

M's-&-O's.

M's-&-O's is a peculiar weave. In its very principle it is not a very practical one, because it presents a danger of "slippage" whenever the blocks of pattern are of any size, even when the floats on the surface of the fabric are short. On the other hand it is a good texture weave. Nevertheless it is extensively used for pattern weaving and seldom if ever for texture.

Let us examine first a classical example of this weave. At the first glance the draft (fig.1) tells us the sad truth: there is

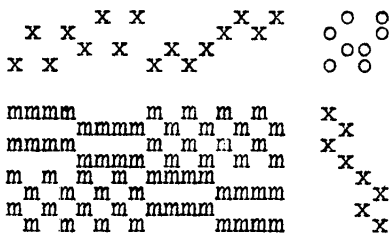


Fig.1

no way of getting solid tabby across the fabric, and this is regardless of the tie-up used. Tabby may form squares alternating with a kind of lace, but it won't make a border on all sides of the woven piece. That is, unless we sacrifice one block of the pattern. Then we can have tabby as in fig.2. It can be used for borders, but it is better if it alternates with the lace in the pattern as well. Large areas of "lace" are very unstable and produce holes.

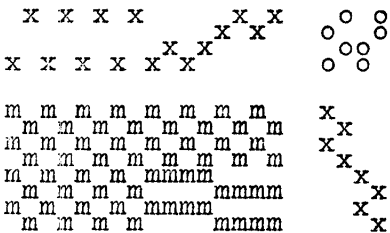


Fig.2

The lace is different from Bronson, Swedish and Huckaback lace. It has floats going in the same direction on both sides of the fabric. But inside between the

floats of weft, the warp collects into narrow bunches. This distortion of warp produces curved lines which with a certain amount of imagination can be interpreted as M's or O's.

Practical drafts for the two-block M's-&-O's, and for a single block are given below. In the first case the horizontal border is made of a mixture of tabby and floats (fig.3), in the second - of tabby (fig.4).

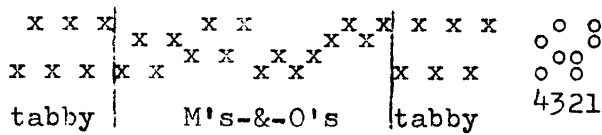


Fig.3

treadling:
border: 4321.
"lace": 4343434321212121.

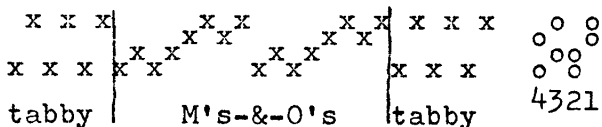


Fig.4

treadling:
border: 43.
"lace": 2121212143.

The funny thing about M's-&-O's is that it can be woven on nearly anything, that is nearly any threading draft. If we alternate several times two opposite treadles, we shall get the M's-&-O's effect. Besides this we must have plenty of tabby (at least 50%) to keep the fabric from desintegrating.

Perhaps we better explain now what we mean by "opposite" treadles. It is a pair of treadles of which one sinks anything which the other raises, and vice versa. Thus, regardless of threading, a treadle tied to frames 1 and 3 is opposite of the one tied to 2 and 4; 1 and 2 - opposite of 3 and 4, and so on. Here is the list of pairs of opposite treadles in a 4-frame loom:

13 - 24, 12 - 34, 23 - 14, 1 - 234, 2 - 134, 3 - 124, 4 - 123.

If we alternate such two treadles, we may have in result either tabby or M's-&-O's.

The real trouble with this easiest weave of all is that the floats in weft have no reason to stay in place, unless: 1-st the yarn is very rough, 2-nd, the weave is very firm (large number of ends per inch), 3-rd, the blocks of "lace" are very small. Thus we shall avoid first of all slippery yarns such as rayon, mercerized cotton, silk, two and three ply linens, nylon etc. We must set the warp close, and beat hard, which means that we cannot hope for a very "lacey" effect. The patterns must have small blocks, or at least large blocks must be divided into smaller units reinforced with tabby.

We have said that M's-&-O's can be woven on nearly any threading, and here are a few examples.

Overshot (fig.5) gives so little tabby that the fabric must be reinforced by picks of tabby, which would correspond to the vertical stripes only 2 ends wide.

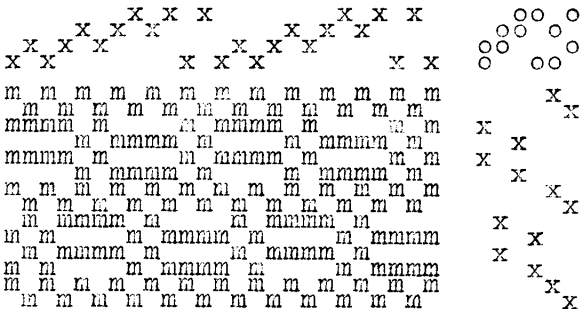


Fig.5

The whole effect is more of a texture than of pattern, but for a good texture fabric the blocks in the draft should be very short, and the sett of warp very close.

The same applies to crackle or summer-and-winter in the following examples (figs.6 and 7). Here the floats are shorter but there is still less tabby in the vertical direction.

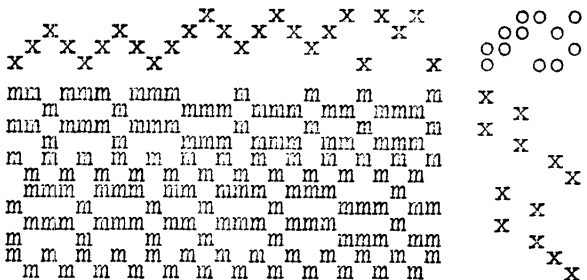


Fig.6

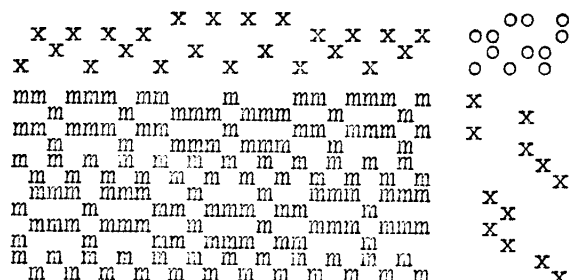


Fig.7

From this point of view much better results are obtained with Huckaback (fig.8) or Bronson (fig.9). The first gives only one

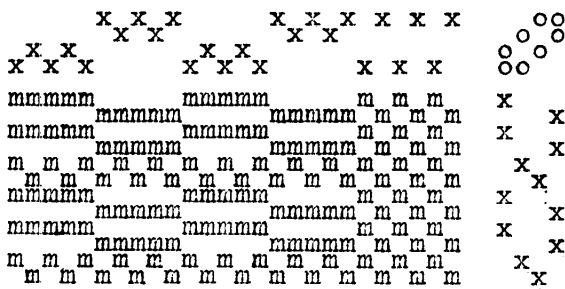


Fig.8

block of pattern, but also tabby on all sides, therefore it is much more satisfactory. The second gives two blocks of pattern plus tabby ground. The two blocks can be woven separately or together as shown on the draw-down. However this is a slightly different kind of M's-&-O's. The floats do not alternate as in Figs. 1, 2, 3, and 8, but are all in the same shed more like in the case of crackle or summer-and-winter.

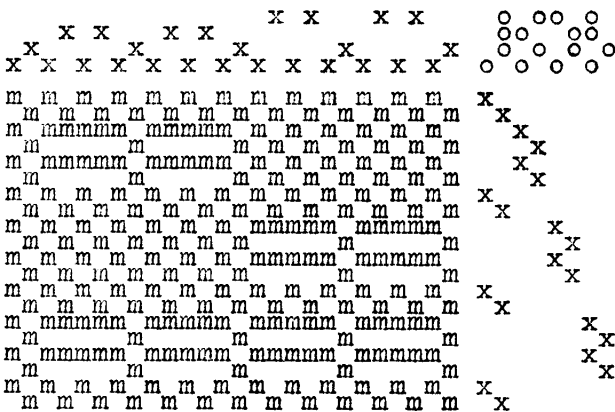


Fig.9

Swedish lace gives also 2 blocks of the same type as Bronson, and the two blocks can be woven at the same time (fig.10). The only difference between Bronson and Swedish Lace is that when combining the blocks we have floats in alternate sheds. In our example on fig.10 the floats are shorter than in Bronson, but the latter can be drafted also with short floats. The only advantage of Swedish lace in this case is that the threading draft is better balanced.

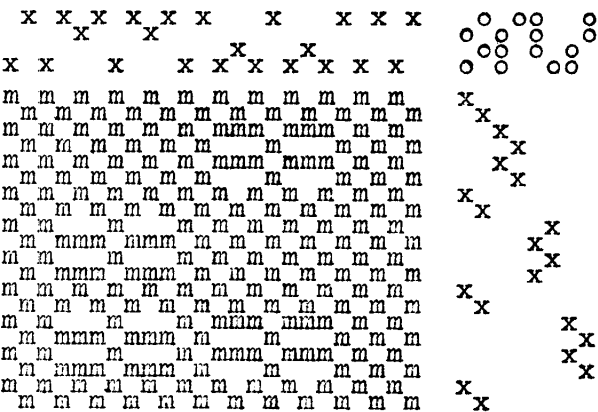


Fig.10

From what we have discussed so far we may deduct the following observations:

1-st. The classical draft for M's-&-O's is the worst since it gives tabby only in one direction (vertical on 1,4). Overshot is as bad (tabby in horizontal direction only). The same applies to summer-and-winter and crackle.

2-nd. Huckaback is much better. It gives the same texture as classical M's-&-O's, and tabby in both directions.

3. Swedish Lace and Bronson Lace are the best, because they give two blocks which can be combined, and also tabby on all sides. However the texture here is a little different from the classical draft for M's-&-O's.

Let's take now two practical examples. One of huckaback, and one of Bronson. The first will give one block of pattern in the classical texture and the other two blocks but with floats in one shed.

Huckaback.

We shall start with the profile:

m mmmmm m m mmmmm m
 mmm m m mmmmmmmmm m m mmm m

It has 36 squares. With 10x10 huck it will give us 360 ends. We may use No.14 single linen set at 30 ends per inch, which will make a warp 12 inches wide. The threading draft will be as follows:

x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x
x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x
15	1x	5x	5x	5x	1x	5x	5x	5x	5x	1x	15	
x					x						x	

tie-up: $\begin{matrix} o & o \\ o & o \\ o & o \end{matrix}$; treadling: tabby - 23232323 (A),
 4321 "lace"- 1414141423 (B).

To square the pattern we take: A - 3 times, B - once, A - once, B - 5 times, A - once, B - once, A - 10 times, B - once, A - once, B - 5 times, A - once, B - once, A - 3 times.

Bronson.

Here we have two blocks separate or combined. Let us take as profile:

mmmmmm mmmmmmm mmmmmmm mmmmmmm
 mmmmm mm mmmmmmmmmmm mm mmmmmmm mm mmmmm

It has 40 squares. Since one unit of Bronson has 6 ends, we shall take 2 units per square which will give 480 ends. This set at 32 ends per inch in 16/2 cotton, will give a warp 15 inches wide. The threading draft will be:

x x x x	x x	x x	x x	x x x x	x x	x x	x x	x x x x	$\begin{matrix} o & o & o \\ o & o & o \\ o & o & o \end{matrix}$
x x x x	x x x	x x x	x x x	x x x x	x x x	x x x	x x x	x x x x	654321
10x	4x	12x	4x	20x	4x	12x	4x	10x	

treadling: tabby - 565656 (A), 1-st block - 343434 (B), both blocks - 121212 (C). The second block alone is not used in this example. To square the pattern we take: A - 10 times, C - 4 times, B - 12 times, C - 4 times, A - 20 times, C - 4 times, B - 12 times, C - 4 times, A - 10 times.

We have exhausted here all the possibilities of M's-&-O's for weaving patterns on a 4 frame loom. But when one looks for a more or less disorderly effect of texture weaving, M's-&-O's particularly in its classical form is very suitable, and presents new potentialities.
