

A — SECTIONAL WARP BEAM

A sectional warp beam consists of 4 sectionally divided strips that are attached to your warp beam. Each strip is divided into 25 mm or 50 mm (1" or 2") sections by metal "U" shaped cramps, which hold the warp threads in their proper section. When the sectional strips are attached directly to the warp beam, they hold 1/2 meter (1/2 yard) per turn. Wooden extensions can be installed between the sectional strips and the warp beam. This will allow for one meter (one yard) of warp per turn. (Fig. 260)

8 sectional strips
with extension:
99 cm.

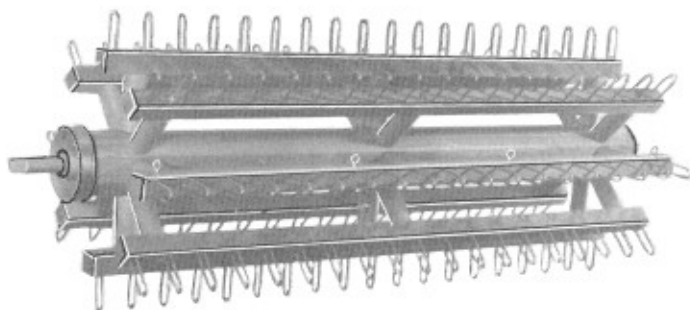


Fig. 260

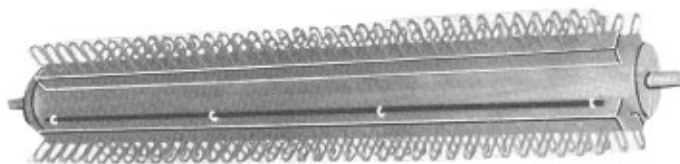


Fig. 261

4 sectional strips
direct on the beam:
47 cm.

It is very important that you fill each section with threads evenly spaced across the entire individual section. Never bunch the threads in a portion of the section or the circumference will not grow evenly and the tension of the warp will not be uniform.

Leclerc floor looms have pre-drilled holes on 4 faces of the warp beam to attach the sectional strips with wood screws. It is for this reason the canvas apron is not attached at the factory on new floor looms.

When sectional strips are attached to the warp beam, they hold 1/2 meter (yd.) of warp per turn. Wooden dowel extensions, as per Fig. 260, are available for installation. The beam will then hold 1 meter (yd.) per turn. It is recommended for weavers who regularly make long warps (40 meters (yds.) or more) that they install 2 sets of sectional strips on the warp beam. The warp beam will then have 8 of the sectional strips installed instead of the normal 4 strips.

We also suggest that for warps of more than 40 meters (yds.) the wooden extensions be used and the 8 sectional strips to provide 1 meter (yd.) per turn. Be advised that when the wooden extensions and sectional strips are installed, the rear of the loom cannot be folded.

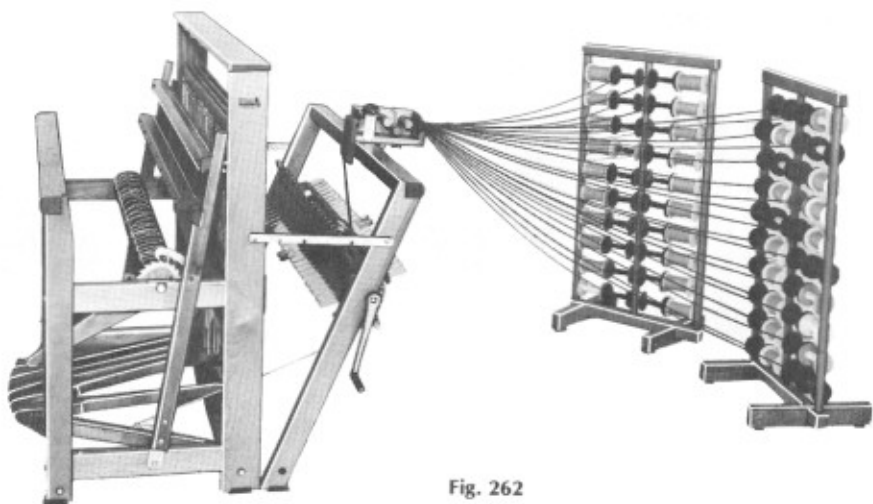


Fig. 262

This system of warping takes threads from bobbins, passes them through a tension box to maintain even tension for winding on the warp beam in the individual sections.

It requires the use of as many bobbins loaded with thread per individual section as your planned sett in the reed. If your warp is to be set at 24 ends per 25 mm (1 in.), you will need 24 bobbins for a sectional beam with 25 mm (1 in.) sections or 48 bobbins for a beam with 50 mm. (2 in.) sections.

All bobbins should be of the same type, size, and weight to assure even tension. You may use commercial bobbins or tubes, plastic or wooden bobbins providing they have the same type of ends. Bobbins without end pieces, tubes and cones, should be drawn while standing on end with the use of a cone holder (Refer to the Leclerc catalogue). This provides a more even tension. You can also use reels instead of bobbins to distribute the ends number needed to the warping. The reel must be stood on the floor and can be used with cones, tubes and other endless bobbins. (Refer to the Leclerc catalogue.)

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 1/2 meters (yd.) warp, 56 cm. (22 inches) wide in the reed, sett at 24 ends per section and using a beam with 25 mm. (1 inch) sections, the requirements would be 24 bobbins each holding 11 1/2 meters (yds.) \times 22 sections = 253 meters (yds.). The same warp on a beam with 50 mm (2 inches) sections would require 48 bobbins each holding 11 1/2 meters (yds.) \times 11 sections = 126 1/2 meters (yds.) of yarn.

For calculation of the warp, see page 37.

The warp should be centered on the loom. If we put our 56 cm. (22") warp on a 115 cm. (45") loom with a beam divided into 50 mm. (2") sections, we would have to leave 6 empty sections at each end. The 70 cm. (27") and the 115 cm. (45") sectional beams that are divided into 50 mm. (2") sections, have 2 sections of 25 mm. (1") at each end.

THE TENSION BOX

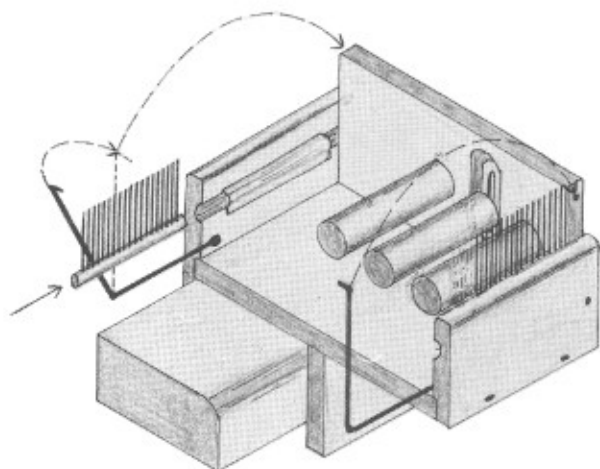


Fig. 263

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. 263)

Attach the tension box to the rear beam of the loom. Remove the center dowel which is in a slot. (Figs. 263 and 264)

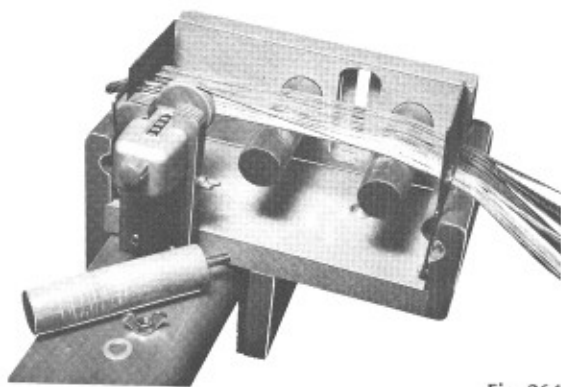
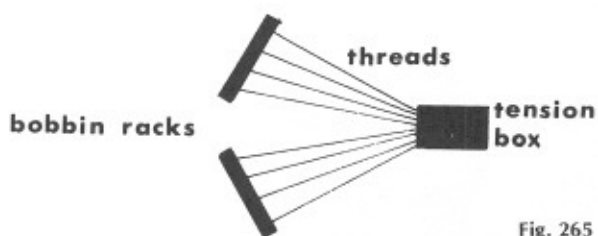


Fig. 264

Turn the pins that are beside the combs so that you can pass your threads through the combs. 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 racks and thread them going over the dowels. Continue until the correct number of ends to fill the section have been spread through the combs. Remember that the width of the threads through the combs 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. 262)



Two bobbin racks, such as Leclerc No. 63621000 placed at an angle, carry the threads more evenly to the tension box.

Fig. 265

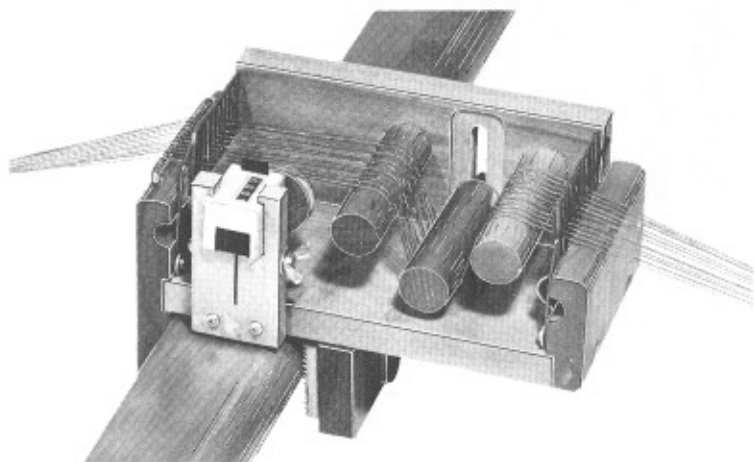


Fig. 266

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

When the spools on the bobbin rack are full, they are heavier and their circumference is larger. They do not turn as fast as when they are almost empty. The faster the spool turns, the more resistance. Consequently, more tension is applied to the thread coming off the spool. As the spool empties, the tension in the tension box should be relaxed. This is accomplished by raising the center tension dowl on the tension box.

TO TIE THE THREADS TO THE BEAM

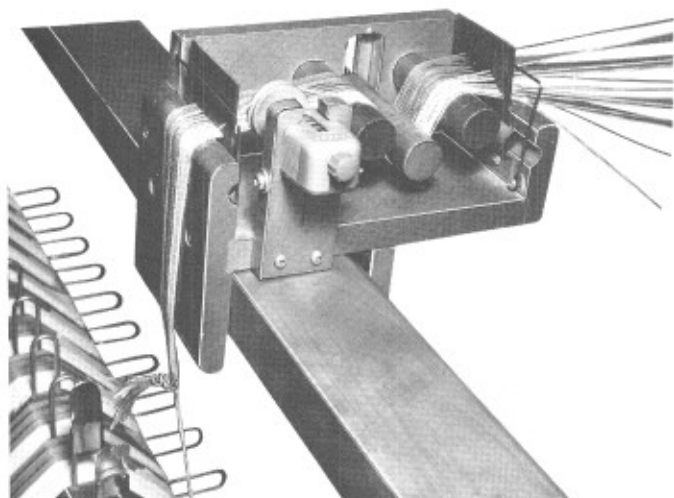


Fig. 267

One strip of the sectional warp beam has screw eyes. Slide a metal rod through these eyes. (Fig. 268)

Cut a cord about 120 cm. (48") long for each section. Double it and tie it to the rod with a snitch knot. (Fig. 268)

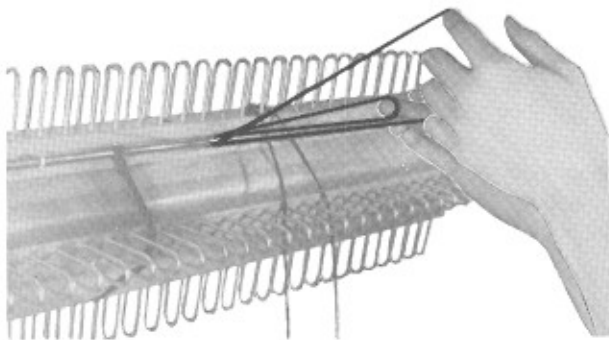


Fig. 268

Make a knot in the threads coming from the tension box, and attach it to the cord coming from the rod with a snitch knot. (Fig. 269)

Insure that the cords and knots are centered between the metal cramps. The knots should not be thick as this will cause the warp to pile on them in an uneven manner.

Attempt to maintain a steady and constant speed when winding the warp on the section. This will provide an even tension. You may guide the threads with your hand to insure they pile evenly. Be sure that the threads are spread evenly on all the width of the section. The center of the section must be at the same level as the edges. So, you have to distribute the threads evenly in the last comb of the tension box. You can guide the threads with your hands. To make it easier, use a thread guide. (See p. 32)

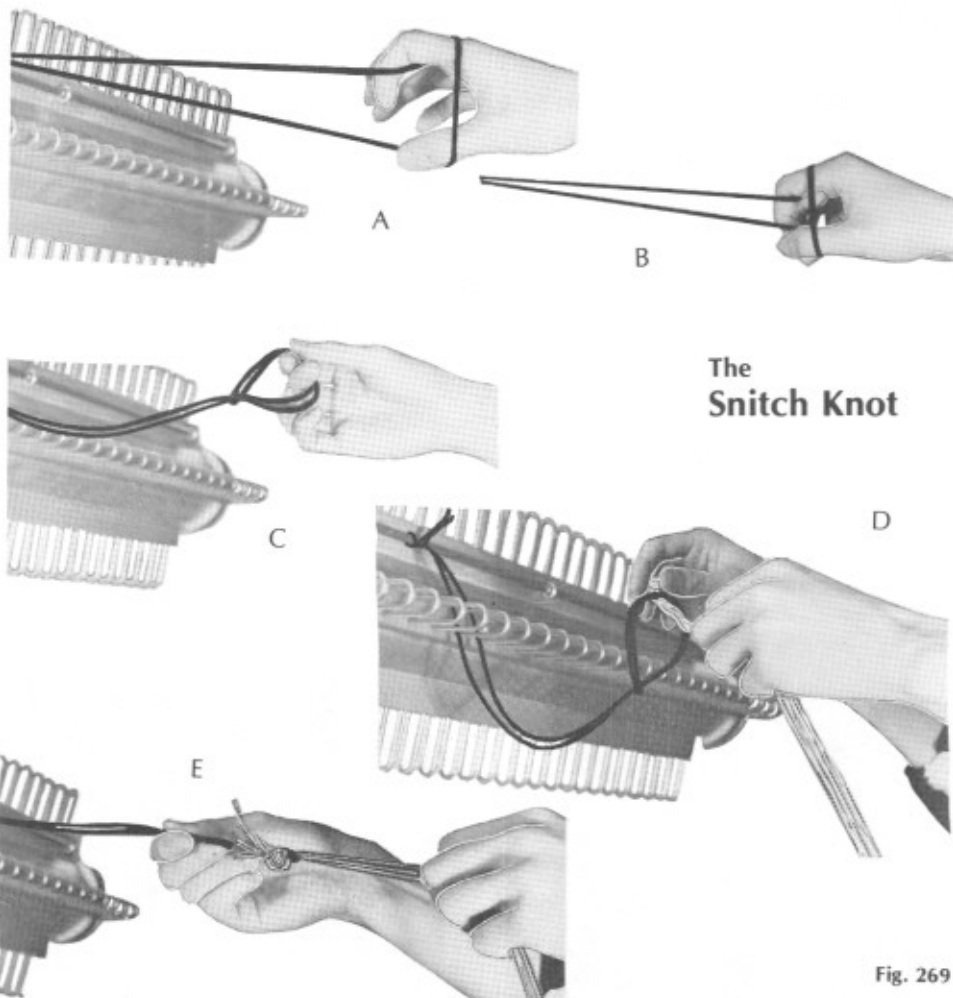


Fig. 269

There are several ways to determine the length of the warp :

- 1) The fastest way is to count the number of turns of the beam. This will give the approximate length only, because the circumference of the beam will increase slightly with each rotation.
- 2) Measure a cord of the correct warp length. Attach this cord to an empty section and allow it to wind on the beam as you warp a section. Continue winding until the pre-measured cord is completely wound on the sectional warp beam. Then, unwind the cord and repeat the same operation for the next section. This system will provide an approximate length as the pre-measured cord will be wound directly on the beam while the warp will increase in size slightly with each turn.
- 3) Use the counter as described in Figs. 273 and 274.

THREAD GUIDE

An aid to beaming is the thread guide (See fig. 270A — Cat. No. 61661000). A set of 8 guides are necessary. They slip on to the metal cramps with slight pressure and will remain in place while the beam is being rotated. They are moved from section to section as needed.

The thread guides are bent at an angle to channel the threads into the proper place during rotation of the warp beam. They eliminate the possibility of the threads hitting the top of the cramp and spoiling tension or breaking the thread.

DIVIDERS

The threads coming from the tension box should be centered in each section. It is most important to take care that the warp threads do not pile up in the center of the section and slide off at the cramps, or your tension will not be even.

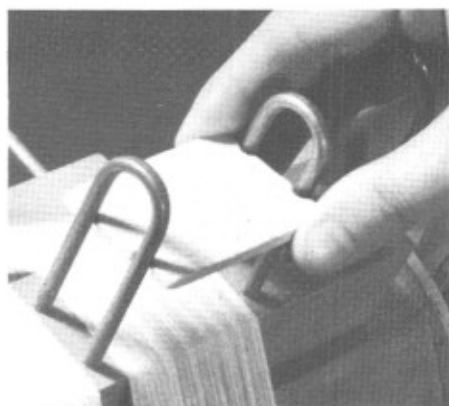


Fig. 270

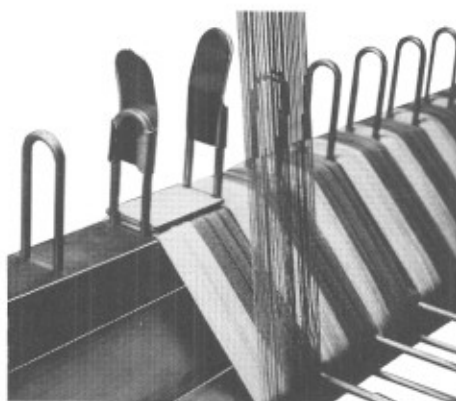


Fig. 270A

If you make long warps and have difficulty in preventing pile up in the sections, we recommend you use a divider in each section every 25 or 30 turns. They must be placed in each section at the same number of turns. It fits between the cramps, and the effect is the same as if you had started to beam a new section. (Fig. 270) (Cat. No. 61652000 for 51 mm. (2") sections. Cat. No. 61651000 for 25 mm. (1") sections.)

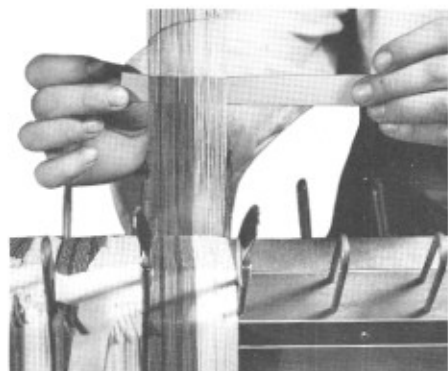


Fig. 271

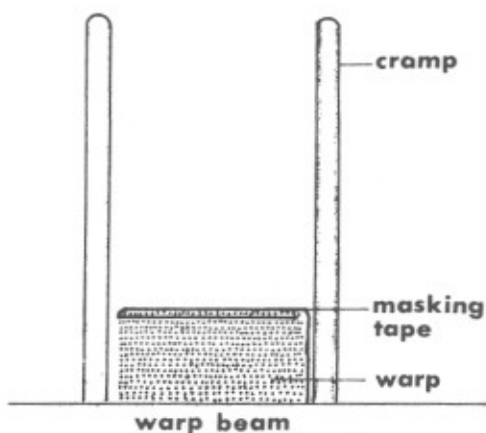


Fig. 271B

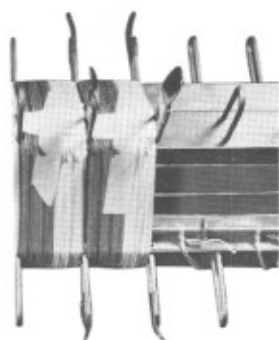


Fig. 271A

When you have wound the correct length of warp, place a piece of scotch tape or masking tape on the warp approximately 10 cm. (4 in.) from the sectional warp beam. Care must be exercised to insure that the threads are kept flat and in the same order that they come from the tension box. Before cutting the warp pull it forward sufficiently to prevent it from slipping out of the tension box. The warp can then be cut making it 10 cm. (4 in.) longer than the masking tape marker. This is your exact yardage. Masking tape can then be used to secure the end of the warp to warp wound on the warp beam for this particular section. If you desire, you may cut the warp at 20 cm. (8 in.) from masking tape marker. This will allow you enough warp to tie it in place to one of the previously filled cramps instead of taping it in place. (Fig. 271)

The tension box can then be moved to the right or left and the same procedure is used to fill the next section.

CROSSING

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

If you desire to use a cross, simply hold the warp slightly in front of the tension box and pick up alternate threads or groups of threads and insert contrasting thread in the cross thus formed.

COLOR

If there are various colors in the warp, each section with the same color arrangement can be warped, skipping the sections with different color arrangements. You can return to fill the empty sections with their proper color arrangements.

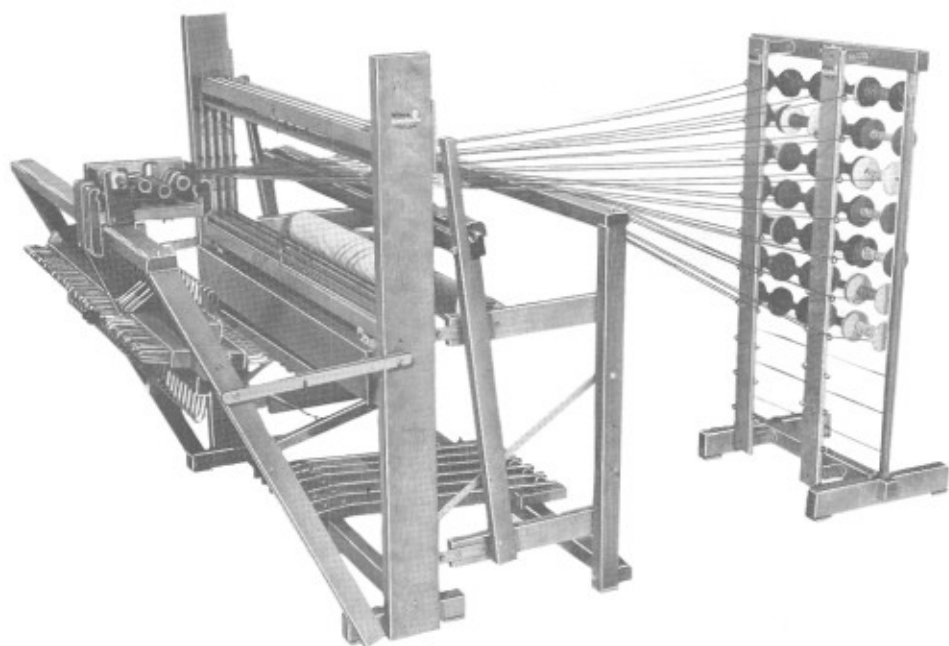


Fig. 272

If the color arrangements of some sections is the exact reverse of the arrangement of other sections, remove the tension box from the back beam after cutting the threads and fix it to the bobbin rack. Move both bobbin rack and tension box to the front of the loom. Slide the heddles out of the way, take the tension box through the harnesses, replace on the rear beam, and the order of your threads will be reversed and ready to beam. (See Fig. 272)

COUNTER

The length of the warp is usually calculated by counting the complete turns of the warp beam (either 1/2 meter or 1/2 yd.) by turn, or one meter (one yard) per turn on long warps. However, as the circumference of the beam grows, the measurement becomes inexact.

The counter No. 61606000 will give the exact measurement without the necessity of counting turns.

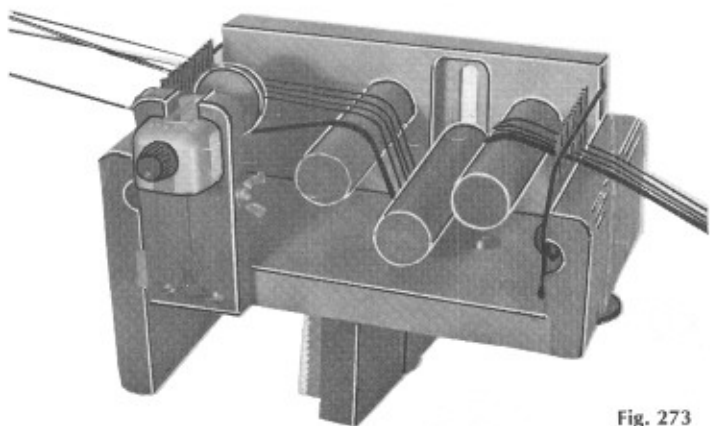


Fig. 273

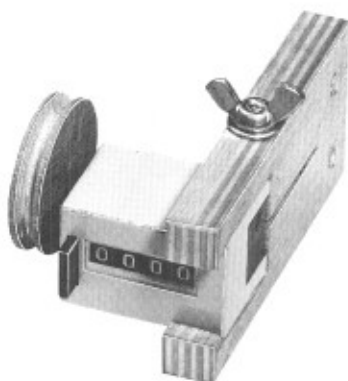


Fig. 273 A

The counter is placed on the tension box as in Fig. 273.

The warp threads pass through the tension box as previously, but one thread is used to turn the counter's wheel. (See Fig. 266)

With one thread of the warp, make 2 or 3 complete turns around the wheel of the counter to be sure that the thread will not slip on the wheel.

The counter can also be used to control the number of yards of thread on each bobbin.



Fig. 274A

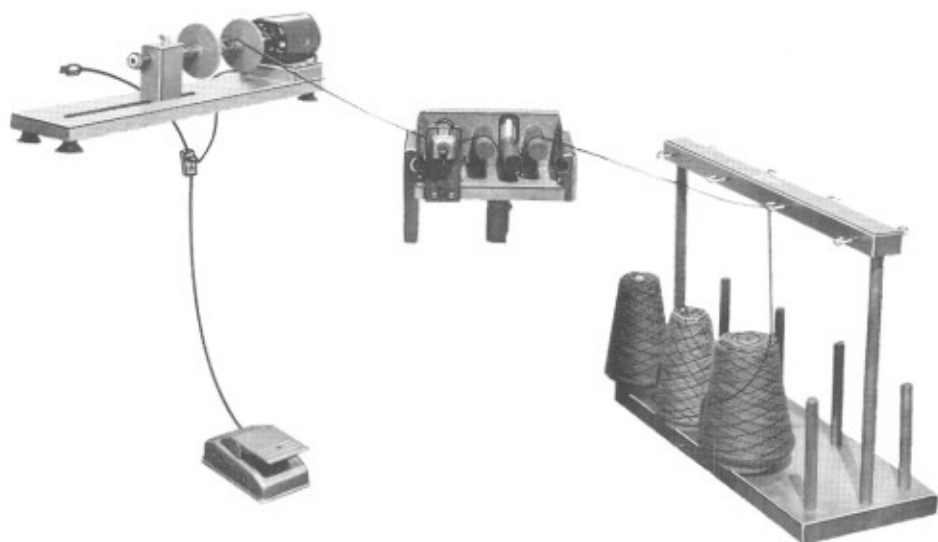


Fig. 274

Thread the yarn through the tension box, over the dowels as for sectional beaming, and around the counter's wheel (Fig. 274A). You do not have to hold the thread in your hand as the tension box will control the tension.

Generally speaking, whether winding bobbins or warping, the tension will be better if the yarn unrolls from the end of a bobbin or cone, instead of having spools turning.