BEKA SG FRAME LOOMS

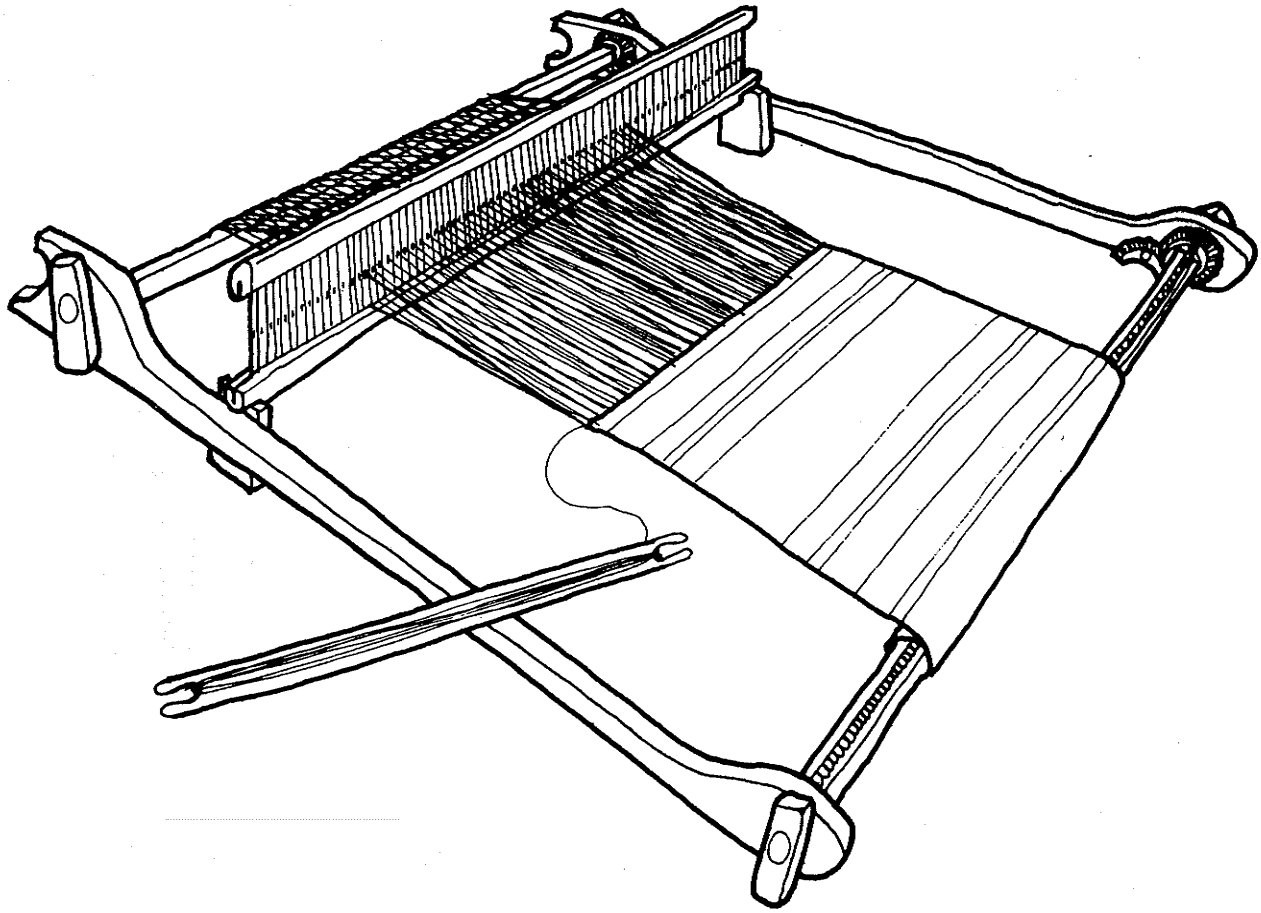


fig. 1

Your BEKA loom has been individually handcrafted from quality materials and will give you maximum functional versatility. To preserve the beauty of your loom, we recommend that you treat it like any other piece of fine furniture. In return, it will give you many years of enjoyment.

 BEKA Looms 542 Selby Avenue St. Paul, MN 55102

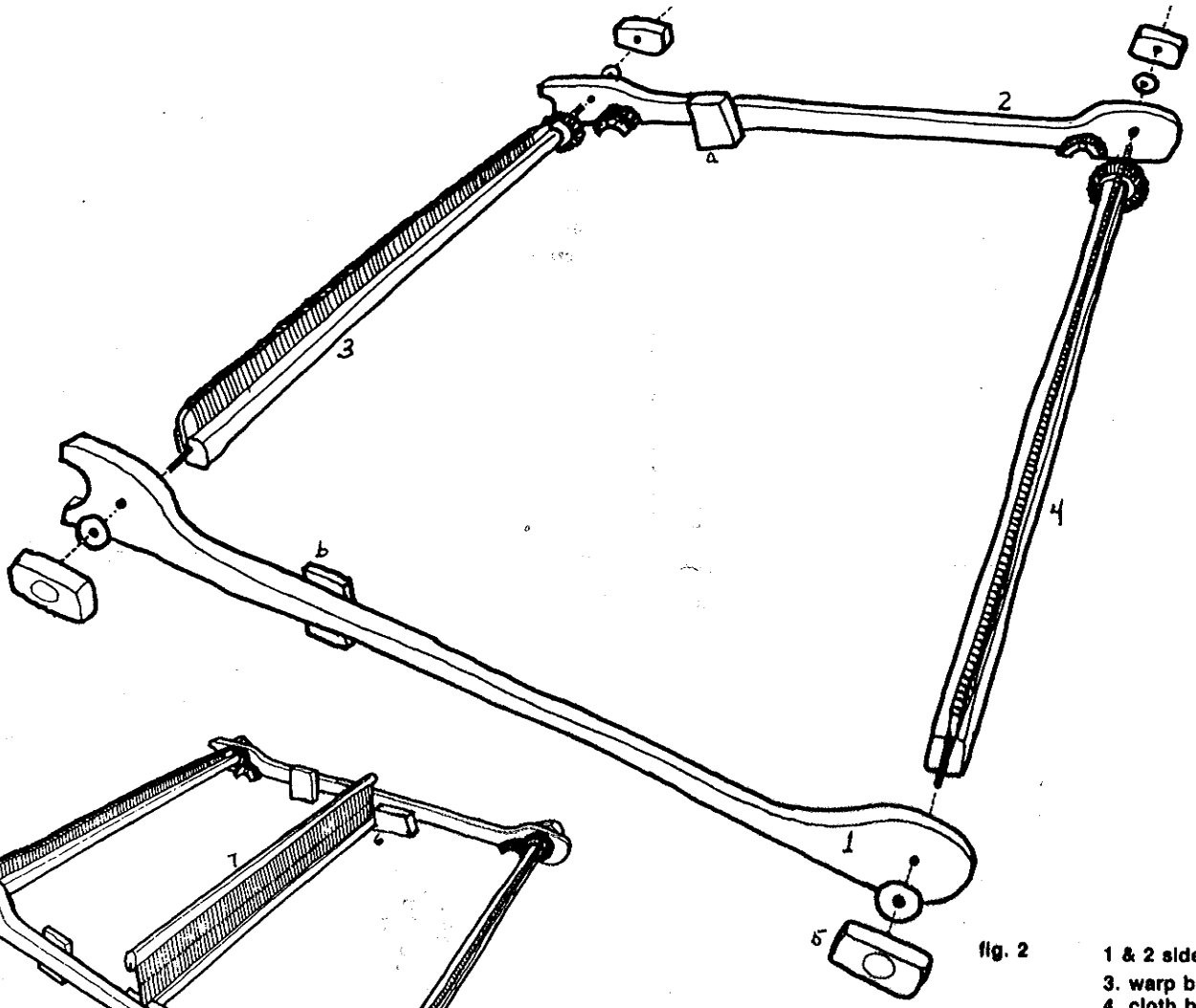


fig. 2

1 & 2 side pieces
3. warp beam
4. cloth beam
a & b. shed blocks
5. tension knobs
6. auxillary heddle blocks
7. heddle

2 shuttles
1 pattern stick

fig. 3

Note for SG 20 and 24" looms:
These looms come with a ratchet and pawl assembly to give you increased tension possibilities. Attach the two pawls with the screws provided in the small holes drilled in the right side piece (piece 2 in fig. 2).

Loom Assembly

1. Position the four pieces of the loom frame as shown in fig. 2. The side pieces (1 and 2) should be placed with their flat sides down, and the shed blocks positioned toward the back of the loom and inside the frame. The warp beam and cloth beam (pieces 3 and 4), should be placed with their dents facing upward, flat sides toward the inside of the frame. The ratchets on SG 20 and 24" models are on the right side of each beam.
2. Insert the threaded rods of pieces 3 and 4 into the holes in pieces 1 and 2.
3. Place a washer on each threaded rod.
4. Place the tension knobs (5) on the threaded rods and tighten them until snug but not too tight.

Preparing for weaving

1. Place the two auxillary heddle blocks (6) inside the frame and stand the heddle upright in the grooves in these blocks (fig. 3). The heddle should stand with its longer side down and its curved side facing front.
2. Mark the center of the heddle and the center of each beam as reference points for centering your work.

Project Size

BEKA SG frame looms come in 14", 20" and 24" weaving widths. The width of the heddle determines the maximum fabric width that can be woven on a particular loom. SG model looms will hold up to 4½ yards of warp yarn, depending on the thickness of the yarn and the thickness of the finished fabric.

Sett

A 10 dent rigid heddle comes with your loom.* The heddle can be threaded by filling every hole and slot to create a balanced weave fabric – a sett of 10 warp ends per inch, or 10 e.p.i. A weft faced fabric can be created by filling every other hole and slot for a sett of 5 warp ends per inch, or 5 e.p.i.

Yarns

A warp yarn should be chosen for its strength, and choice is limited to what will fit into the holes in the heddle. Yarns such as carpet warp, 3/2 perle cotton, seine twine up to size #18, and wools up to worsted weight thickness will all fit into a 10 dent heddle. Any type of yarn or fiber may be used for weft.

Calculating the warp

To figure the amount of warp yarn needed for your project, determine the sett of the fabric you wish to make (either 5 or 10 e.p.i.) and its finished length and width. The following formulae are used to calculate warp amounts.

number of warp ends needed = finished width x sett.

length of each warp end = finished length + 10% take-up + 24" loom waste.

$$\textbf{total warp yardage} = \frac{\textbf{number of warp ends x length of each end}}{\textbf{36}}$$

For a balanced weave fabric, you will need an equal amount of weft yarn. *For a weft faced fabric,* you will need about 4 times as much weft yarn.

Sample project

For a weft-faced sampler 20 inches wide and 32 inches long, warp would be calculated as follows:

20" x 5 e.p.i. = 100 warp ends
32" + 3" + 15" = 50" warp length.
$\frac{100 \times 50}{36}$ = 138 yards of warp yarn needed.
138 x 4 = 552 yards of weft yarn needed.

Warping Equipment needed

a BEKA warping board or BEKA warping posts and clamps, or an equivalent device for measuring warp yarn.

a piece of heavy paper cut to loom width and warp length.

scissors

warp yarn

steel crochet hook #8 (provided with loom)

for warping method 2, you will also need 5 to 6 yards of strong string or cord

* 8 dent and 12 dent heddles are also available for your BEKA loom for more versatility in your weaving.

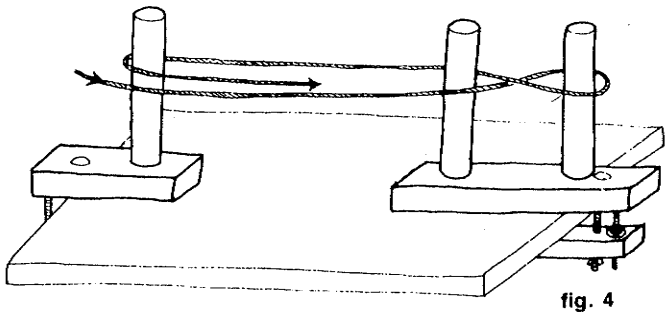


fig. 4

Measuring Warp

Set up warping posts to desired length (fig. 4), or determine where the warp length will fit on a warping board (fig. 5). Tie the yarn loosely to the end post to secure it. Wind the warp in a continuous series of figure-eight loops, forming a *warp cross* at the two close pegs. Each figure-eight loop is composed of 2 warp ends. The warp cross serves to keep the threads in the exact order in which they were wound. When the desired number of warp ends has been measured, tie the yarn loosely to the end post again and cut it off. With a contrasting thread, tie through the warp cross to preserve it (fig. 6). Make another tie at the opposite end of the warp. For Method 1 below, mark the top of the warp loops nearest the cross with a marking pen.

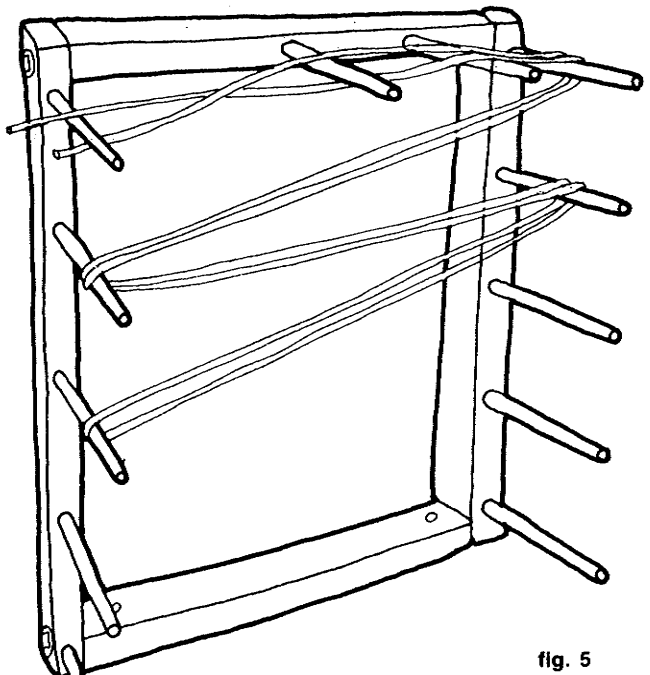


fig. 5

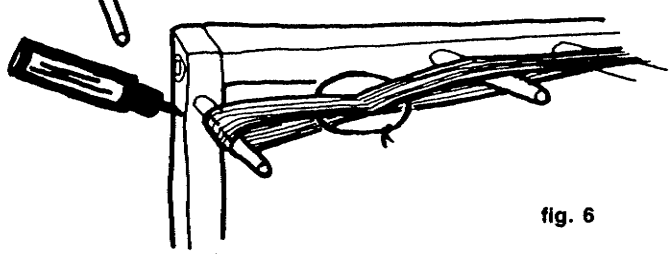


fig. 6

Dressing the loom

Method 1: *Recommended for short warps and 5 e.p.i. fabrics. Do not use for multiple heddle warps.* In this method, warp loops are not cut until the warp has been wound onto the loom.

1. Center your warp. Determine the starting point for threading the heddle, according to the width of your project.

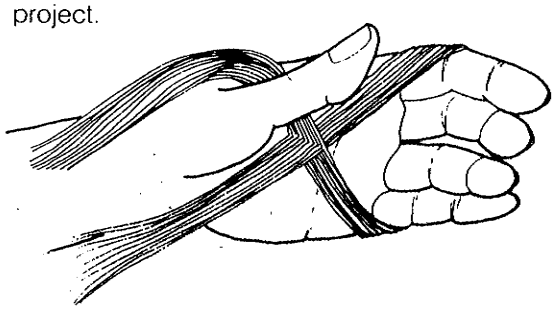


fig. 7

2. Lift the warp chain off board or posts. Place left hand through the warp cross with fingers in top loop and thumb below cross (fig. 7). Remove crosstie.

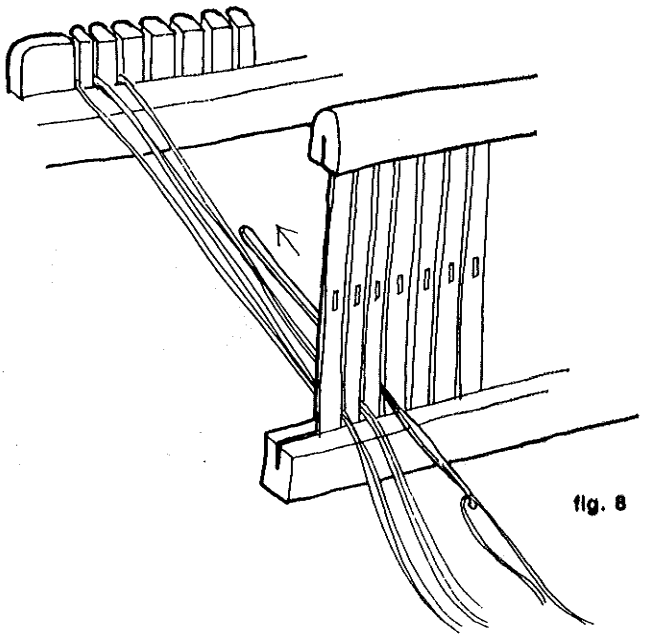


fig. 8

3. Pick up the top loop from the cross and insert it through the first slot in the heddle, and loop it over the first dent on the warp beam. (The slots in the 10 dent heddle correspond to the notches between the dents on each beam.) *Take care to center the markings on each warp loop on each dent* (fig. 8). Continue to place warp loops in every slot and around each dent for 10 e.p.i. fabrics, and in every other slot and around every other dent for 5 e.p.i. fabrics, until all loops have been placed.

4. Wind warp onto the warp beam with heavy paper wound between the layers to maintain an even tension (fig. 9). To do this, insert the edge of the paper under warp loops. Loosen the tension knobs and rotate the warp beam one full turn. Stop, tighten the knobs, and

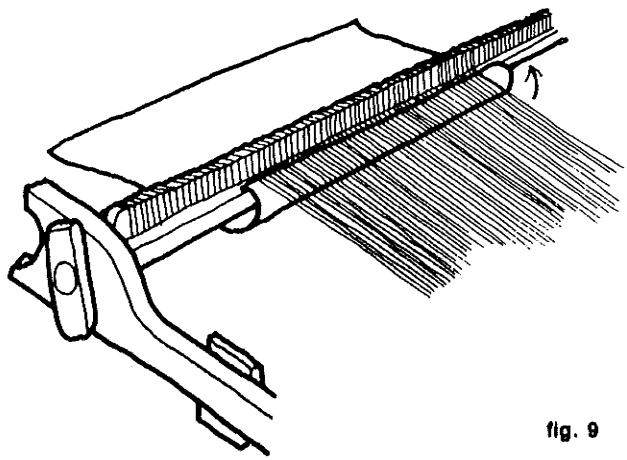


fig. 9

pull back on the warp ends to tighten them. Shake out any tangles in the yarn with a whipping motion. Repeat this winding and tightening process until the end of the warp is 4 inches from the cloth beam. *For SG 20 and 24" looms: engage the pawl and ratchet whenever you stop winding.*

5. Cut the end of the warp and shake out any further tangles.

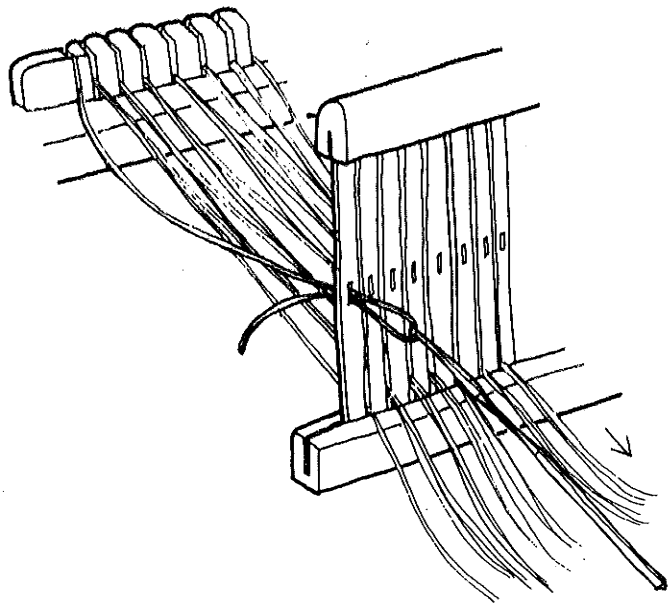


fig. 10

6. Thread the holes in the heddle by pulling one warp end out of each slot and inserting it into the adjacent hole using the hook provided (fig. 10). *Be careful to hook the ends of the threads only, so as not to weaken them.*

7. Place warp ends into the notches on the cloth beam; one in each notch for 5 e.p.i., 2 in each notch for 10 e.p.i. fabrics.

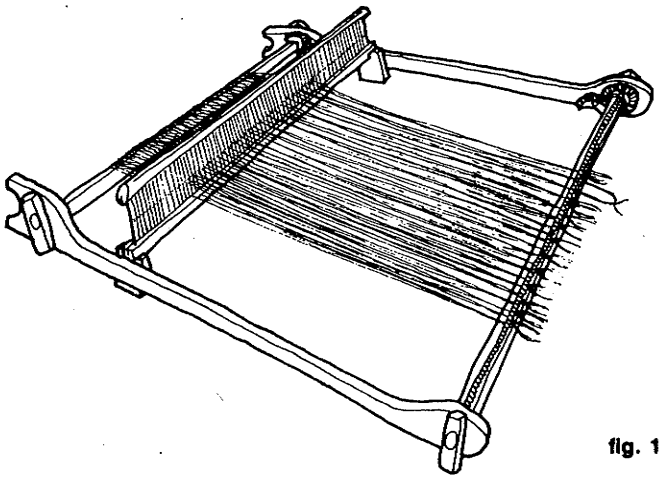


fig. 11

8. Temporarily tie 4 threads at each end into bows against the dents (fig. 11). **Place the heddle in the upper position on the shed blocks.** Now tie all the warp ends in groups of 4 or 8 into bows against the dents (fig. 11). Try to maintain an even tension while tying.
9. Check the warp tension by placing the heddle below the shed blocks and tilting the loom at a 45 degree angle. If the heddle slides forward, tension is too loose. Tighten it by loosening the warp beam knobs and rotating the warp beam until the heddle is held firmly under the shed blocks. Spots of uneven tension can be adjusted by retying the appropriate bows.

Dressing the loom

Method 2: *Recommended for striped warps, 8 or 12 dent heddles, and multiple heddle warps.* After warp yarn has been measured on warping posts or board:

1. Tie a loop of cord loosely through the warp cross (fig. 6 above).
2. Make a "choke" tie with 18" of cord 12 inches beyond the cross. This should be tied very tightly (fig. 12)
3. Carefully cut **both** ends of the warp and remove it from the warping device.

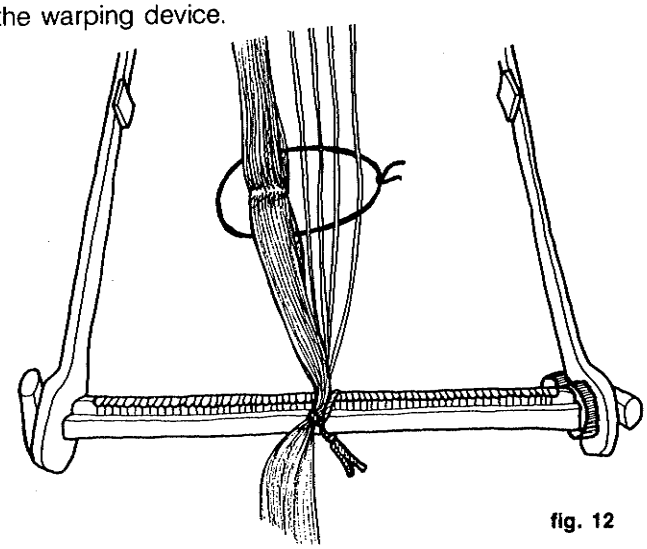


fig. 12

4. Use the long ends of the "choke" tie to secure the warp to the cloth beam of the loom (fig. 12). Turn the loom so the warp beam faces you.
5. Center your warp. Determine the starting point for threading the heddle, according to the width of your project.
6. Withdraw threads from the cross in order, one at a time, and thread them through holes and slots in the heddle using the hook provided. *Be careful to hook the ends of the threads only, so as not to weaken them.*

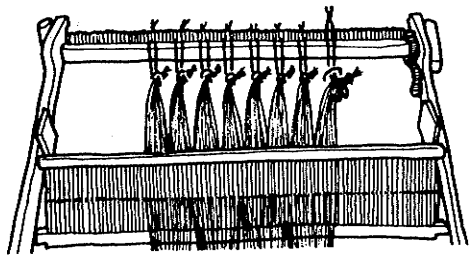


fig. 13

7. When 10 ends have been threaded, tie them together in an overhand knot (fig. 13). Continue until all warp ends have been threaded and tied.
8. Cut pieces of cord 14 inches long, one for each warp bundle. Fold the cords in half and tie the ends in an overhand knot.
9. Attach the cord loops to the warp bundles with a larks head knot (fig. 13). Hook the knotted ends of the cords over several dents on the warp beam.
10. Wind the warp onto the warp beam with paper between the layers as in Method 1, step 4. Wind until the end of the warp has just passed the cloth beam. Turn the loom around so the cloth beam is facing you.
11. Adjust the cloth beam so the dents are pointing toward you at a slight angle. Adjust the warp beam so the warp bundles are 3 inches inside the cloth beam. **Place the heddle in the upper position on the shed blocks** (fig. 14).

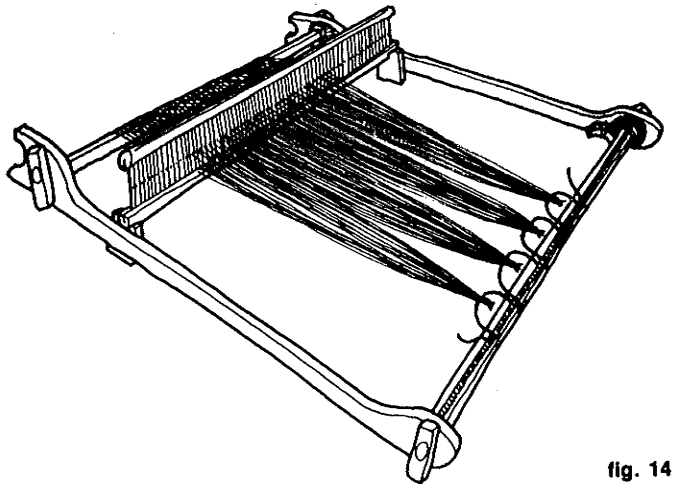


fig. 14

12. Tie the warp ends into bundles of 10 with overhand knots, as in step 7 above.
13. Measure a single cord, allowing 10 inches for each warp bundle. Wind it into a butterfly or small ball.

14. Tie the end of the cord to the first 2 or 3 dents on the cloth beam. Pass the cord through the first warp bundle, and around 2 or 3 corresponding dents on the cloth beam (fig. 14). Continue passing the cord through the warp bundles and around dents until all warp bundles are lashed. Try to maintain some tension on the cord while lashing, and **do not allow any warp bundles to touch the beam.** Tie the end of the cord to the last 2 or 3 dents on the cloth beam.
15. Check and adjust the tension as in Method 1, step 9. Spots of uneven tension may be adjusted by tugging on the lashing cord and distributing the slack evenly across the warp.
16. Weave a heading of rag strips, paper strips, or heavy yarn to spread the groups of warp to their proper sett. This heading will be unravelled after the piece is removed from the loom.

Beginning to weave

Wind shuttles with weft yarn.

Forming the sheds

1. Sit with the loom in your lap and the forked ends of the loom braced against a table or ledge.
2. Raise the heddle and stand it on top of the shed blocks. An opening is formed between the hole threads and slot threads. This is the *upper shed.*
3. Pass the shuttle through the shed. Lay the weft at a 30-40 degree angle, leaving a 2 inch 'tail' at the edge.
4. Put down the shuttle and grasp the heddle with both hands for even beating. Bring the heddle forward to press the weft in parallel to the cloth beam.
5. Return the heddle to the shed blocks, this time placing it below the blocks to form the *lower shed.* Insert the weft into this shed, forming a similar angle. Insert the 'tail' from the previous row into this shed, also.
6. Repeat the beating motion.

Continue to alternate between upper and lower sheds, passing weft and beating each time, and maintaining a consistent weft angle for even edges.

note: the exact angle of weft needed will vary with each type of yarn used, and the sett. Too steep an angle will cause loopy edges; an insufficient angle will cause the fabric to narrow. Experiment with the angle you need to obtain a good selvage.

Advancing the warp

When the fabric nears the shed blocks, it will be necessary to advance the warp.

1. Lay the loom down flat on a table and loosen first the back, then the front knobs. Release the pawls on SG 20 and 24" looms.
2. Wind the finished fabric onto the cloth beam, stopping when the fabric edge is 3 inches from the cloth beam.
3. Tighten the cloth beam knobs, adjust tension and tighten warp beam knobs. On SG 20 and 24" looms, engage the ratchet and pawl.

note: To protect the fabric from damage by the cloth beam dents, insert a piece of heavy paper under the fabric for the first 2 or 3 turns around the cloth beam.

Adding weft

When the yarn on the shuttle runs out, wind more yarn, overlap the ends of the old and new yarns in the same shed for about 1 inch, and continue weaving.

Changing colors

End one color by leaving a 2 inch 'tail' of weft at the selvage, which is taken around the last warp end, and back into the shed. Start the new color in the same way at the other side.

Ending

When the cloth beam is filled and the warp cannot be advanced farther, end the weaving by leaving a 2 inch 'tail' of weft which is taken around the last warp end and back into the shed.

Tying off

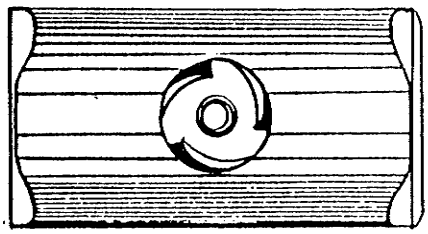
To tie off the weaving, cut several warp ends behind the heddle, pull them through the heddle, and tie 2-4 ends in an overhand knot against the edge of the fabric. Continue cutting and tying a few threads at a time, until all warp ends are tied off. Unwind the fabric from the cloth beam, lift off the weaving, removing heading, if any, and tie off warp ends against the fabric edge in a similar manner.

A NOTE ABOUT OUR SG-LOOM KNOBS:

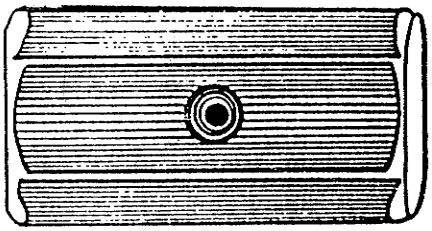
The wood knobs we provide with our SG-model looms are equiped with a metal insert that is threaded to engage the threads on the metal rods that run through the center of our SG-model loom beams. It is important that the knobs be used in the correct orientation, or the metal insert (called a T-nut) may be pulled out of the knob.

To use the knobs correctly, hold them so the side of the knob with the larger hole is in your palm. The threaded rod is screwed into the smaller hole on the other side of the knob. The smaller hole will be against the washer on the loom's side, while the larger hole remains visible on the outside of the knob, when the knob is tightened

The larger hole is oriented away from the loom, and remains visible.



The smaller hole goes against the loom during use.



NOTE: Do not over-tighten the knobs. In normal use, you should stop tightening the knobs when they are firmly screwed against the washer on the loom's side. Over-tightening can result in the threads of the metal insert being stripped.