

M's & O's

Emery Classification

Simple Weave: two elements (one warp, one weft). **Rectangular Float Weave Derived from Plain Weave.**

Weaving Category

Grouped thread weave on four shafts; this structure is unusual because it uses all four shafts for the two available blocks with different arrangements in two half blocks, also called subunits. With more shafts, the structure becomes a unit weave, using shafts 1 and 2 as the ties.

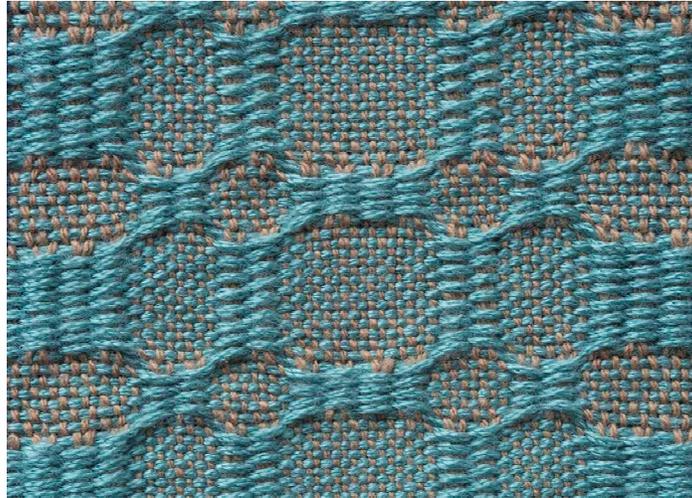
M's & O's on Four Shafts

Fabric Characteristics

The fabric below shows a sample of equal size blocks. When one block weaves floats, which are staggered, the other block weaves plain weave. The other side of the fabric has the same arrangement: the blocks with floats on one side of the fabric have floats on the other, the plain weave blocks are plain weave on both sides.

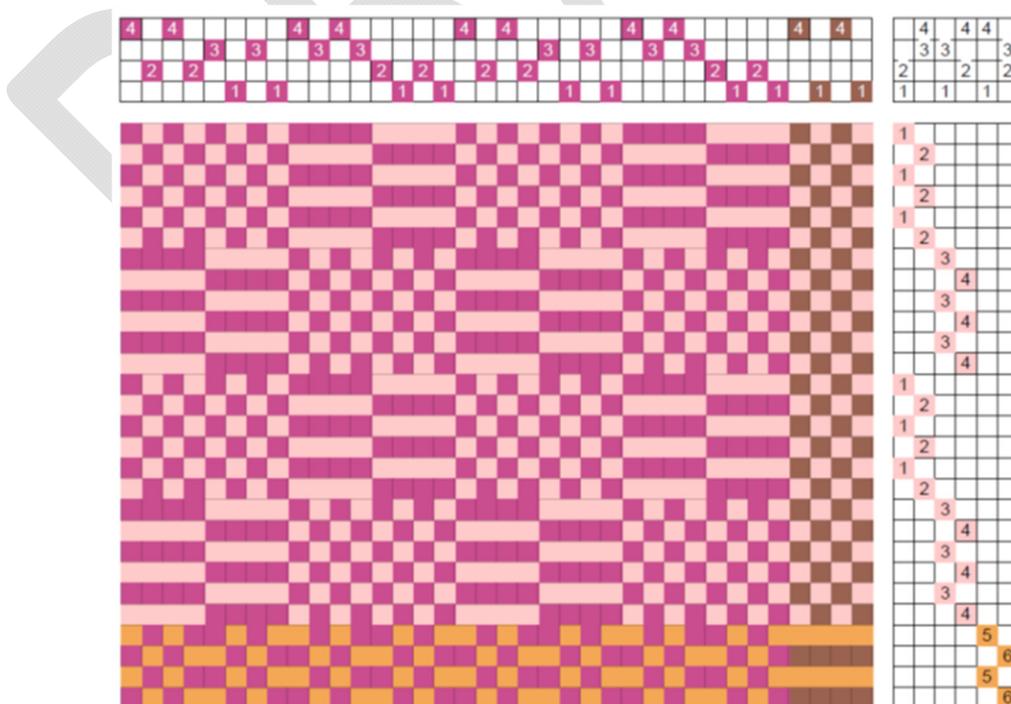


Blocks and half blocks can be of different sizes shown in the sample below. The floats of the blocks pull the threads and the plain weave spreads them, resulting in a motif that looks like M's and O's, which gives the structure its name (a bit of imagination is helpful here).



Drawdown

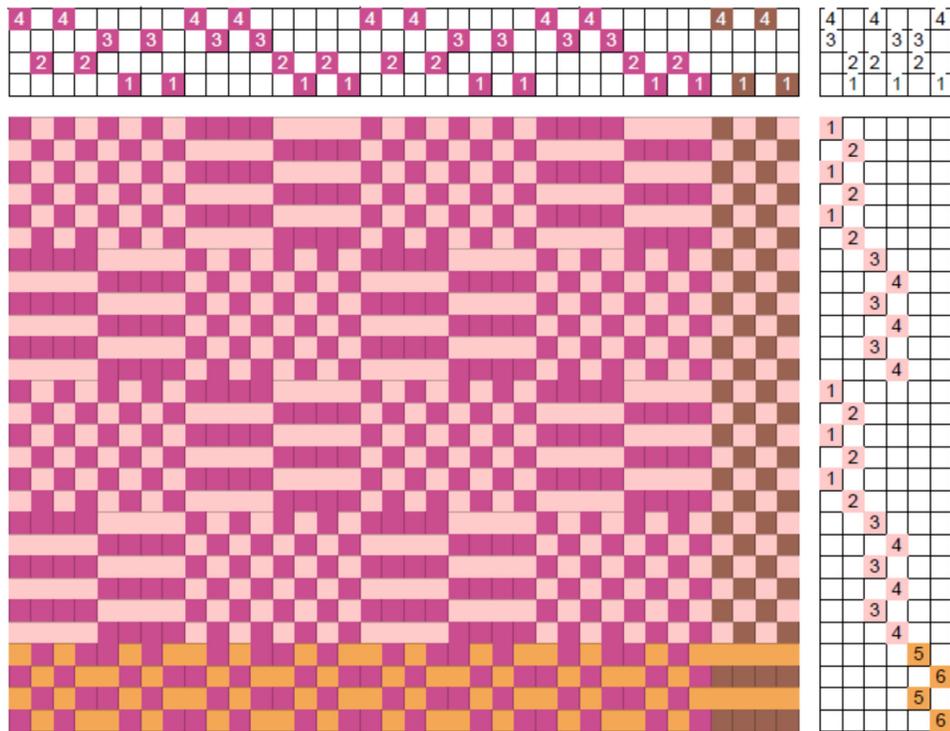
Below is the *sinking shed* drawdown showing the two blocks on four shafts, repeated. It is color-coded to emphasize the edges. Plain weave can be woven down the length of the fabric, but not across.



2 M's & O's

A half basket weave results when treadling the only two combinations of shafts not weaving blocks (1 & 4 vs. 2 & 3). However, the combination of plain weave at the edge and half basket across results in long floats where the two meet, so care must be taken to use the two of them together.

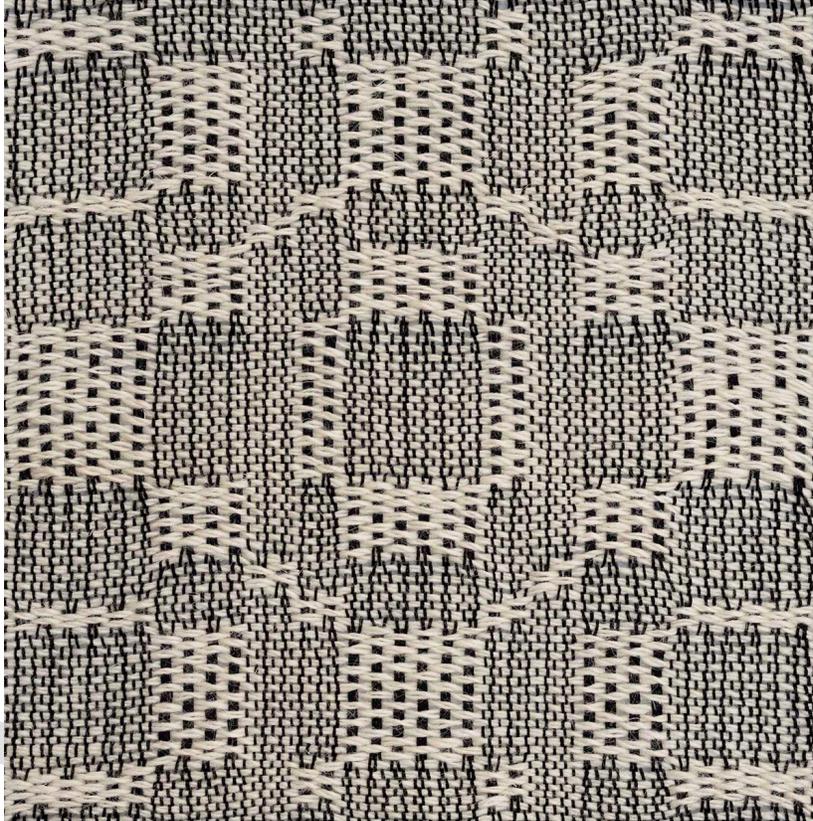
Next is the equivalent *rising shed* drawdown, which shows the other side of the fabric, but it can also be used in a rising shed loom to weave since the two sides of the fabric are equivalent.



Next is the *sinking shed* drawdown which shows the possibility of blocks and half blocks of different sizes as well as repeating blocks.

M's & O's on Eight Shafts

The photo of the M's & O's sample of eight shafts shows that blocks can be combined in the treadling, a characteristic of unit weaves.



The *sinking shed* drawdown that follows shows that shafts 1 and 2 are used as ties and alternate with the two shafts used in each block.

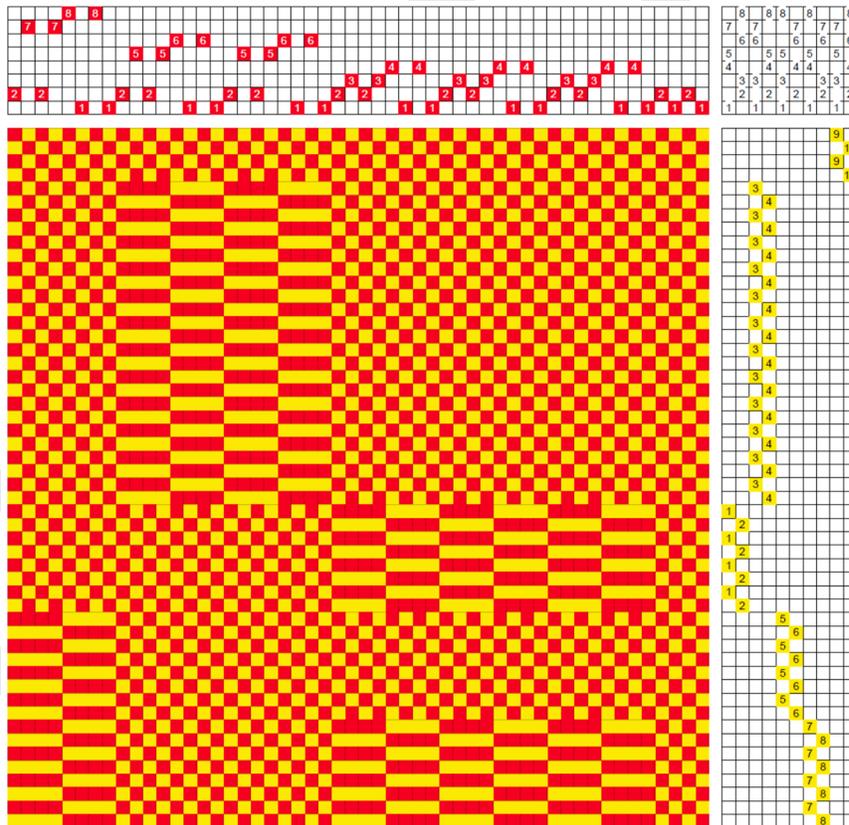
The appearance of the cloth is similar to that on four shafts: floats on the blocks are staggered, blocks not weaving floats weave plain weave.

However, plain weave can be woven down the length of the fabric as well as across the fabric.

To be able to weave plain weave across the fabric, the order of the shafts is arranged to maintain the treadling of odd vs. even shafts. Thus, block A is threaded 1, 4, 1, 4 for the first half block and 3, 2, 3, 2 for the second half block, rather than 2, 3, 2, 3.

						C				C						
			B	B			B	B	B			B	B			
A	A	A			A						A			A	A	A

A portion of the *sinking shed* drawdown for the fabric is shown below. Blocks A and C were treadled together.



When designing with this structure, I find it helpful to determine the treadling for each block with these two rules:

1st treadling step of the block: shaft 1 + even pattern shaft + all the odd shafts of the other blocks

2nd treadling step of the block: shaft 2 + odd pattern shaft + all the even shafts of the other blocks

For example, block A is threaded using pattern shafts 2 and 4. Thus the treadling for block A is:

1st treadling step: shafts 1 + 4 + 5 + 7

2nd treadling step: shafts 2 + 3 + 6 + 8

In combining the treadling of the blocks, the shafts of both blocks have to be included. Here is the example for combining the treadling of blocks A and C which uses shafts 7 and 8:

1st treadling step: shafts 1 + 4 (from A) + 8 (from C) + 5 (from B) → 1, 4, 5, 8

2nd treadling step: shafts 2 + 3 (from A) + 7 (from C) + 6 (from B) → 2, 3, 6, 7

Other Possibilities

The books listed in the references provide many options for M's & O's: Davison's for four shafts, Strickler's for eight.

References

Black, Mary E. *New Key to Weaving*. New York, NY: MacMillan Publishing Co., Inc., 1945, 1975 printing.

Davison, Marguerite Porter *A Handweaver's Pattern Book*. Marguerite P. Davison, Swarthmore, PA, 1994

Emery, Irene. *The Primary Structure of Fabrics*. Washington, D.C.: The Textile Museum, 1980.

Strickler, Carol (ed.) *A Weaver's Book of 8-Shaft Patterns from the Friends of Handwoven*. Loveland, CO: Interweave Press, 1991.