INTRODUCTION TO TWO-WARP DOUBLE WEAVES.

By pure coincidence we are approaching a new problem from two different angles. The problem are the Tissue Weaves, and the two angles are: Full Swivel, and Two-Warp Double Weaves. The first will give a new insight into polychrome weaving; the second makes possible a planned relief (3D) of design: blocks of pattern which are raised or sunk at will.

We shall say more about Tissue Weaves as soon as we converge on the same area of interest in the two series of articles. For the time being we are still working with four shafts, and we shall experiment with the possibilities of two layers of fabric woven at different tensions of the two warps.

This time we shall make two sample warps in two different colours, but both of the same count of yarn. In threading we shall simply alternate the colours. Let us then start with the warps.

The first warp, that is the one which is beamed on the normal or first warp-beam, has 280 ends of 8/2 or 10/2 soft cotton of any neutral colour (white, grey, black, ivory, cream). Do not make it very long; a few yards will do.

The second warp, to go on the second, additional warp beam will have the same number of ends (280) but will be about 50% longer and should be made of 8/2 or 10/2 mercerized cotton, or hard twist rayon in any bright colour at all.

The threading draft as in fig.1: "o" - the first warp, "x" - the second warp. Sett of warp: 40 ends per inch (20+20). Reed No.10; 4 ends per dent. Width in reed: 14 ".

\[
\begin{array}{cccccc}
\text{o} & \text{o} & \text{o} & \text{o} & \text{o} & \text{o} \\
\text{x} & \text{x} & \text{x} & \text{x} & \text{o} & \text{o} \\end{array}
\quad \begin{array}{c}
A \\
87654321BA \end{array}
\quad \begin{array}{c}
B \\
654321 \end{array}
\]

The tie-up is designed in such a way that either warp can be on top, and both can be woven in tabby; we have also two stitching treadles: A & B. Since obviously such a tie-up (A) is out of the question on a 4-shaft loom, we must use a skeleton tie-up (B),
exactly as we did in our Double Weave sampler in MW 49, page 5.
All treadlings will be given for tie-up A; the reader is requested to
translate them for the skeleton tie-up B.

We shall start with a warp-face tabby fabric. Treading: AB.
If we keep both warps under the same tension, nothing remarkable hap-
pens. But if we release warp 2, we have a ribbed fabric. If the ten-
sion of warp 2 is kept very low all the time we shall have a double-
weft fabric (two layers of weft). But if we release the 2-nd warp
occasionally we shall have an uneven ribbed effect. We can also use
two wefts: one very fine, and another very heavy (as in Rep). By al-
ternating them, and changing the tension, we shall have a variety of
textures. Several samples should be made on this treading.

The next experiment involves two independent layers of fab-
ric. Either of them can be woven on top. Treading: 8765 gives the
second warp on top; treading 4321 - the first warp on top. Use se-
parate shuttles for each layer, and avoid crossing them at the edges.
The weft about the same as the warp.

We release the tension on the second warp, and then treadle
878755. After a while we shall have twice as much of the second fab-
ric as of the first fabric. Let us have one inch of the top fabric, and
therefore half an inch of the bottom fabric. Then we change the
treading to 121234. Keep this latter for also one inch. Then start
from the beginning and repeat several times. What we have now is a
double fabric with one layer very loose on one side, or the other.
This demonstrates an exaggerate effect of raised patterns.

We can have also the loose layer all on one side. We start
as before: 878755. After one inch we stitch the two layers with one
shot on treadle A. Repeat several times. This sample may be later on
ironed one way only along the warp, and will give a pleated effect.

The treading in the last two samples does not need to be
exactly as suggested. The weaver may find it easier to weave first
one inch of the loose fabric under normal tension, then release
the tension on the second warp, and weave half an inch of the first
fabric.

Plenty of experiments with different wefts, different ten-
sions, and different ratios of the two layers should be made at this
stage. The reader will find them useful later on.