

NET WEAVES • 2

The definition of Net Weaves is that the crossing of the warp ends takes place in an area much larger than one dent of the reed, and therefore that the warp is crossed in front of the reed. As long as the crossing is limited to one dent we have Cross-weaves (Gauze, Leno, etc.).

According to this definition many weavers use net weaving (although they call it "leno") either to finish small articles, or to make narrow borders. They do it by picking up, and therefore the process is long and rather laborious.

If we could mechanise this technique, it could be applied not only occasionally to decorate the fabric, but for weaving texture effects at a reasonable speed.

One way of doing this is to use doups in front of the batten, but this means special equipment built into the loom. A much simpler way is to use cross-combs which make the picking up easier and faster.

Each blade of such a comb works in about the same way as a crochet, but it can push as well as pull. It enters the warp from above, catches as many ends as we want, pulls them up above the warp, moves them across, and finally pushes them down below the level of the warp thus opening a small shed. This shed is too narrow for a shuttle, and a flat picking stick must be used to enlarge it to the full size, although it is possible to push a small shuttle through the opening.

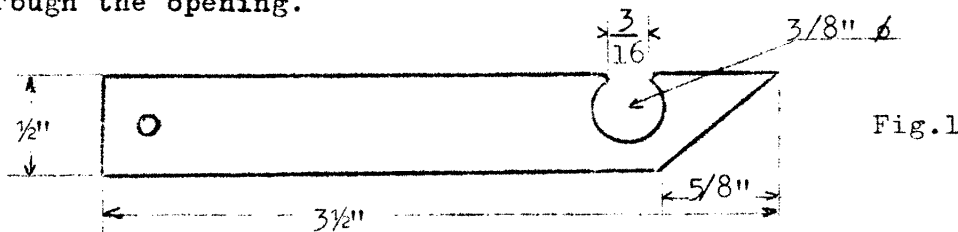


Fig.1

Fig.1 shows one blade of the comb full size. It must be of about this size if made of wood. Smaller blades for finer work can be made of metal or plastic. The difficulty here is that all blades in one comb must be nearly identical, and to make identical small parts in metal or plastic we must have special and very expensive dies. Unless there is a large demand it is unlikely that such combs will be ever made. A wooden comb can be made in any home workshop.

The exact dimensions are given in fig.1, but small changes will not affect the performance. For instance the blades may be longer and the opening moved farther to the left. The angle at the tip of the blade is of no particular importance. They can be made from any close grained hardwood. But the very important operation is finishing. The blades must be not only smooth but well polished on all sides.

The blades are mounted between two flat pieces of hardwood, which make the handle (fig.2). They are about 3/8" x 1" in cross-

section. The length of the comb depends on the width of the warp. To start with we can make a comb 20" long with 20 blades. The distance between two blades is $\frac{1}{2}$ ", which with the width of the blade of also $\frac{1}{2}$ " gives us 1 blade per inch. The blades may be bolted to the handle (between the two flat pieces) with $\frac{1}{8}$ " bolts, or glued, or both. In case of bolting alone, it is advisable to insert small

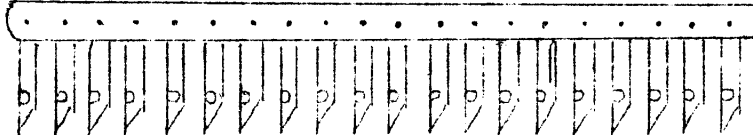


Fig.2

rectangles of wood of the same thickness as the blades in the free spaces between blades. This will prevent them from turning. These rectangles will be 1" x $\frac{1}{2}$ " (fig.3).

Obviously the construction of such a comb can be undertaken only by an experienced woodworker (which does not mean a professional) and it would be a good idea if a group of weavers ordered a number of these combs from one craftsman who would be willing to spend some time

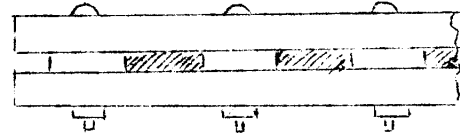


Fig.3

on this project. He may easily find a different, and perhaps simpler way of fixing the blades in the handle. The tools needed are very simple: an ordinary power saw with a planing blade (i.e. cutting on the sides as well), and a drill press (hand drills are not good enough), but the operator must know how to use them. The first operation will be to make a block of wood some 4" by 4", face it on two sides, make a rough lay-out for two to four sets of blades (depending on the thickness of the block - about 5 blades per inch), drill the $\frac{3}{8}$ " holes (better $\frac{11}{32}$ " hole, and a $\frac{3}{8}$ " reamer) with high speed and low feed, make final lay-out centered on the holes, cut out the sets of blades, and finally rip the blades to about $\frac{1}{8}$ " on the power saw. Sand each blade by hand with the finest sand paper.

The comb should not be painted or varnished. It may be rubbed with linseed oil mixed with turps, wiped dry, and a few days later sanded again. All this is done to prevent the warp ends from sticking to the blades.

The above directions or rather suggestions are obviously not for the weaver but for the woodworker, and they are only meant to give an idea of what is wanted.

The principle of the action of a cross-comb is quite simple: we can try it on any warp, regardless of the yarn, the sett of warp, and the threading. Hold the comb above the warp (do not use any treadle) perfectly level. Push it down into the warp, and stop when

holes in the blades are in line with warp. By this time some of the warp ends will enter the holes. If we want more of them, we move the comb to the left (the comb being held as in fig,2); if we want less we move it to the right. Now we pull the comb up so that the points of the blades are above the warp. We move it to the left for the required distance, and finally push it into the warp in the new place as far down as it will go. This will open a small shed in which some or all warp ends will be crossed.

It should be obvious now why we need a picking stick. One hand holds the comb, the other could throw the shuttle if the shed were wide enough, but we have no third hand to catch the shuttle.

A picking stick should be as long or longer than the width of the warp. It is flat, pointed at the ends and about 2" wide, as in fig.4. All edges must be rounded, sanded and polished. Again here varnish is not indicated.



Fig.4

When the picking stick is inserted in the shed we remove the comb, by pushing it first to the left so that all warp ends will leave the holes in the blades, and then pulling it up. Then we turn the picking stick on edge which will open a normal shed. This whole operation takes a while to be described, but it can be done in a few seconds.

Now we must experiment with all sorts of weft to see what happens. This method gives best results with rigid weft such as bamboo, reeds, bullrushes, fine blades of wood etc. They are used in sheds with crossed warp. But as a rule we alternate these sheds with plain tabby, twill or any basic weave.

Or we can try rigid weft in tabby sheds and very soft yarn (and plenty of it) in the crossed sheds. This will produce an effect not unlike Spanish Lace.

The crossed warp shed has been made with the warp closed. But we may also make the crossing on the upper part of a tabby shed, which will leave the lower part for weaving a background if so desired.

In the next article we shall give suggestions as to how to apply this method in practice. We shall discuss in more detail the possibilities of combining it with standard techniques, and we shall give practical examples of projects based on net weaving.

We realise that there is no hurry, because it will take some time to make the combs, and to get used to handle them.
