SUMMER & WINTER.

This weave, as far as can be ascertained, was not known or at least used in Great Britain up the end of the 19th century, therefore it could not come here from British Isles. On the other hand it was and still is very well known in Finland, therefore we can reasonably suppose that it was brought to North America by Finnish settlers, as well as the Crackle Weave.

There is a close relationship between these two weaves. Both have floats of 3 in the blocks of pattern, and floats of 2 where two blocks join each other. The drafts look different, but are they really? Let us take a S-&-W draft as in fig.la, and compare it with a draft for Crackle of the same length written only for two blocks (units: 1232, and 3414) and treadled as in fig.l b. There is not

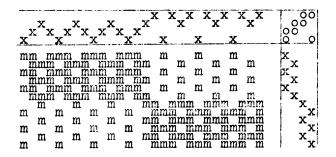


Fig.l a.

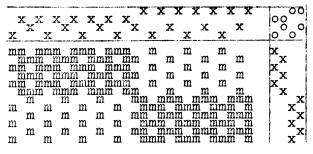


Fig.1 b.

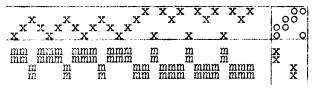


Fig.2 a.

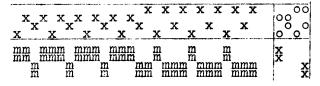


Fig.2 b.

the slightest difference between the two draw-downs. Now we shall take two more examples: crackle woven as crackle (fig. 2 a) and S-&-W woven with only one treadle in each block of pattern (fig.2 b). In the last two figures we have made only two picks of weft on each block, but of course a larger number of picks will not change anything. And again we have identical results. Therefore we are entitled to say that Summer-&-Winter is a Crackle written on opposites with each block woven on two treadles instead of one.

The real difference between S-&-W and Crackle is not in the threading and tie-up, but in the treadling only. Thus any draft for crackle can be woven as S-&-W, and any draft for S-&-W can be woven as crackle, like in fig.2 b.

Finally both of them can be woven "as-drawn-in", in the same way as diamond-twill or overshot.

Summer-and-Winter has one advantage over plain, four-block crackle, that the blocks of pattern can be combined at will. 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).

**************************************	8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Fig.3
	x x x x	Both blocks
mm mmin mini m m m m m m m m m m m m m m	xx xx xx xx xx xx	l-st block.
	x	2-nd block,
	x x x x x	ground only.

Now let us go back to the l1-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,

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.

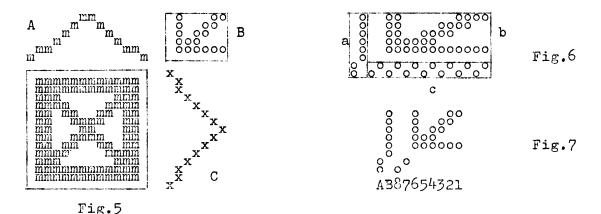
The situation would be still worse in case of a 6-frame draft for Summer-&-Winter. Here we have 4 blocks and 16 possible combinations: 1) ground only; 2) 1-st block; 3) 2-nd; 4) 3-rd; 5) 4-th; 6) 1-st + 2-nd; 7) 1-st + 3-rd; 8) 1-st + 4-th; 9) 2-nd + 3-rd; 10) 2-nd + 4-th; 11) 3-rd + 4-th; 12) 1-st + 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 that 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.



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.

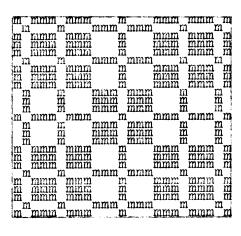
First of all, since the weave has an excellent texture, with short floats, it can be used for 3D effects, where the weft is of prime importance. The superiority of S-&-W over tabby is obvious: if properly used it throwsall the weft on one side of the fabric. The threading draft is of no importance because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

looms, and in fig.8 B for rising shed (jack-type looms). The treadling 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 <u>simplified</u> (and thus "mo dernised") 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.



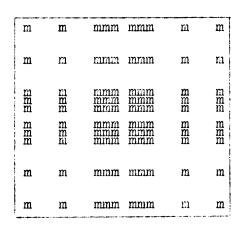


Fig.9 A.

Fig.9 B.

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

00000000000000000000000000000000000000	o b	0 00 0 0 0 0 654321	Fig.10
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"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, perticularly NOT the treadling. We still treadle as if weaving the traditional pattern.

In the same way we could eliminate block 2 instead of block 1, by untying the two upper ties on treadles 1 and 2, instead of 3 and 4.

The "four-harness" weavers are often tempted to weave some sort of a fabric which would look like damask. It seems that linen overshot is called "poor man's damask" in Scandinavia, and some books published here call overshot: semi-damask. This is nonsence of course - the structure of overshot is entirely different from damask. But summer-and-winter has many characteristics in common with an 8-frame damask. A fair imitation of damask can be made with S-&-W in the following way:

Use pure linen all through - for warp, pattern weft and binder. It can all be the same yarn, and of the same colour, but we shall get the best results with two slightly different yarns: fine, hard twist for warp and binder, and softer and a little heavier for pattern weft. The colour of the pattern weft again should be slightly different. For instance: natural and half-bleached, or half-bleached and bleached (but not natural and bleached).

The pattern can be traditional or modern, but traditional two-block patterns are more associated with 8-frame damask; therefore they are preferable.

Practical Project.

Place mats in No.16 single half-bleached linen.

Warp: 14" wide in reed, 24 ends per inch, 336 ends. No 12 reed, 2 ends per dent.

Threading Profile:

Replace each "m" in the lower line by: 13231323, and in the upper line by 14241424. The selvedge on the right ("s") is 1423, and on the left: 1324. Read the draft from the right, or reverse the selvedges if you read from the left.

In treadling square the pattern for serviettes, and make 5 (instead of 3) squares for the place-mats.

The damask effect will not show until the fabric is well washed (it may be boiled) and ironed. Iron damp with very hot aron through a piece of cotton first (it will be scorched before the linen is damaged). Finish with iron directly on the linen.
