WARPING DRUM INSTRUCTIONS

The AVL Warping Drum takes the place of an added "helper" to hold the warp while it is being wound onto the warp beam. It also maintains an even tension on the warp so that no combing is necessary during the warp winding process even with very long warps. Two basic steps are involved in using the drum; winding warp from reel to drum and winding warp from drum to warp beam. Please follow the instructions below to learn how to perfect these procedures.

1. Complete warp winding on the warping reel, marking crosses and end loops with ties. Fasten warping reel strap around the reel so that a drag is created when the reel is turned. Also, detach the hec block from the knots on the rope so that the hec block will not move as the reel is turned. This is most important to avoid breakage of the rope in the upcoming steps.

2. Position the warping drum at the middle of the warping reel and about a yard back (*see Figure #1*). The ropes should be wound around the drum the same direction as the drum will be turned with the tie-bar on top.

   Notice the ropes are wound around the sides of the drum so that the middle section is free.

3. Lift the tension rope off of its pulley as drum tension is not needed at this point in the process.

4. Now lift the warp end loop and the threading cross off the warping reel (*it may be necessary to remove the peg board from the reel*). Pull the warp end loop toward the drum. Remove the knotted rope on the slotted side of the tie-on bar. Slip the free end of the bar through the warp end loop and reconnect the knotted rope to the tie-on bar.

5. Now stand behind the drum and wind the warp from the reel onto the drum (*see Figure #1*). It is important that the warp is kept taut at all times throughout this process. This, as you will see later, is what eliminates the time consuming process of combing so make sure the strap on the warping reel is adjusted tight enough so that the warp comes off the reel slowly and tightly as you turn the drum. Also, the warp must be twisted as it is wound onto the drum in order to assure equal tension of warp ends in the next step (*if no twisting were done, some ends would always fall on top of others and would be taking a slightly longer circumference around the drum*). So the process should go like this: Twist the warp tightly in one direction, then wind it onto the drum allowing it to untwist in one direction, wind some more onto the drum allowing it to untwist again, repeat until all of the warp is wound onto the drum. Let the warp build up on the drum mostly in its middle section. Start slightly to one side of center and work slightly to the other side of center, laying the warp twists right next to each other. Then if there is more warp, go back toward the other side laying the twists on top of the first ones until you have gone just a little further to the first side. Continue like this so that the warp gets wider as it goes along, yet remains as close to center as possible. The point is to keep the warp twists as close together and toward center as possible. They can be built up on top of each other two or three layers if the warp is a long one.

6. The next thing to do is to thread the raddle. Roll the drum to where the raddle threading will be done. Unroll the first yard and a half of warp from the drum, place cross sticks in the raddle cross and a warp stick in the end loop. Secure sticks and remove ties. Thread raddle, then make sure to secure raddle top down with string.

7. Warp beam winding will be done either at the back of your loom or at an AVL wall mounted beam winder. In either case, you will need an expanse of space (*from fifteen to thirty feet long*) keeping in mind that the closer to thirty feet you can get, the better it will work. If the drum is too close to the beam, the angle formed by the edge yarns will be too acute, especially with wide warps. They will be wound onto the warp beam tighter than the inner yarns causing tension problems and slacking of yarns in the warp winding process.

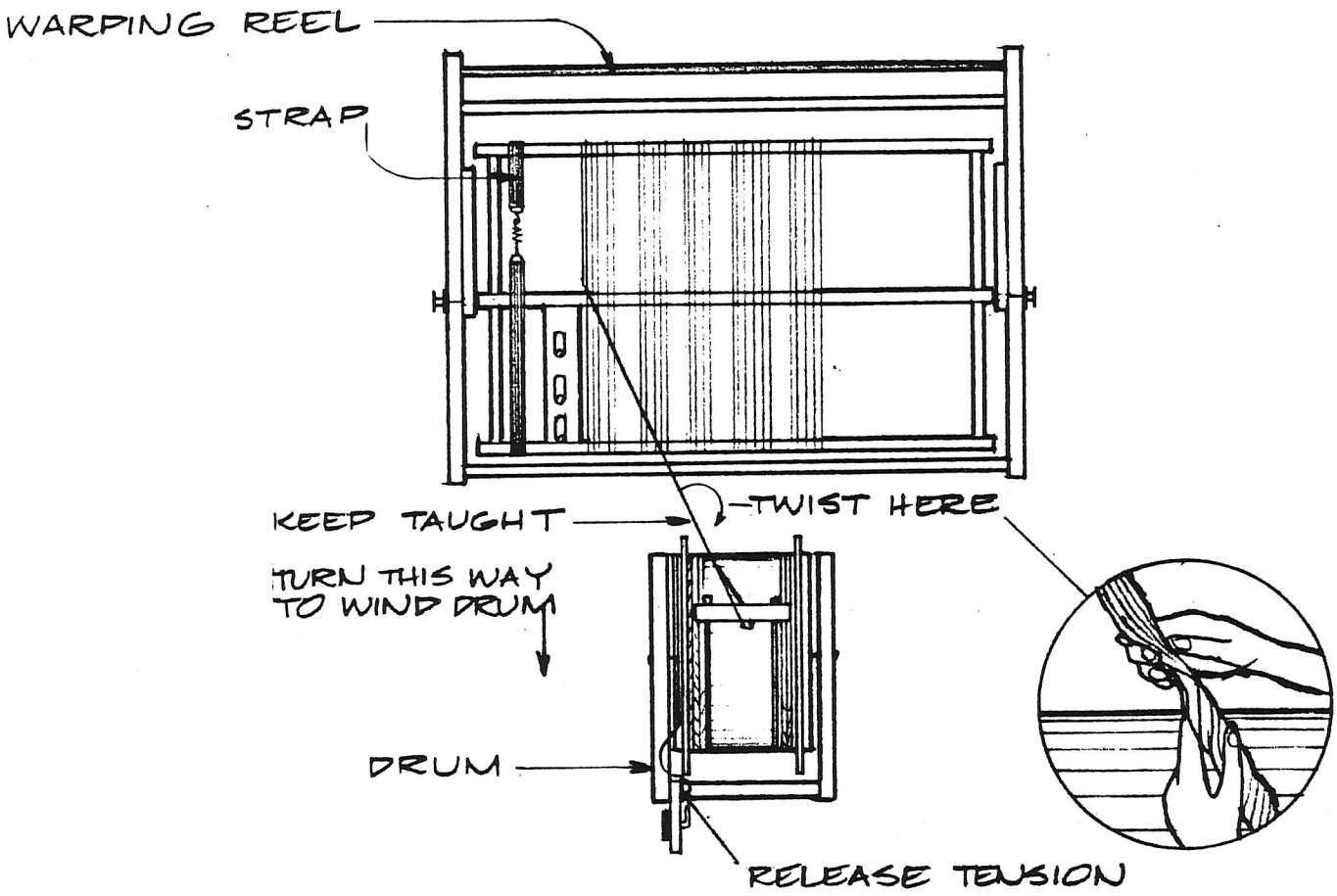
   Roll the drum right in back of the beam (*see Figure #2*). Position the raddle, remove the cross sticks and place a warp stick with end loops into the groove in the beam. Bind the stick into the groove by securing strongly with string. (*An apron may be ordered separately and used here so that later extension of the warp will not be necessary. If ordered, place the apron rods in both ends of the apron. The plain hem with the apron rod goes into the warp beam groove. The rod in the hem with the openings gets lashed onto the warp stick with the warp end loops. This saves some time, however we do not recommend its use for very long fine warps as it may cause tension irregularities.*)

8. With heavy cord, bind the warp beam handle so it won't turn, then move the drum back fifteen to thirty feet, unwinding that much warp. As you do so, this warp will sag a little but don't let it get too loose (*see Figure #3*). Next, the drum must be anchored into place so that it won't move forward as the warp is pulled off it. One way to do this is to put two eye bolts into a piece of wood and mount the piece of wood to a wall using lag screws. Attach two ropes to the eyebolts which can be attached to the two eyebolts on the drum. Another way to anchor the drum is in a doorway. A long metal rod can be placed through the side pieces so that it catches the drum in the doorway. In any case, the middle of the drum must be in perfect alignment with the middle of the warp beam.

9. Next, make sure to reset the tension on the drum by placing the rope around the pulley. The further down the weight is set on the tension arm the more tension will be put on the warp as it is wound on the beam. In most cases, a lot of tension will be required so set the weight near the bottom of the arm. Lighter, thinner warps will need slightly less tension than heavier wider warps.

10. Now you are ready to wind on to the beam. For all AVL beams with handles on the right (*as facing loom from back*), turn on a counter clockwise direction so the warp comes on to the beam from underneath. Those with handles on the left, turn clockwise (*when using the wall mounted beam winder, be sure to keep handles on same side as on the loom*). Warp should wind smoothly, evenly, and tightly on to the beam. It should be wound on under more tension than you intend to weave if under, therefore, it should take a little bit of muscle to turn the handle. Remember, proper tension is the key to having this work correctly. Adjust the drum weight appropriately. Wind in paper or use flanges as usual.

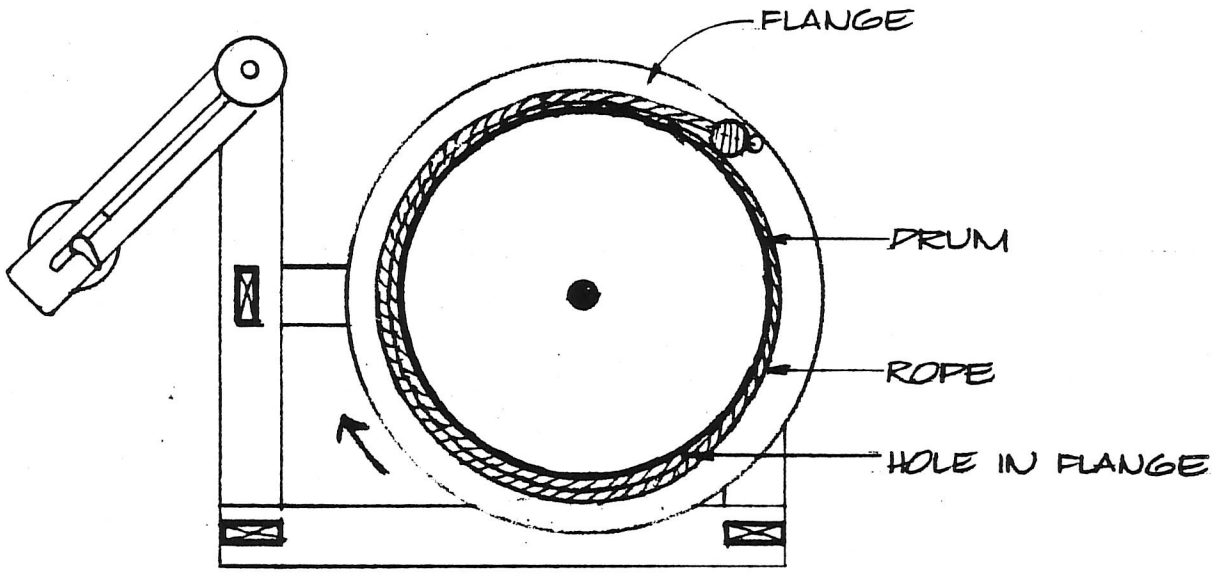
11. As the end of the warp approaches the warp beam, it is a good idea to spread the warp out, especially with wide warps, to eliminate the acute angles which would be created at the sides of the warp. Bind the warp beam handle so it won't turn. Go to the end of the warp and place cross sticks in threading cross and a heavy wooden stick (*perhaps a broom handle*) in the end loop and secure the sticks. Then, holding the warp tight, remove the end from the tie-on bar, remove ties, and spread the warp out on the sticks. Lash the heavy wooden stick with the end loops firmly onto the tie-on bar. Now you can finish winding on the warp.



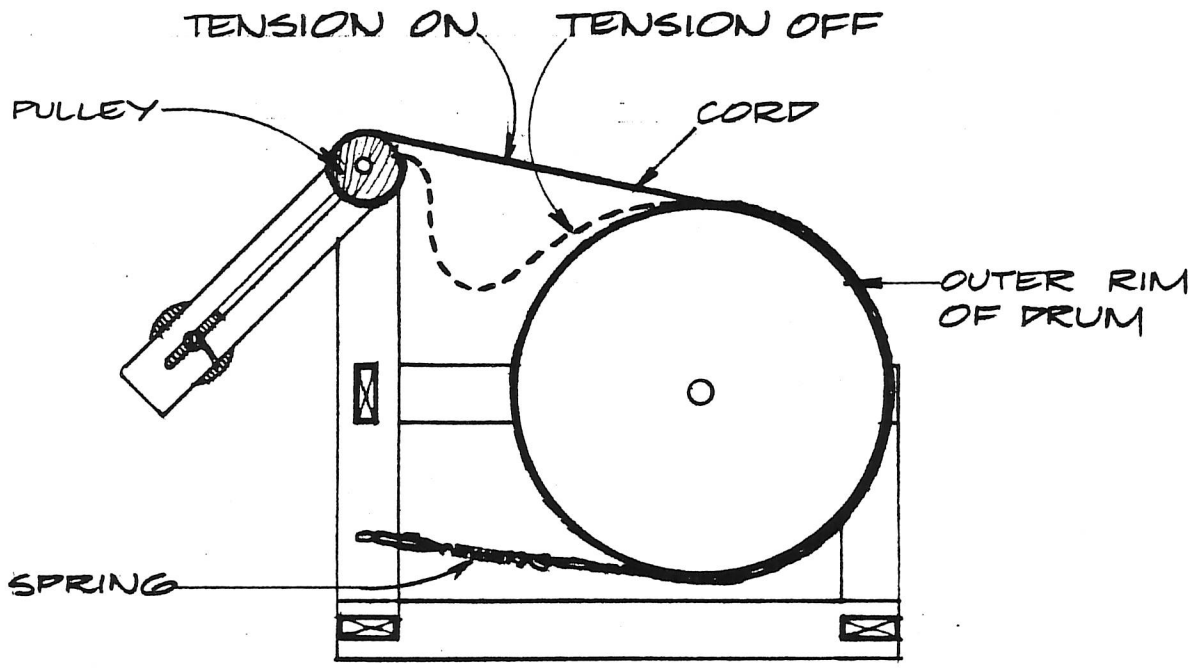
VIEW LOOKING DOWN

WINDING WARP FROM WINDING REEL TO DRUM

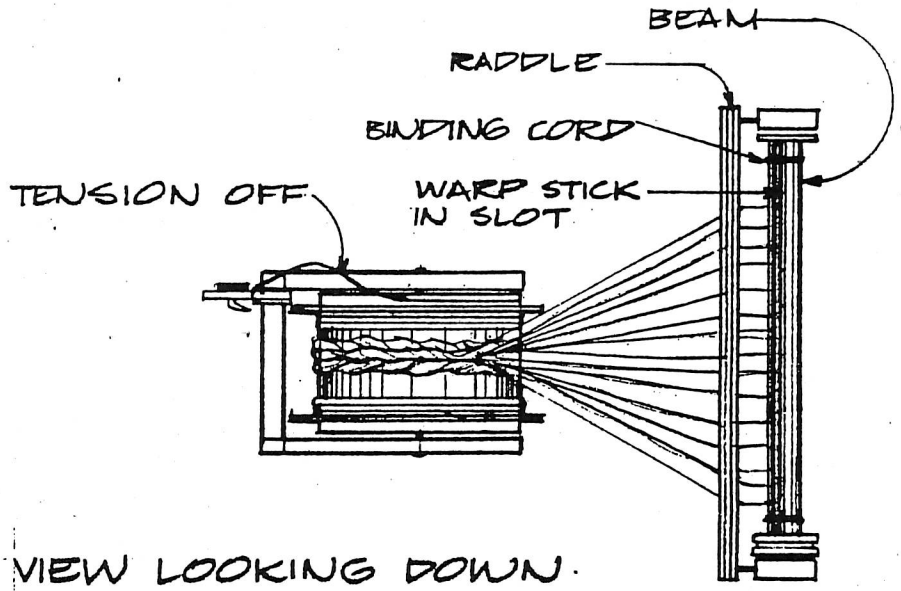
FIG. 1.



SECTION THRU DRUM SHOWING ROPE WINDING



SECTION THRU DRUM SHOWING TENSION DEVICE



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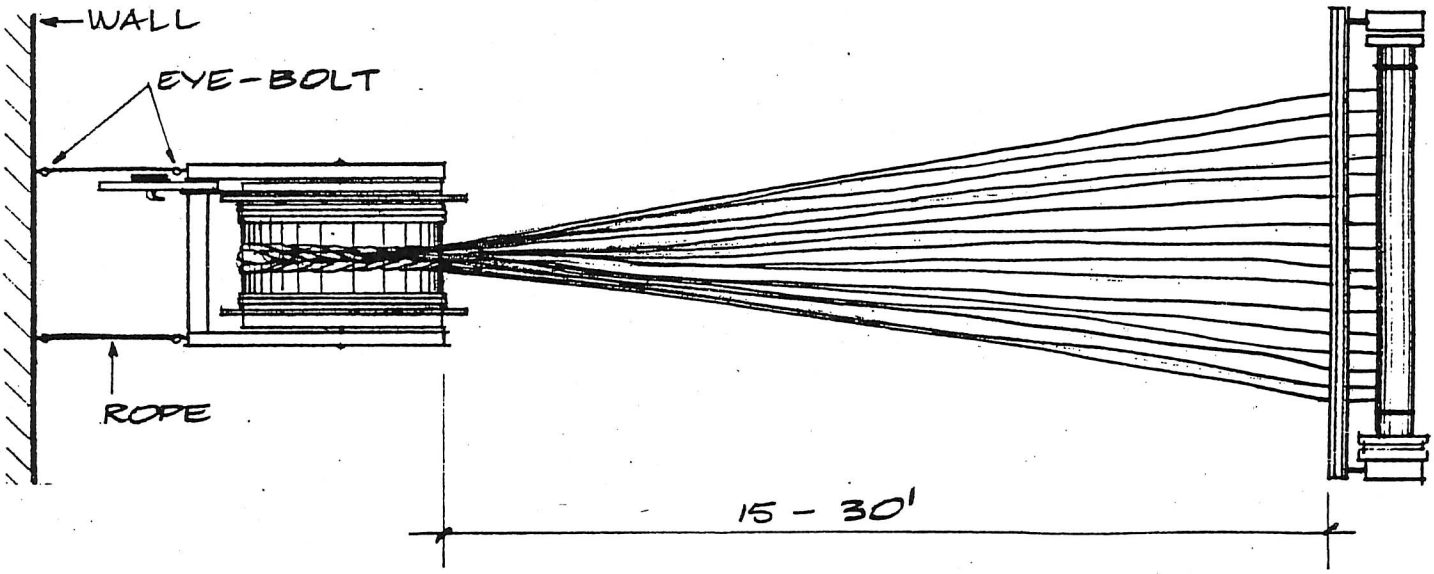
POSITION OF DRUM FOR ATTACHING WARP TO BEAM

FIG. 2



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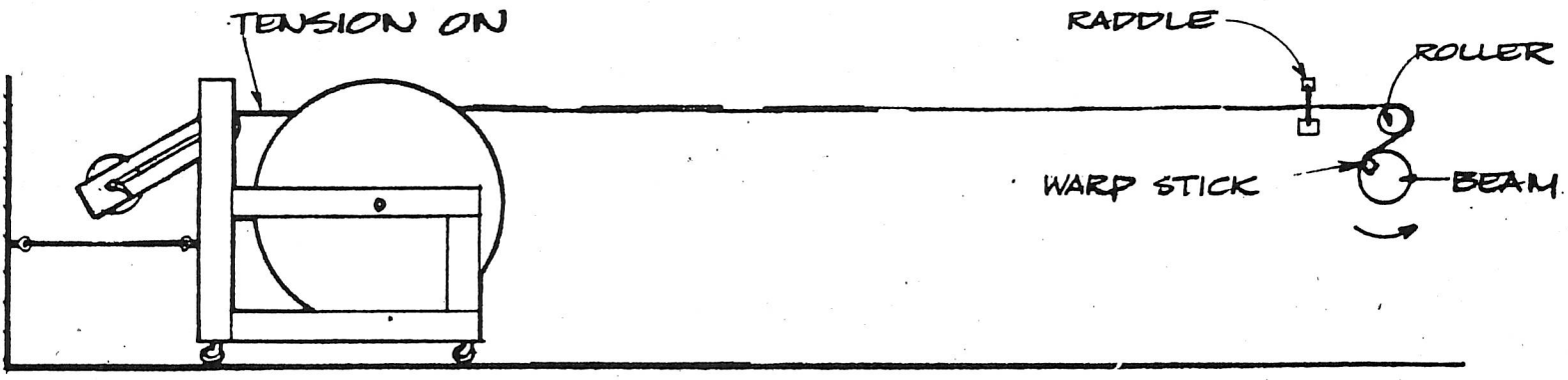

SIDE VIEW

POSITION FOR WINDING WARP FROM DRUM TO BEAM