

D I S T O R T E D W E F T

The term "distorted" is much older than "deflected", and this is why we use it. On the other hand we must admit that "deflected" better describes the phenomenon we are going to discuss.

On paper, that is on a draw-down, the weft runs always straight, but not so in a fabric. For that matter fabrics with a completely straight weft are very few: mostly warp-face. The weft bends around the warp ends up and down, but if the warp forms a float, the weft has a tendency to bend towards the center of this float, that is sideways. If not for this tendency, such weaves as lace, M's-&-O's, waffle, colonial honeycomb etc., would be impossible.

We have also weaves in which this distortion is not intentional, and even harmful. For instance in Overshot the pattern weft runs diagonally in most blocks; this diagonal changes direction in alternate shots of pattern weft. In Summer-&-Winter we have shots of pattern running in pairs, due to the same cause.

In this article we shall deal only with weaves which produce a pattern due entirely to the deflection or distortion of the weft, and sometimes of the warp also.

Of the traditional weaves which have a pattern in distorted weft we can mention Colonial Honeycomb (MW 17/11). Here the distortion is due to the alternate areas of tabby, which spread the fabric in all directions, when the spaces between these areas are very soft, or not woven at all (dropped tabby). Fig.1 shows an example.

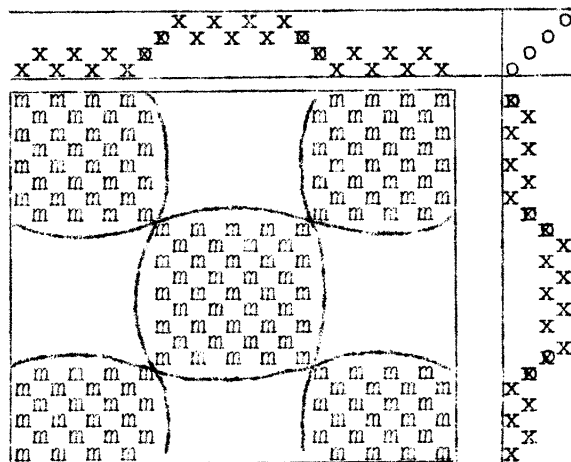


Fig.1

The fabric of this kind may be not very practical, because of comparatively long floats in warp on one side, and in weft on the other. With 8 shafts we can have alternate areas of tabby and 4:4 basket as in fig.2.

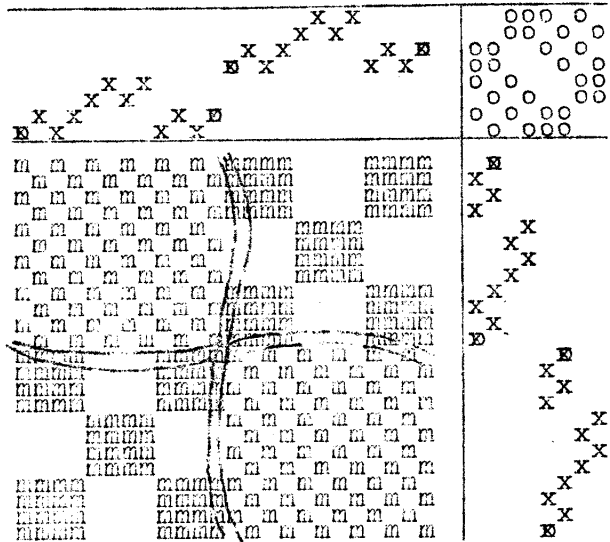


Fig.2

Since 4:4 Basket is so much softer than tabby, again tabby will spread distorting both: warp and weft. To make this distortion more evident we use heavier yarn between the blocks. It is marked "m" in both: threading and treading in figs.1, and 2.

The sett of warp in this case is of extreme importance. If we make the warp as for tabby, evidently nothing much will happen. The sett must be much closer: at least 50% higher than for tabby in fig.2, and 80% in fig.1. That is: if good, firm tabby is woven at 24 ends per inch, the sett for distorted weft should be 36 in fig.2, and 44 or more in fig.1.

But the most spectacular effect of distorted weft is gained when the pattern weft forms floats on the otherwise uniform surface of the ground fabric. As an example may serve a Bronson draft in fig.3.

Weft marked "x" weaves the ground and forms floats in warp. The pattern weft "m" is much heavier than the ground; usually candle-wick, rug filler, soft silk cord, or silk ribbon. The 1 3 part of the threading draft, which produces floats of the distorted weft,

The draft in fig.6 (called "Cannelé" by Berieau) has a completely balanced tie-up, but the ground is not uniform, that is no true tabby.

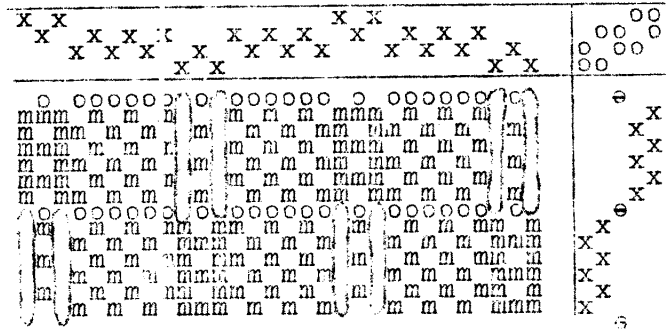


Fig.6

In all drafts so far we had floats of distorted weft all of the same length in the same piece of weaving. If we are looking for more variety, we can alternate long and short floats as in fig.7.

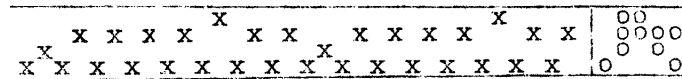
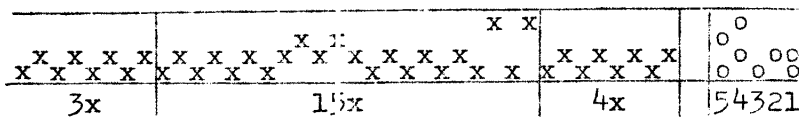


Fig.7

When weaving any of the fabrics in drafts 3, 4, 5, 6, and 7, plenty of weft must be left in the pattern shed to get the full effect of the deflection. Usually the distorted weft does not reach all the way from one edge of the fabric to the other: there is a margin of an inch or so all around. Therefore we must be careful not to cross the ground and the pattern weft shuttles at the edges.

PRACTICAL PROJECT. A center piece.

Warp: 10/2 cotton, dark green. No. of ends: 386. Sett: 24 ends/inch.



Weft: ground - 10/2 cotton, brown; pattern - light rug filler, old gold, or light chartreuse.
 Treading: 54 - to make 3"; 52514341 (or 525251434341) to make 40"; finish with 54 - to make 3". Pattern weft on treadle 1.
