

PLAIN SWIVEL

This is one of those things we have overlooked. We had a very short article about Swivel in 1952, then one about the Turned Swivel, and one about multi-block turned Swivel, but we have never described plain Swivel in detail.

The name comes from power weaving, and this is why: when Swivel was woven for the last time on hand looms in England in the beginning of the nineteenth century, it was called Spot Weave. Thus when we re-discovered Swivel we could not possibly call it by its real name, because this was already used for Spot-Bronson, and even for the Swedish Spetsvav.

However if Swivel was forgotten by handweavers, it was not so in power weaving. There it developed to the point, that it is woven not only in tabby, but in any basic weave, or the pattern in one weave, and the ground in another, usually simpler one. But it kept its "spotty" effect, that is it was used for small patterns widely spaced on a uniform background. To save on yarn the pattern is woven locally so that the shuttle does not go across the whole shed. This special shuttle arrangement is called "swivel".

So much for the terminology.

The weave itself belongs to the class of Spot Weaves. The difference between Bronson and Swivel is very small in drafting, but enormous in practice. In theory both weaves have a tabby ground with floats in weft. But in Bronson these floats form the pattern, when in Swivel they are completely disregarded or even cut off. What is pattern in Bronson is ground in Swivel and vice versa. In Bronson we use the same colour in warp and weft, when in Swivel the pattern weft must be of a different colour than the ground.

In many cases the same threading can be used for both weaves, although usually the blocks of pattern in Swivel are much larger than in Bronson. However if the same draft is woven alternately in Swivel and Bronson, we must have two tie-ups for the pattern (the tabby is the same). Fig.1 shows such an example. To make the draw-downs more

readable the ground is marked by strokes (-), and the pattern in the usual way (m). In treading swivel ground weft is marked "x" and the pattern: "m".

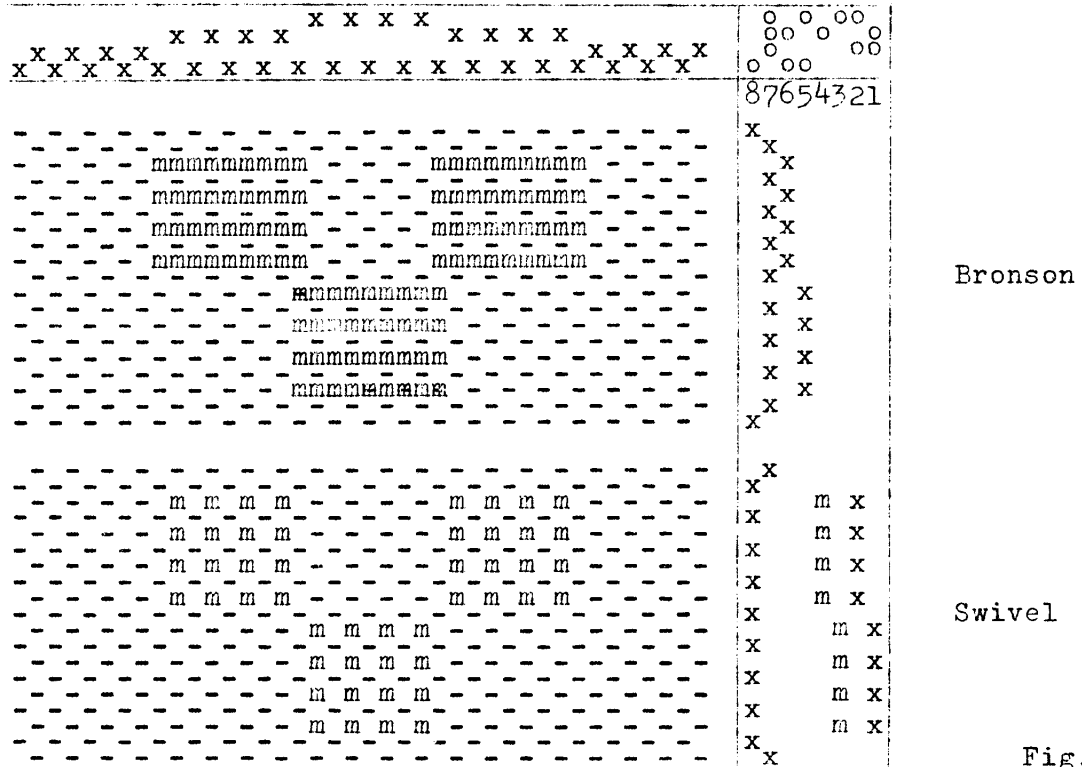


Fig.1

The upper part of the draw-down gives floats of 9 in Spot Bronson, or Spot Weave. In the lower part we have TWO shots of weft for each shed of tabby. For instance there is pattern on treadle 4, followed by ground on treadle 2. Both together make one tabby shed (3 + 2,4). Obviously there will be long floats at the back of the fabric but they do not count. Then comes the ground on the second tabby shed (treadle 8). These two sheds (3 shots of weft) are repeated until the block of pattern is squared or otherwise finished. The second block has the following sequence: pattern on treadle 3, followed by ground on treadle 1. These two again make one tabby shed (4 + 2,3). And again comes treadle 8 with ground weft.

This example should explain sufficiently the difference between Bronson and Swivel.

In handweaving Swivel is a weave which produces small patterns on plain background, and one side of the fabric is all tabby. In case of a four-shaft draft the pattern will have only two blocks, the 3-rd

block being reserved for the ground. But then by analogy we have two-block Spot Bronson. Therefore we should call this kind of Swivel: Spot-Swivel. And exactly as we have All-Over-Spot, or All-Over-Bronson (also called Barley Corn), we may have All-Over-Swivel with three blocks of pattern on 4 shafts, as in fig.2.

<pre> x x x x x x x x x x x x x x x x x x </pre>	<pre> o o o o o o o o o o o o o o o o </pre>
<pre> - m m m m - - - - - m m m m - - - - - m m m m - - - - - m m m m - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - - - - - - m m m m - - - - - m m m m - - - - - </pre>	<pre> 8 7 6 5 4 3 2 1 X X m X X m X X m X X m X X m X X m X X m X X m X X m X X m X X m X X </pre>

Fig.2

Let us now classify all the variations of the Swivel.

1. Spot Swivel. Small patterns on plain ground.
2. All-Over Swivel. Pattern covers the fabric. Draft identical or similar to Spot-Swivel.
3. Swivel Effect. All-Over pattern in tabby on tabby ground made on any traditional pattern draft: Overshot, Diamond Twill, Crackle, Summer & Winter, etc.
4. Turned Swivel. Colours both in warp and weft.

Any of the above variations can be woven on four or more shafts. There may be just one colour or more. Thus we may have: multi-block swivel; multicolour swivel; and multi-block-multicolour swivel. Finally we can use Swivel in double-weaving and call it Double Swivel.

There are three ways of weaving (treadling) any of the above variations of Swivel Weave. As an example we shall take the draft in fig.2.

First method. One shot of pattern is followed by two shots of tabby. The ground weft is about the same as warp; the pattern weft softer and a little heavier. The treadling:

- 8 -

1-st block: 6,7,8; 2-nd block: 5,7,8; 3-rd block: 4,7,8.

1-st & 2-nd Bl.: 1,7,8; 1-st & 3-rd Bl.: 2,7,8;

2-nd & 3-rd bl.: 3,7,8; 1-st & 2-nd & 3-rd bl.: 7,7,8.

This last combination of blocks requires an explanation. All three blocks mean a solid line of colour all across the fabric (No.7 treadle with pattern weft). Yet it must be followed with ground on the same treadle. Otherwise the texture of the fabric will not be the same as in case of other blocks.

The two wefts: pattern and ground run parallel at least some of the time, and they can easily twist around each other. This must be avoided at all cost. In many cases under conditions difficult to foresee this twisting does not take place. Then of course there is nothing to worry about; yet we should examine the fabric very closely from time to time. If the twisting occurs (the pattern weft disappears partly under the ground weft) we proceed as follows: after opening shed 7 we throw the shuttle with the ground weft as usual, but we do not beat. We change first to the shed 8 and beat afterwards.

Second method. The shot of pattern is followed by a shot of ground on another pattern treadle which makes one shed of tabby with the pattern, as in the lower part of fig.1. Treadle 4 after 1; tr.5 after 2; 6 after 3; 1 after 4; 2 after 5; and 3 after 6. Then both shots are followed by tabby on treadle 8. For instance:

1-st block: 6,3,8; 2-nd block: 5,2,8; 3-rd block: 4,1,8.

1-st & 2-nd bl.: 1,4,8; 1-st & 3-rd bl.: 2,5,8;

2-nd & 3-rd bl.: 3,6,8; 1-st, 2-nd & 3-rd bl.: 7,8.

This time there is no danger of the two wefts being twisted around each other. Both wefts should be of the same count, but the pattern weft should be softer than the ground.

Third method. As far as the treadling is concerned, it is exactly the same as the Second method. But now we are using three shuttles: one for the pattern, one for the ground which follows the pattern, and one for the ground on treadle 8. The first two carry weft of about the same count, but the last has a very fine weft: much finer than the warp. Thus the shots of pattern come much closer to each other.

The only difficulty with this last method is that to get good selvages we must be very careful how we cross the shuttles at the

edges; otherwise the first and last warp ends will not be woven at all or woven only part way.

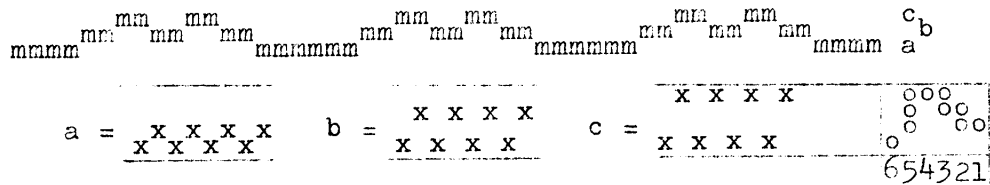
In the above methods the pattern weft does not cross the whole width of the fabric and turns back at the edge of the pattern. The slightest amount of pulling-in will result in holes or slits in the fabric. Therefore we should keep the pattern weft, and the first ground weft deliberately very slack to the point of leaving loops under the fabric at each turning point.

Two Colours in the pattern. So far we have been using only one colour, but whenever we weave two blocks at the same time (1 & 2, 1 & 3, or 2 & 3) one of them may be of a different colour than the other. For instance block 1 red and block 2 black, then the treadling in the draft in fig.2 will be: 6(red), 5(black), 4(ground), 8(ground). For block 2 red and block 3 black the treadling is: 5(red), 4(black), 6(ground), 8(ground). Finally for block 1 red and 3 black: 6(red), 4(black), 5(ground), 8(ground). The order in which treadles: 4, 5, and 6 are used does not matter, but it should be kept the same when weaving one block of pattern.

We shall discuss the use of colour in detail when speaking about multicolour Swivel.

PRACTICAL PROJECT. Cotton & Rayon place mats.

Warp: 16/2 cotton, beige; 32 ends per inch; reed No.16; two ends per dent. No. of ends: 400. Threading profile:



Weft: 10/2 rayon - red for pattern, white for ground.

Treadling: ground - 5,6 - 3 inches;

pattern - 4,2,6 - 6 times; 3,1,6 - 6 times; 4,2,6
- 6 times; 3,1,6 - 6 times; 4,2,6 - 6 times

Repeat ground 1½"; then pattern; then ground 1½"

inches, then pattern again until the length of the place mat is right.

Finish with 3" of ground.

Wash, iron, and cut the floats at the back.