

With two blocks of pattern (4 frames) we have four possible combinations: 1) - two blocks together (fig.3); 2) - 1-st block only; 3) - 2-nd block only; 4) - no blocks (ground only).

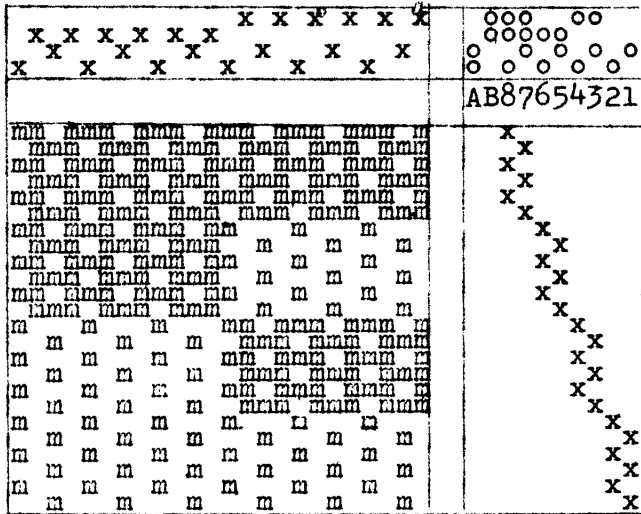
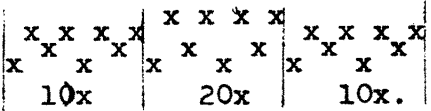


Fig.3

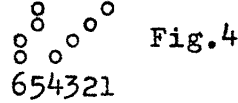
Both blocks
 1-st block.
 2-nd block,
 ground only.

Now let us go back to the 11-th lesson of Drafting (MW 24/9). All patterns in fig.2 can be woven with our new tie-up from a threading draft which will be more or less as follows:



Before we can start weaving we have another problem, which becomes obvious if we as much as glance on the tie-up. There are 10 treadles in it, when nearly all 4-frame looms have only 6. There is only one solution here: to use compound tie-ups and press two treadles at the same time. The best tie-up of this kind is shown in fig.4. We keep the tabby treadles as in the original tie-up, because we use them more often, so that at least the binder can be woven with one foot. For the remaining pattern-shed we have the following combinations of treadles: 1 (in fig.3) = 3 (in fig.4); 2 = 4; 3 = 1 & 3; 4 = 1 & 4; 5 = 2 & 3; 6 = 2 & 4; 7 = 3 & 5; 8 = 4 & 5.

The situation would be still worse in case of a 6-frame draft for Summer-&-Winter. Here we have 4 blocks and 16 possible combinations: 1) ground only; 2) 1-st block; 3) 2-nd; 4) 3-rd; 5) 4-th; 6) 1-st + 2-nd; 7) 1-st + 3-rd; 8) 1-st + 4-th; 9) 2-nd + 3-rd; 10) 2-nd + 4-th; 11) 3-rd + 4-th; 12) 1-st + 2-nd + 3-rd; 13) 1-st + 2-nd + 4th; 14) 1-st + 3-rd + 4-th; 15) 2-nd + 3-rd + 4-th; 16) all blocks together. With 16 combinations and 2 treadles for each, plus two treadles for the tabby we would have in all 34 treadles. In such a case even a compound tie-up is not enough. We must therefore first decide upon the pattern to be woven, and then tie only these treadles which are going to be used in this particular piece. A change of the pattern may require a change of the tie-up.



With 6 blocks of pattern on 8 frames the number of treadles necessary for all possible combination is so high that it is useless even to speculate upon it. Therefore in all cases where the number of blocks is higher than 2, we can use a special method of finding out the tie-up by analysis of the pattern:

- 1) Make a small draw-down (block-out) of the pattern on graph-paper, as in fig.5.
- 2) Analyse it in the same way as we analyse a fabric (compare MW Nos.2 and 3, 1952, or Vol.2: Analysis of Fabrics, and Analysis of Patterns). What we get in result is: The short threading draft or Profile (A), the short treadling draft (C), and the short tie-up draft (B). Here we are concerned only with the last part of the draft.
- 3) Develop the short-tie-up-draft into a full one as in fig. 6. This requires taking twice each vertical line of the short draft which gives us part "b" of the full draft. Then we add tabby treadles (part "a"), and the alternate ties on the first two frames (part "c"). When making the full draft from the short one, we must remember that the empty spaces on the short tie-up count also, both in the horizontal and in the vertical direction, and that the vertical ones must be doubled too.

Very often this is the end of the analysis. But in our case it is not, because the number of treadles is still too high. The draft asks for 8 frames and 16 treadles. Now comes the next step:

- 4) Make a compound tie-up by adding to the short tie-up the tabby treadles, and the two ground treadles (tied to frames 1 and 2 respectively). What we get is the tie-up on fig.7.

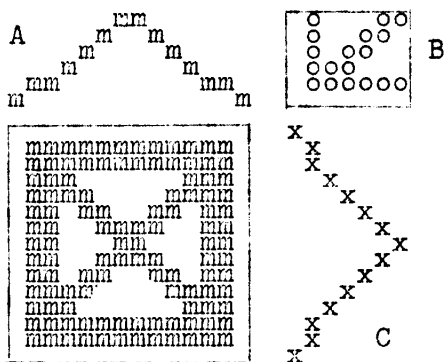


Fig.5

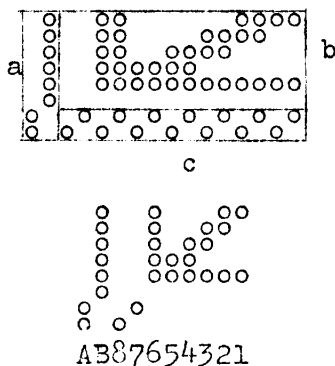


Fig.6

Fig.7

This looks better. There are only 10 treadles which is the right number for any 8 frame loom. The repeats of treadling (taken as many times as necessary) will be as follows:

- 1) 8,A,7,B; 2) 8+6,A,7+6,B; 3) 8+5,A,7+5,B; 4) 8+4,A,7+4,B;
- 5) 8+3,A,7+3,B; 6) 8+2,A,7+2,B; 7) 8+1,A,7+1,B.

One may say that there was no need to pass through the 3-rd stage at all. In our case we could skip it. But this 3-rd step will be used always instead of the 4-th when we have a sufficient number of treadles.

Summer-&-Winter is such an extensive subject that we could not possibly discuss its all problems here. The reader who is interested in the traditional methods of weaving should read carefully the corresponding chapter in M. Atwater's "Shuttlecraft of American Handweaving", and other works by the same author. We shall however say a few words about the less known applications of this weave.

First of all, since the weave has an excellent texture, with short floats, it can be used for 3D effects, where the weft is of prime importance. The superiority of S-&-W over tabby is obvious: if properly used it throws all the weft on one side of the fabric. The threading draft is of no importance because the pattern won't appear at all - thus any draft will do. What is changed is the tie-up, which must be as in fig.8 A for sinking shed (counterbalanced

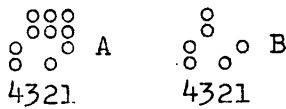


Fig. 8.

looms, and in fig.8 B for rising shed (jack-type looms). The treading in both cases is the same: 1,3,2,4 with "3D" weft on treadles 1 and 2, and fine binder on 3 and 4.

If the heavy weft is really soft and heavy we may try also: 1,3,4,2,3,4. On the other hand, if short floats in warp on the back of the fabric are not objectionable we may use just the opposite combination: 1,2,3,1,2,4 or even: 1,2,1,3,2,1,2,4, always with binder on 3 and 4.

Any traditional S-&-W draft can be simplified (and thus "modernised") by eliminating one block of the pattern. This applies only to the 4-frame drafts. For instance the pattern in fig.9 A, may be changed into 9 B simply by untying two ties in the tie-up.

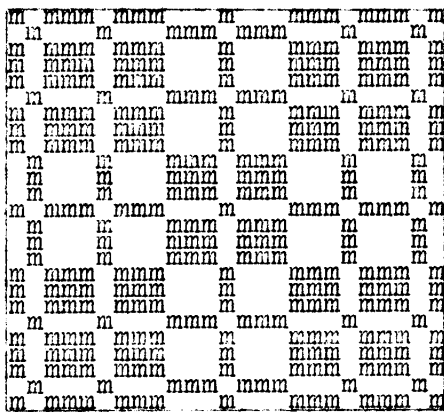


Fig. 9 A.

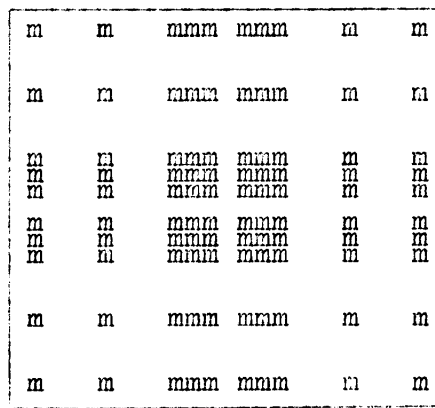
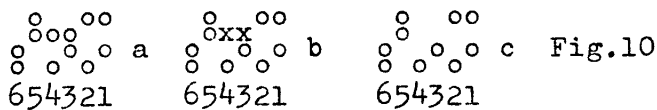


Fig. 9 B.

In the first case the tie-up has been traditional one as in fig.10



"a". If the first block which we have eliminated has been written on frame 3, then we untie the ties marked on on fig.10 "b", and we get the tie-up in

fig 10 "c". Otherwise nothing is changed, particularly NOT the treading. We still treadle as if weaving the traditional pattern.

