CROSS WEAVE 2

PICKETS & RIDDLES.

FOR FOUR HARNESS-FRAMES

In the set-up described in the previous article we were able to weave Gauze, different kinds of Leno, and of course plain Tabby (HW No.30, last 3 lines of page 7). And still we did not use but three frames. With all four frames in operation we can have two additional weaves.

Pickets are vertical stripes of Gauze alternated with tabby, and Riddles are blocks of Gauze with tabby all around. Fig.1 shows the first, and fig.2 - the second of these weaves. Gauze is marked with "o", and tabby with "+". It should be obvious from these two figures that, if we have a set-up which weaves the Riddles, we can also weave the Pickets, but not the other way around. In other words Pickets is a much simpler weave than the Riddles.

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Fig.1   Fig.2

Pickets can be woven on the following draft (fig.3) simply by alternating the two treadles, provided that the loom is properly set. However, unless we take special precautions this will not be a very satisfactory fabric: good in the part woven as Gauze, but very poor in the tabby part. The picks of weft are spaced quite far apart in the Gauze, and we can not help but have the same spacing in the tabby. Therefore we can not produce a 50:50 tabby. To prevent the tabby from being too open and weak we can set the warp from A to B and from C to D much closer than is usual for tabby (let us say twice as close). This will compensate to a certain extent for the weft being too far apart.

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x x x x x x x x x x x x        o
                              o o
 x x x x x x x x x x          o
                              o
A  tabby B  gauze  C tabby D  21
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Fig.3

Weaving of Riddles is a much more involved business. We shall use all 6 treadles for our tie-up as in fig.4, and the same threading draft as in fig.3. This time however the sett of warp will be uniform all through. In other words the Gauze will be set closer than it could be otherwise, and tabby will be set a little more open than usual.
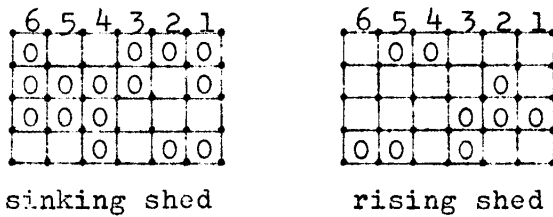
We do this because now we shall have tabby stripes all accross the
fabric and not only between the blocks of Gauze, and if we "correc-
ted" the vertical stripes of
tabby as described for the
Pickets, we would spoil the
horizontal ones. Therefore we
must use other methods of
adjusting these two different
textures: of Gauze and Tabby
There are two different ways
of doing it, but before we
shall describe them, let us
have a look at our new tie-up and try to understand what all the
treadles are for.

sinking shed   rising shed

Fig.4

First of all we have here two tabby treadles: 2 and 4. But
strangely enough we need here three treadles to weave tabby. This
is because when we weave straight tabby the doups tangle in the
shed, and we have to clear it first. Treadle 6 is doing just that.
It lowers all frames but the 1-st, which means that it pulls up,
and straightens the doups. We do not throw the shuttle when treadle
No.6 is depressed. The order of treadling for tabby is then: 6,2,6,4.

Treadle No.2 opens the Gauze shed, and the treadling for
simple Gauze is 3,4 (no need of treadle 6). How good is the shed
on treadle 2 depends on how well is the loom adjusted. We have dis-
cussed this point in the last article on cross-weaving. At any rate
this shed should be wide enough for the shuttle to be thrown, and
not pushed through.

Treadle 1 is similar to No.2 but it opens the tabby shed
only part way: from A to B, and from C to D in fig.3. The rest of
the shed remains closed. This treadle as well as the next one is
used in weaving the Riddles.

Treadle 5 opens only a very narrow shed, which must be
enlarged with a pick-up stick before the shuttle can be thrown.

Fig.5

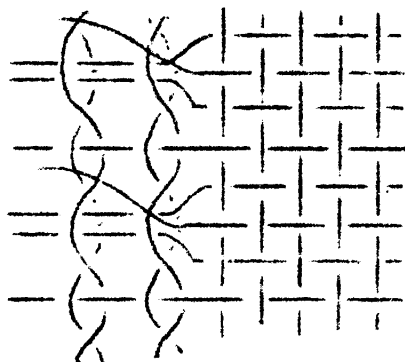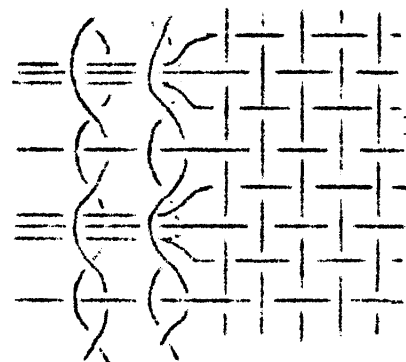Fig.6

The whole difficulty of weaving Riddles is in the difference
between the number of picks per inch in tabby and in Gauze. The
widely spaced weft in the Gauze must be somehow compensated in
tabby, Fig.5 shows the first method. We treadle as follows: 3,4,1,4
What happens is that in the Gauze part of the fabric the shot of
weft on treadle 1 goes entirely above the fabric (makes a long float)

and the two shots 4 and 4 come into the same shed. But in the tabby part each shot of weft comes into alternate tabby sheds. Thus for every four shots of weft in tabby, we have only two (counting 4 and 4 as one) shots in the Gauze. This make the tabby spread at about the same rate as gauze.

The only problem now are the floats which cross the blocks of Gauze. They must be cut close to the fabric. This leaves the vertical edges of each block of Gauze a little untidy, but contrary to what we might expect, they do not frey, and they stand washing very well. Still this method should be reserved for rather fine fabrics, closely woven. On the other hand it is the only _fast_ way of weaving Riddles on 4 frames.

The second method (fig.6) uses a different treadling: 3,5,3,4. Here we have no floats to be cut later on, and the fabric is perfect, but the weaving is slower than in the first method, because of the shed on treadle 5.

We have already stressed the importance of a very accurate adjusting of the tie-up. Let us not take for granted that all ties should be of the same length - not at all. Particularly the difficult sheds No.3 and 5 require a lot of experimenting with the length of ties.

As is obvious from our two articles about cross-weaving, it is not an easy technique, nor a simple one. This is the reason why we do not go into more involved multiharness cross-weaving.

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PRACTICAL PROJECT.

A scarf in rayon. Woven in a Cross-Weave to get very open and soft texture. Threading draft:

Warp: 8/2 rayon ecru or ivory.
No. of ends: 305.
Sett: 18 ends per inch.
Reed No.9, two ends per dent.
Width in reed - 17". Finished - about 15".

Weft the same as warp, or slightly different shade.

Treadling: 1,3,4; or 1,3,2,3.

The main difficulty in making this project, as in all cross-weaves, is to get good sheds, particularly shed No.1 Place a roller as described in the last article over all warp ends which are threaded through the doups, and then weave several inches of tabby (2,3) to get the slack in the warp. Adjust the tie-up, the tension of warp, and the tension of springs on the roller until the shed No.1 is wide enough.

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