A-Sectional warp beam

A sectional warp beam consists of 4 rake-like pieces divided into 1″ or 2″ sections by metal cramps which hold the warp threads in place. They are available in two dimensions ; ½ yard by turn, having the rake-like pieces directly on the beam, or 1 yard by turn, with a spacer between the beam and the rake-like pieces. (Fig. 50)
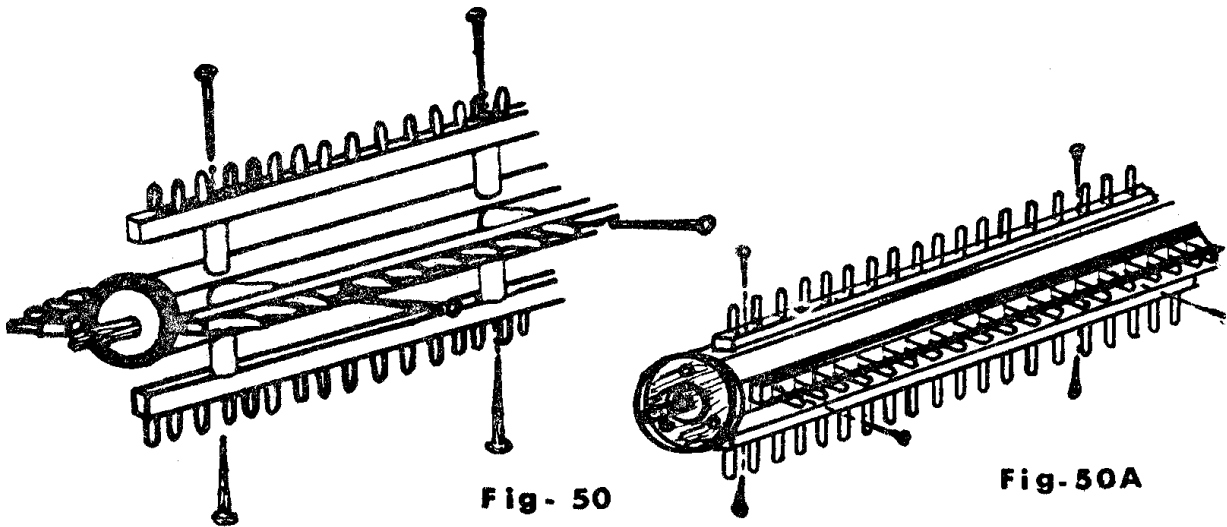

Fig - 50

Fig - 50A

For a warp of more than 40 yards, we would suggest the 1 yard per turn beam, if you have space for it. It extends 3 ¼″ more than the ½ yard outside the loom, at the rear. It doesn't allow to close the rear of the loom.

For those of you who regularly make very long warps of over 100 yards, we would suggest that you use two sets of the rake-like pieces instead of one, and of 1 yard per turn. This means you will have 8 sections instead of 4.

Every "Leclerc" loom has holes on the warp beam to screw the rake-like pieces on. This is why the canvas is not attached to the warp beam on a new loom.

It is most important that you fill each section completely. Never use half a section as the circumference will not grow evenly, and the tension of the warp will not be uniform.
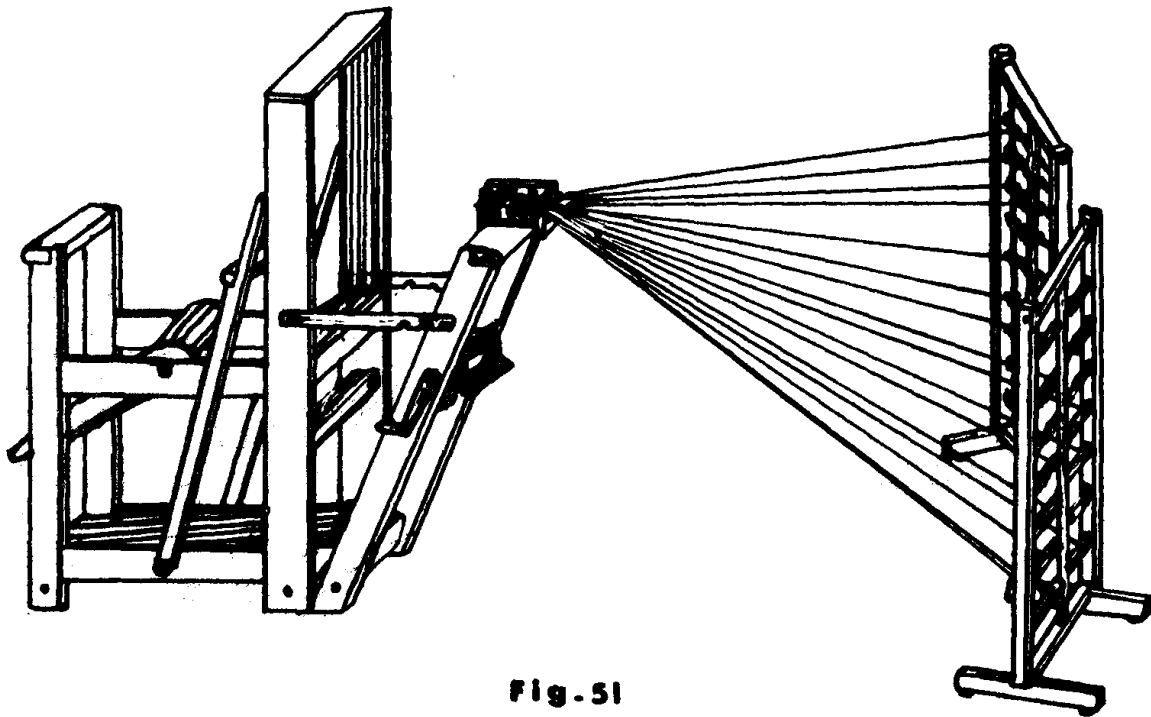
Fig.51

This system takes the threads directly from the bobbins to the loom, passing through a tension box to maintain an even tension on the warp threads.

It needs as many bobbins per section as your planned set in the reed. If your warp is to be set at 24 ends per inch, you will need 24 bobbins for a beam with 1″ sections, or 48 bobbins for a beam with 2″ sections.

If at all possible, the bobbins should be of the same type and size, and of the same weight, to assure an even tension. You can use commercial bobbins on tubes, or plastic or wooden bobbins with the same type ends.

The amount of yarn required on each bobbin is calculated by multiplying the length of the yarn in each section by the number of sections required. On an 11 ½ yards warp, 22 inches wide in the reed, set at 24 e.p.i. and using a beam with 1″ sections, the requirements would be 24 bobbins each holding 11 ½ yards × 22 sections = 253 yards. The same warp on a beam with 2″ sections would require 48 bobbins each holding 11 ½ yards × 11 sections = 126 ½ yards of yarn.

The warp should be centered on the loom. If we put our 22″ warp on a 45″ loom with a beam divided into 2″ sections we would have to leave 6 empty sections at each end. (The 27″ and 45″ sectional beams that are divided into 2″ sections each have two sections of 1″ at each end.)
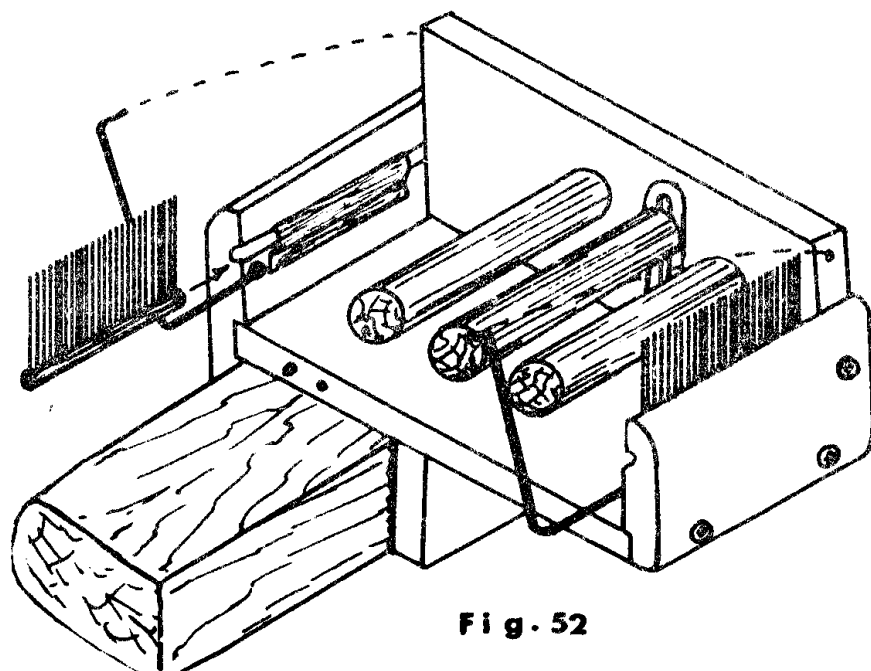
THE TENSION BOX :

It is not necessary to have a comb of the same dentage as the reed, as long as the threads are spread evenly and equally to the same size as your section. If you prefer the same dentage, the combs can be changed easily, by sliding them out of their grooves.
(Fig. 52)

Fi g · 52

Attach the tension box to the rear beam of the loom. Remove the center dowel which is in a slot. (Figs. 52 & 53)
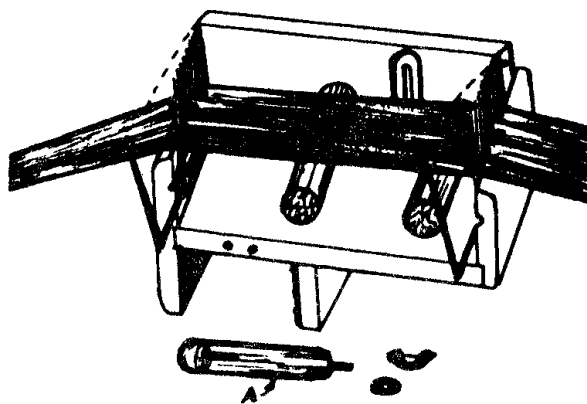

Fi g - 53

Take the threads from the top row of bobbins in the bobbin racks and thread them evenly through the combs going over the two remaining dowels. Take the next row of ends coming from the bobbin rack and thread them through the combs going over the dowels. Continue until the correct number of ends to fill the section have been spread through the combs. Remember the width of the threads through the comb should be the same as the width of your section.

Be careful that your threads do not twist around each other when going from the bobbin rack to the tension box. (See Fig. 51)
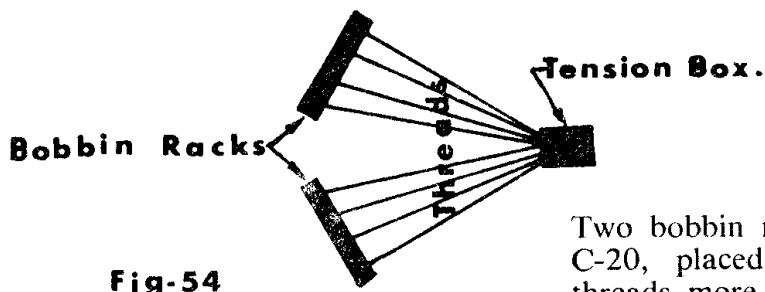
Fig-54

Tension Box.

Bobbin Racks

Threads

Two bobbin racks, such as Leclerc No. C-20, placed at an angle, carry the threads more evenly to the tension box.

Replace the center dowel on top of the threads. The tension of the warp is controlled by the depth of the loop made by the center or tension dowel, and does not necessarily have to be very great. You must be sure that the dowel is firmly attached with the wing nut, and the tension is even. (Fig. 55)
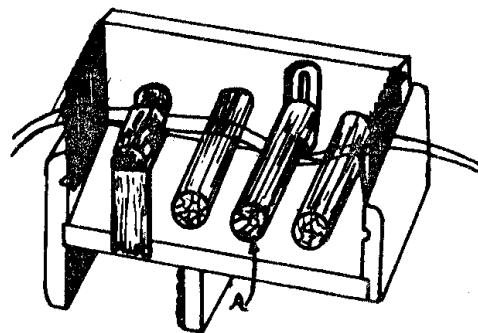

Fig·55

When the spools are full, they are heavier and their circumference is larger. They don't turn as fast as when they are nearly empty. The faster the spool goes, the more resistance and consequently the more tension there is on the thread, so the tension should be gradually relaxed as the spools empty.
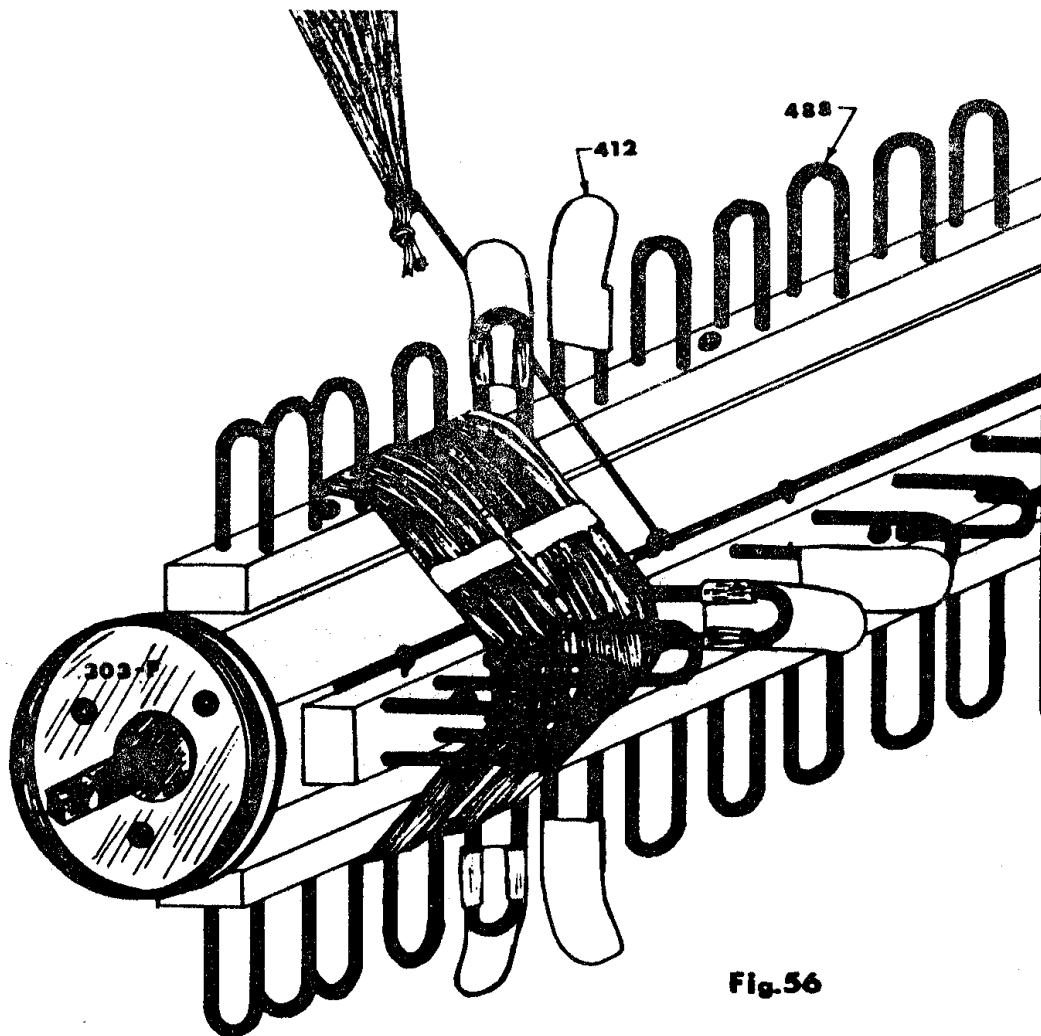
TO TIE THE THREADS TO THE BEAM :

Fig.56

One of the rake-like pieces has screw eyes. Slide a metal rod through these eyes.

Cut a cord about 48″ long for each section, Double it and tie it to the rod with a snitch knot.

Make a knot in the threads coming from the tension box, and attach it to the other end of the cord coming from the rod with another snitch knot. Make sure the cords and knots are centered between the cramps. The cords should not be too heavy to prevent warp pilling up on top of cord.

The length of the warp is ordinarily calculated by counting the complete turns of the warp beam (either ½ yard by turn, or 1 yard by turn).

Try to maintain a steady, consistent speed when winding the warp on the section. You may guide the threads with your hand in order they pile up evently.
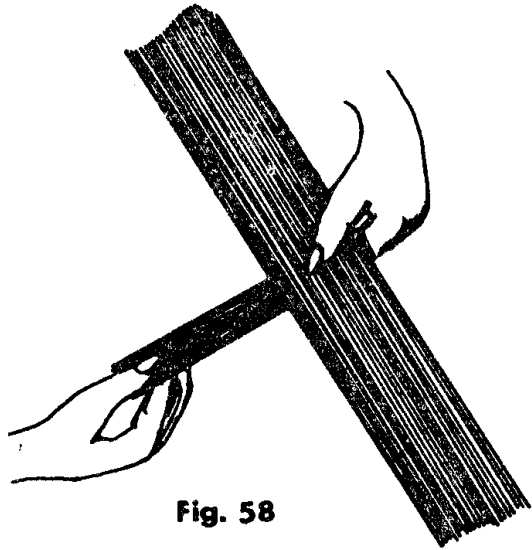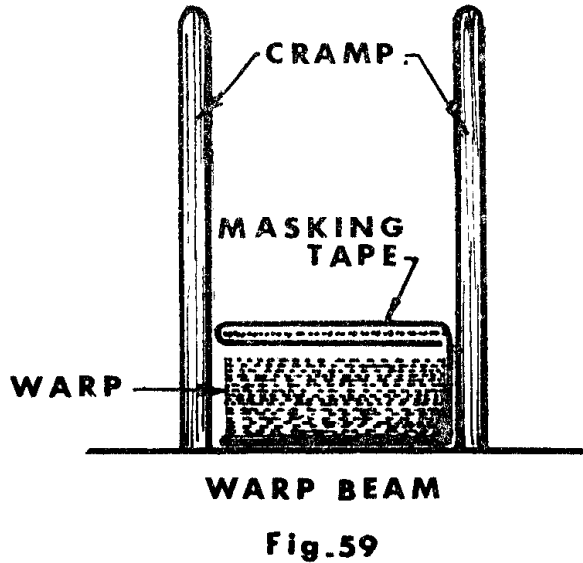
Fig. 58

WARP BEAM

Fig. 59

When you have wound the correct length of warp, .place scotch tape or masking tape on the ends of the warp threads as they come from the tension box. (Fig. 58) Cut off about 4″ from sticker, being sure the tape is long enough to stick the ends to the already warped turns (Fig. 59) or cut off about 8″ from the sticker, and tie the ends to one of the cramps near a section that has already been filled, so the knot will not interfere with the beaming of the next section. Before cutting, pull the warp forward enough to prevent the ends from slipping out of the tension box.

Slide the tension box forward to the next section and repeat the operation.

CROSSING :

When warping on a sectional beam, a cross is not necessary if tape has been used to hold the threads in place.

If you insist on a cross, simply hold the threads tightly in front of the tension box, and pick up alternate threads or groups of thread, and insert a contrasting thread in the cross thus formed.

For more information, see the Book "Warp & Weave" by Robert Leclerc available from your Leclerc Dealer.