

That the pattern and colours will be rather in the warp, and the weaving will be performed with one shuttle. It is immaterial whether your weavers use flying shuttles or not. The difference in speed between a flying shuttle and a hand one is not as great as it is usually advertised. But the difference between one and two shuttles used alternately is enormous.

It becomes clear at this stage that the two classes of weavers - these who try to make money, and these who want remain true to the craft - are not a competition to each other. They produce different goods at different prices.

The industrial handweaving should not be condemned indiscriminately. Occasionally it develops into valuable and creative movement, like Rodier's organisation in France, or weaving communities in the British Isles. Such groups can supply weavers with equipment which they could never afford working on their own, and thus produce textiles too expensive to make for both the power loom, and the individual craftsman.

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## DROPPED WEAVES

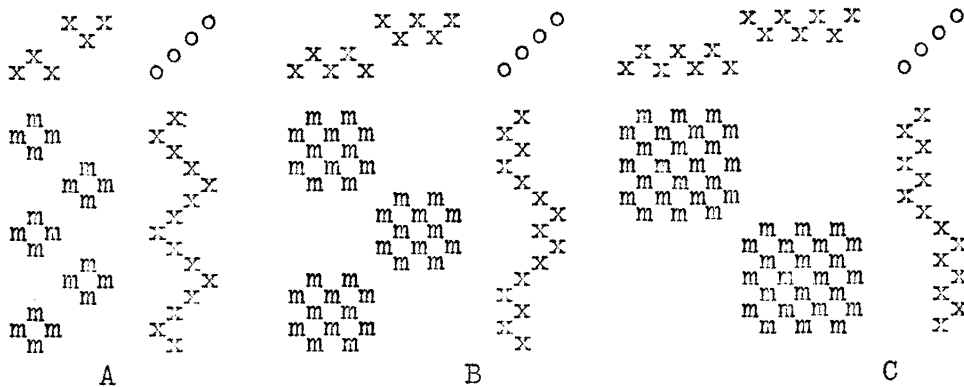
There is a whole group of weaves in which the pattern (usually of the spot type) is produced by small parts of the fabric not being woven. It means that in the blocks of pattern the warp and weft are not interwoven at all - they form floats: horizontal on one side of the fabric and vertical on the other. The difference between the plain Spot Weaves (Bronson, etc) and Dropped Weaves is that in the first case the floats are separated by tabby, and in the second they are not. The first impression is that such a fabric would be extremely flimsy, since a certain part of it is not woven, but in practice as much as 50% of the cloth may remain unwoven, and still the whole is quite firm, although rather soft. This principle of "dropping the stitches" as it were, to produce either pattern or a soft texture, may be applied to any basic weave, particularly to tabby and twill.

When weaving simple patterns or texture, an ordinary loom, preferably a jack-type, counterbalanced with shed regulator, or a double tie-up can be used. With more involved patterns too many frames are necessary and it is easier to use a pattern harness (see MW No.7). For plain tabby in the ground 2 frames are needed for each block of pattern plus two for the ground (i.e. 10 for 4-block pattern). For 3:1 twill we must have 4 frames for each block plus 4 for the ground which means 20 frames for 4 blocks. The 2:1 twill takes only 3 frames per block and ground, or 15 for 4 blocks.

To avoid very long floats the blocks of pattern should not be combined, i.e. two or more blocks should not be woven at the same time, unless they are very small or separated by the ground. We shall return to this problem later on.

The simplest possible case of dropped weaves is dropped tabby woven on 4 frames. It gives either: a 2-block texture, single block spot pattern, or a single block all-over pattern.

For a dropped tabby texture either of the drafts in Fig.1 can be used.



A is suitable for coarse yarn, B for a finer one, and C for the finest. In all three cases we shall have a rather soft but heavy fabric. It can be used for heavy curtains, bedspreads, blankets etc. In all cases a rather close sett of warp should be used.

Only single block patterns can be woven on 4 frames. They are made entirely of small square spots (fig.2). These can be of

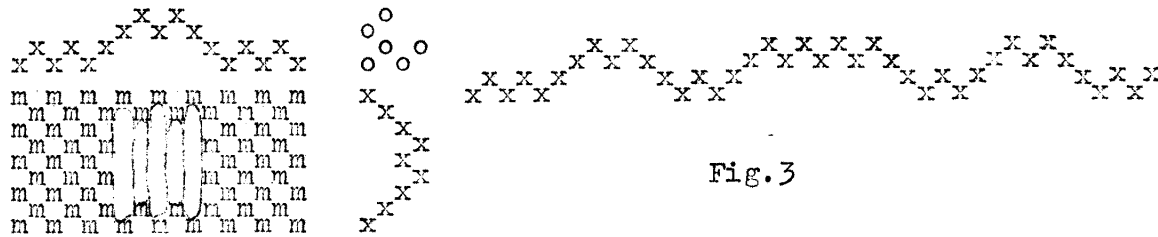


Fig.2

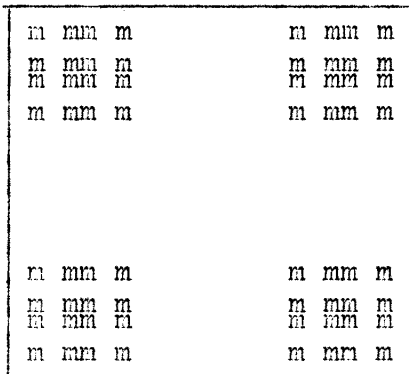


Fig.4

different size as long as the floats both in warp and in weft are not too long. Fig.3 shows an example of threading for a small pattern which can be used on corners of place mats etc. See fig.4. The same draft may be developed into an all-over pattern simply by repeating the pattern several times both in threading and treading.

Six frames give us a two-block pattern. If the two blocks are woven simultaneously in any part of the pattern they should be separated in threading by two warp ends on the first and second frame - to avoid long floats. In treading the blocks must be separated in a similar way by two shots of tabby ground. An example of a two-block pattern is given in fig.5. Frames 1

and 2 (ground frames) carry most of the warp since they weave the ground, when other frames (2 for each block) produce the pattern. When we examine the tie-up, we may notice that the pattern appears whenever there is a tie "dropped" from the tabby tie-up. Thus treadles 5 and 6 have two ties missing when compared with treadles 7 and 8 (tabby treadles), and these missing ties correspond to

frames 3 and 4. Consequently the block threaded on 3 and 4 is not woven (is dropped) when these treadles are used.

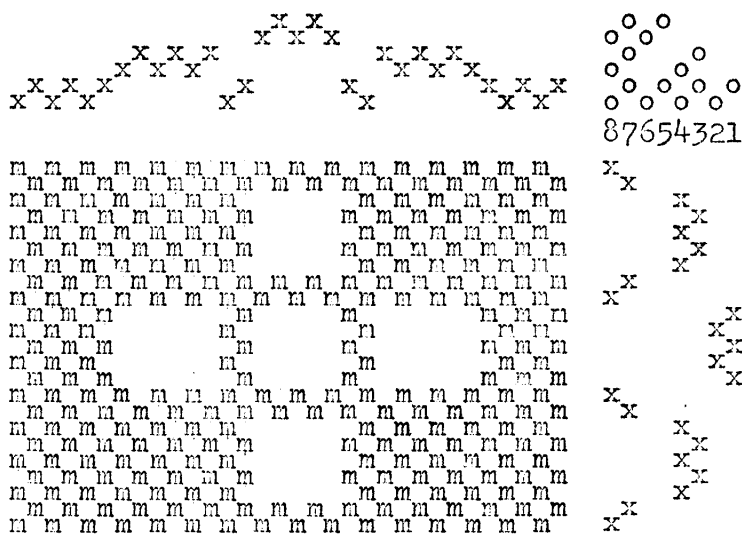


Fig. 5

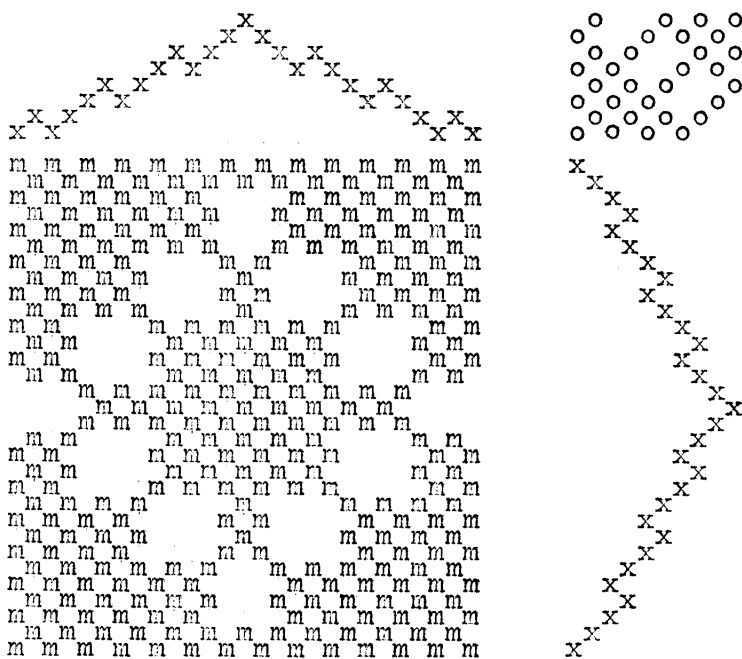


Fig. 6

floats (fig.7). It is characteristic for this period of weaving, that to get a neat diamond of less than half an inch in diameter, as many as ten heddle-frames were used.

Dropped Twills.

In all previously described weaves, the ground was tabby. In a similar way we may have twills in the ground. The simplest will be of course 1:2 twill. Here 3 frames for the ground and 3 for each

Treadles 1 and 2 weave the ground only, thus both blocks of pattern remain unwoven. It is evident now that if we did not place the two heddles on frames 1 and 2 between blocks of pattern we would have in the last case floats as long as the whole pattern.

When designing patterns in dropped weaves, it is advisable to keep the groups of spots rather well separated with tabby - otherwise the fabric will become rather weak in places. When larger patterns are attempted on a higher number of frames, it is better to use the blocks singly - then they do not need to be separated as in fig.5. A four block diamond woven on 8 frames is shown in fig.6.

The dropped tabby weave described above has been known in the 18th and 19th century as "Paper Spots", and woven on a rather large number of frames. The spots were small, so that several blocks of pattern could be woven together without producing too long

block of pattern will be required. Thus the simplest one-block dropped twill can be woven on 6 frames (fig.8). If several spots are used in a row, they must be separated by one repeat (3 ends) of the twill on the ground frames (figs.9 and 11).

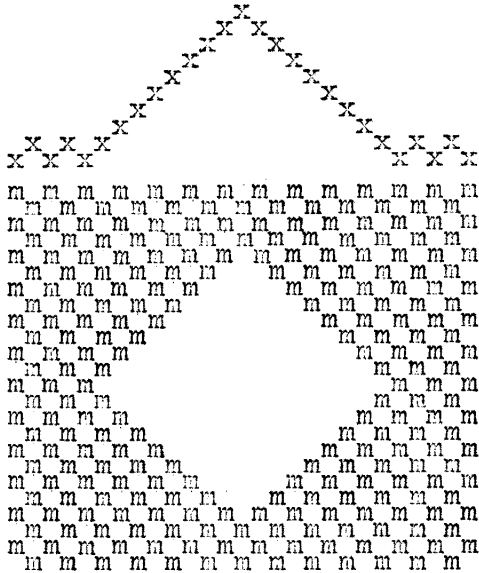
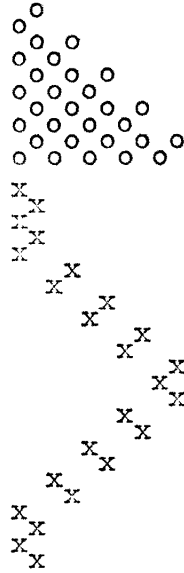


Fig. 7



Two block pattern can be woven on 9 frames, as in fig. 10 and 11. In fig 10 we have very small blocks and they can be combined without separating them with ground. If the pattern is larger it is necessary to insert the ground exactly as we did in dropped tabby (figs.5 and 11).

When 3:1 twill forms the ground, the number of frames is still higher (4 per

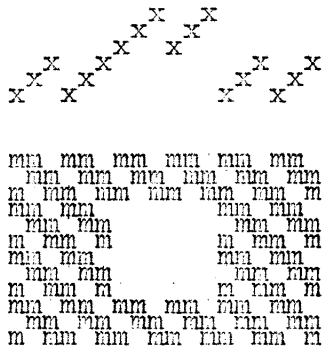


Fig.8

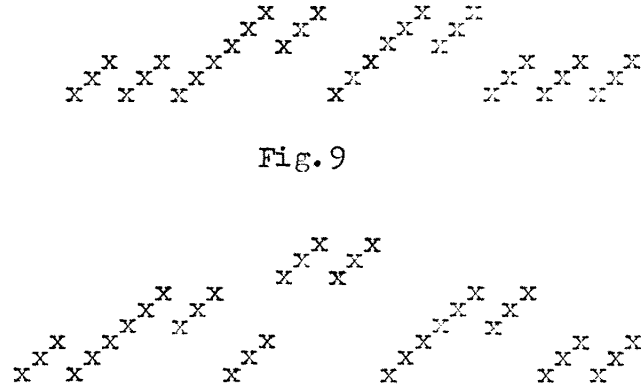
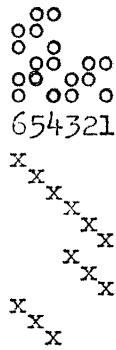


Fig.9

Fig.11

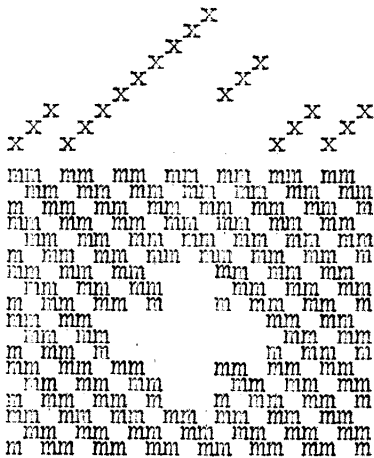
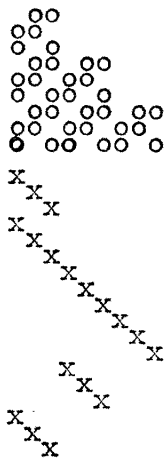


Fig.10



block). In fig.12 we have one-block pattern for this twill. The best effect is on 3:1, since then the floats in the ground go in the opposite direction to the floats in the pattern. 2:2 twill is used when we want to have the pattern visible on both sides of the fabric. Which twill will appear on the pattern side of the fabric depends only from the tie-up. In figs. 8, 10, and 12 the tie-up is for 2:1, and 3:1 twills. The wrong way

of making a tie-up is shown in fig.13. Here the floats in twill and the floats in the pattern go in the same direction.

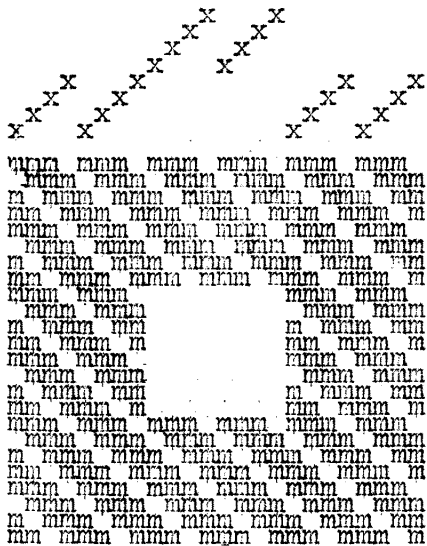


Fig.12

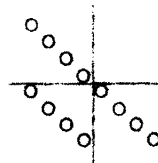
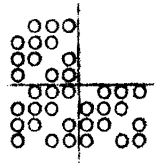


Fig.13

The tie-ups for dropped twills, although they look complicated, are really very simple. For instance in fig.12 the tie-up for plain 3:1 twill is repeated 3 times both in the vertical and in the horizontal direction. One or more of the tie-up sections has no ties at all, and these "dropped" ties correspond to the blocks of pattern.

Dropped twills can be combined with with pattern twills, so that for instance a diamond in pattern twill will contain a spot of dropped twill, also in the shape of a diamond. This however is not a dropped weave properly speaking, and belongs to the pattern twills class.

The main draw-back of the dropped weaves from the point of view of the modern handweaver is the large number of frames needed for any except the simplest patterns. However there is a simple way of weaving dropped patterns on any weave with the help of a pattern harness such as described in the 7-th issue of MW. The principle of the pattern harness is to keep groups of warp ends away from the shed, which prevents them from being interwoven with weft, and produces exactly the same result as multiharness threading drafts for dropped weaves. What is more - any pattern of a very large number of blocks can be woven without changing the threading or the tie-up. Several weaves can be made on the same threading with only small changes in the tie-up. For instance with plain threading (1234) we can have as ground: tabby, 2:2 basket, 2:2 twill, and 3:1 twill, and only in the last case the tie-up must be changed.

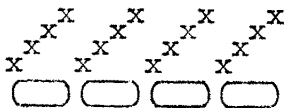


Fig.14

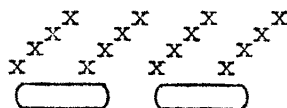


Fig.15

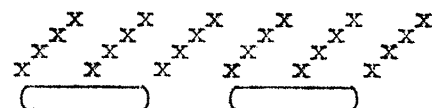


Fig.16

The threading through the long-eye heddles depends on one factor only: whether the blocks are going to be combined or not. In the first case (as in fig.5) a few ends must be skipped between two pattern heddles; in the second groups of warp ends are threaded without any spacing. Two ends are skipped for tabby, and 4 for twill.

Fig.14 shows more or less universal threading for tabby, basket, and twills with independent blocks of pattern. Fig.15 has two ends skipped between blocks and is suitable for dropped tabby- Fig.16 has four ends left between pattern heddles and can be used for 2:2 or 3:1 twill.

The technical requirements are few but important. If the whole fabric is woven in one colour, the yarn should be such that the floats are rather shiny compared with the ground. Linen, preferably single, is the best material, then mercerized cotton, or rayon. The sett should be as close as possible, i.e. the closest for the tabby or twill with the given yarn.

When one colour is used for warp and another for weft, the yarn is of less importance but the sett must be still close, so that the weft will not show through the floats in warp and vice versa.

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## INFORMATION SERVICE

### The curving-up of selvages.

Properly speaking it is not the edge which curves up, but the weft which does not form a straight line across the fabric. This effect is very common, but the explanation rather involved. There are two factors which collaborate to produce the curved line.

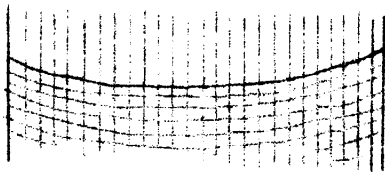


Fig.1

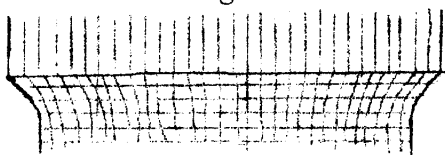


Fig.2

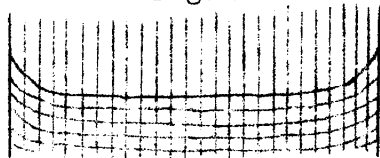


Fig.3

If the curve (fig.1) covers the whole width of the fabric, it means that there is a considerable take-up of the weft. When the warp is rather open, when the weft is elastic, and when the weaver does not leave enough weft in the shed, the take up (wrongly called "shrinkage") takes place everywhere in the fabric, not only at the edges. Then the fabric is much narrower than the warp in reed. During beating (fig.2) the weft is forced into a straight line but after the batten is released, it is the warp which straightens up, and pulls the weft away from the weaver. This pulling is greatest at the edges, and in result we have a regular curve all across the fabric.

When only the edges are curved, but elsewhere the weft lies completely straight, the weaver leaves enough weft in the shed, but he is doing it too late. If there is too much pull on the weft the warp-ends at the edge are pulled together in the former shed, and this cannot be corrected by leaving an extra length of weft in the next shed (fig.3). Thus the warp is sett much closer at the edges than in the body of the fabric. Since the take-up of the warp is more or less proportional to the sett, the warp at the edges grows "shorter" and pulls the edges up. \*\*\*\*\*