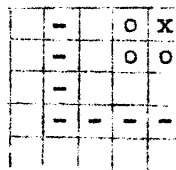


Fig.8

This draft when written as above in a condensed form looks very unsymmetrical, but with large blocks it does not matter. Now for the tie-up. Each tiny space of the short tie-up must be replaced by:  $\begin{bmatrix} o & o \end{bmatrix}$  for tabby;  $\begin{bmatrix} oo \\ oo \end{bmatrix}$  for huck (horiz.);  $\begin{bmatrix} \phantom{o} \\ \phantom{o} \end{bmatrix}$  for huck (vert.); and  $\begin{bmatrix} o \\ o \end{bmatrix}$  for lace. What we get then is shown in fig.9.



is the same as:

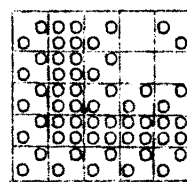


Fig.9

This is the only method of designing patterns. Any "trial-and-error" method could be tried only on a table loom without tie-up.

Drafts with small blocks and intricate design must be symmetrical as in fig.6. This means that we are using normal units of huck (in threading) when the diagonal on pattern shafts goes up from left to right, and reversed units when the diagonal goes down. This is not quite precise description however of what happens, because the central unit is always deformed. Thus we can say that we make the first half of the draft from left to right in the usual way, and then reverse it from the centre.

The tie-ups are tricky because we do not need all treadles required for all combinations of blocks and textures. For instance draft in fig.6 has six such combinations, and should have  $2 \times 6 = 12$  plus 2 (for tabby) = 14 treadles. Yet, since we are using only one half of each unit, we need only 8 treadles tabby included.

The best way to establish the tie-up for small patterns is to make a complete draw-down, and then analyze it.

For larger patterns of the same type we make a short draw-down, and also analyze it. But this time a square of the profile represents one half of a unit. Thus the first line of the profile corresponds to tabby, and has an even

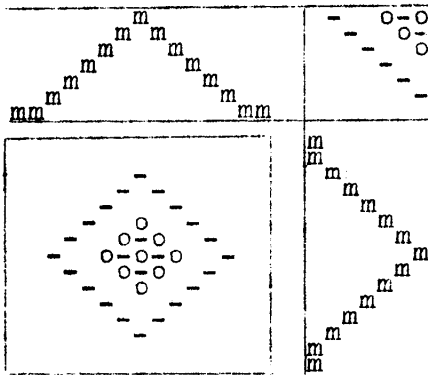


Fig.10

number of squares. Each two squares mean either: 121212 or 212121, whichever fits the next half-unit of huck. The second line (one square) is: 232; the third: 141; the 4-th: 252; the 5-th: 161; the 6-th: 272; the 7-th: 181.

The short tie-up (fig.10) is the result of analyzing the draw-down, but this time the symbols indicate only the directions of floats: "-" for horizontal float, and "o" for vertical float. When the two floats alternate in both directions we have lace, so that there is no need to introduce a third symbol.

To produce a horizontal float, we must add one tie to the tie-up of a tabby treadle, and to produce a vertical float we must remove one tie from a tabby treadle.

To start translating the short tie-up into a full one, we first mark tabby tie-up on all treadles (fig.11 A). Then we fill the

tabby treadles and the ground shafts (fig.11 B). The next step is to add the ties for horizontal floats (fig.11 C), and then to remove the ties for vertical floats (fig.11 D). Finally we replace the remaining dots by circles (fig.11 E).

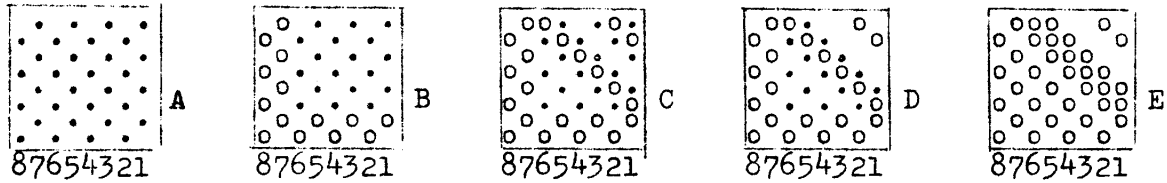


Fig.11

When we compare this tie-up with the one on fig.6 we find that they are identical, which is as it should be, because the short draw-down in fig.10 represents the same piece of weaving as the draw-down in fig.6.

There is one more question we must answer: what if we have in the same project large areas of huck and/or lace, as well as small symmetrical patterns?

Here we cannot use the method shown in fig.7. We must proceed as if the whole project were of the second type, that is as in fig.10.

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## QUIZZ IN OVERSHOT.

I believe that it is Saturday Evening Post which publishes short quizzes under the provoking title: "So you think you know baseball?". The same could be done with Overshot. There is no end of puzzling problems. Here is one.

If we consider a very small pattern of four blocks, all of the same size, the question is: how many symmetrical variations of this pattern can we weave?

There are three traditional variations (A,B,C fig.1), and the three variations which appear at the back of the fabric (D,E,F).

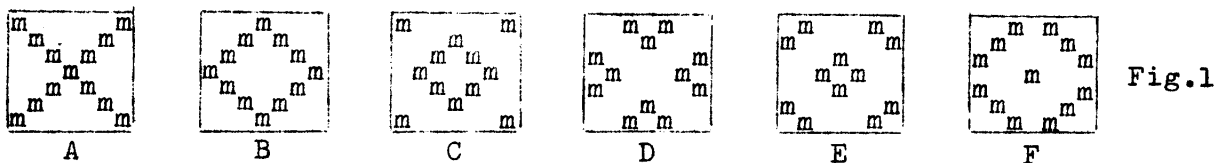


Fig.1

But in theory there should be two more variations with four blocks of