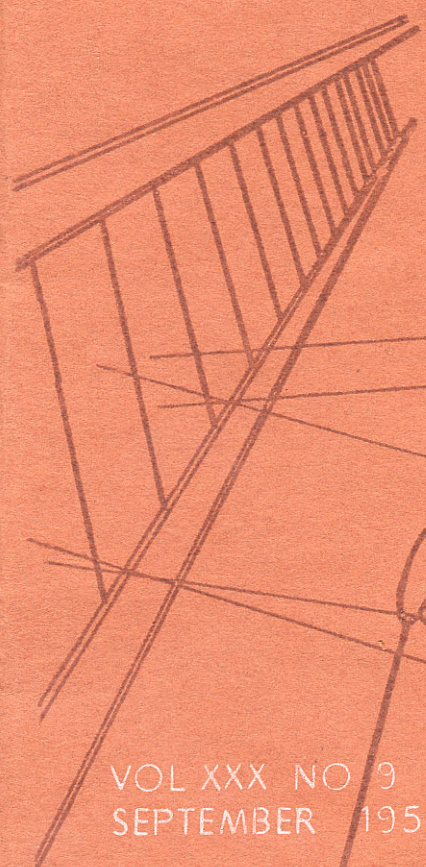
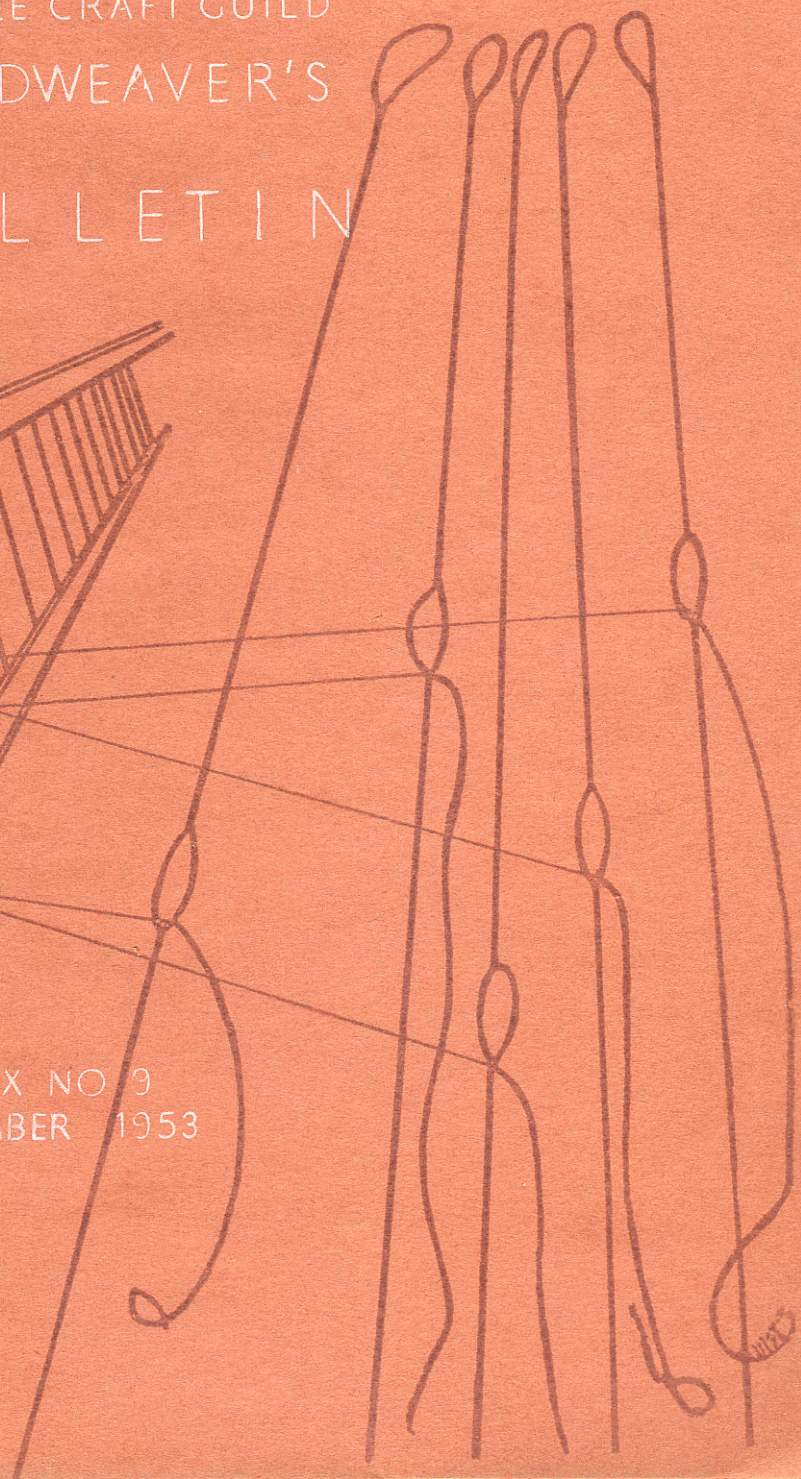


SHUTTLE CRAFT GUILD
HANDWEAVER'S
BULLETIN



VOL XXX NO 3
SEPTEMBER 1953



The Shuttle Craft Guild
Handweaver's BULLETIN
Volume XXX, Number 9
September 1953



LESSONS for BEGINNERS in 2-HARNESS WEAVING

Is there a handweaver who has not at some time the desire to share with a fellow enthusiast his own great pleasure in his craft? Or one who is not on some occasion called upon to help with or establish a weaving program for a local art group, a school, a hospital or simply for a few neighbors? Or one who with limited and perhaps scattered experience and background is not faced with the mystifying problems of evaluating unknown equipment, selecting suitable projects for a learner, determining warp and weft materials, settings, techniques and methods and many other problems for a beginner, to which only many years of study and experience could supply adequate answers? It is for this weaver -- the one who is called upon or who wishes to share his own pleasure in the designing and weaving of textiles -- as well as for the beginner or the group of beginners, that this group of 2-harness weaving lessons is presented.

The 2-HARNESS TABLE LOOM and other EQUIPMENT

Textiles can be woven, and since the first cave man entwined fibers together have been woven, on the simplest and crudest of equipment. Merely two sticks with threads stretched between them have served as a loom on which primitive man has woven marvelous, complex textiles. But the civilized hand has not the

Published monthly in Virginia City, Montana, by Harriet and Martin Tidball, The Shuttle Craft Guild. Sent to all members of the Shuttle Craft Guild, with other publications, for the annual fee of \$7.50.

dexterity of the primitive one, nor the civilized mind the patience, and such crude weaving equipment is not feasible for the modern handweaver.

Handweaving is the production of textiles on an arrangement of parallel, tensioned threads known as warp, by separating these threads in systematic manner into at least two mutually compensating divisions, or sheds, through which weft is placed at right angles to the warp to make a complete interlacement. To carry through this process certain basic equipment is required, the first item being a frame which will hold the warp threads perfectly parallel, regularly spaced, and under the correct and adjustable tension. If the warp is to be longer than the size of the frame, two rollers are required, one on either end of the loom, known as the warp beam on which the warp threads are rolled and the cloth beam onto which finished cloth is rolled. Each beam must have a rod parallel to it and attached by long cords or a piece of cloth called an apron, to which the actual tie-in of the warp is made. The beams must be perfectly parallel to each other and to the basic frame of the loom which consists of a back beam above the warp beam, over which the warp is stretched, and a breast beam over the cloth beam over which the woven cloth extends, and side pieces which connect these two rigidly. The warp and cloth beams must turn easily so that warp and cloth may be wound onto them, and they must have an attachment, usually a ratchet and prawl, which will hold them in fixed positions during weaving. As warp must be held under fairly severe tension, the framework of the loom must be very strong, of hardwood, and held together with long screws or bolts. The separation of weaving sheds requires a special device in the center of the loom, held in a vertical frame known as the castle. The minimum shedding device for making only two compensating divisions of warp consists of two frames called harnesses which are hung vertically, perpendicular to the warp and can be moved up and down in compensating or counterbalanced motion. These frames or harnesses have steel bars at

the top and bottom on which are threaded wires with loops on each end and eyes in the centers, known as heddles. The eyes of the heddles, through which the warp ends must pass, must lie exactly in line with the top of the breast beam and the back beam when the harnesses are at rest. It is advantageous if the loom has a means for locking the harnesses in the raised or lowered positions. One further loom device is required for modern handweaving. This is a movable frame known as a beater which is swung between the castle and the breast beam, as near to the base of the loom as possible. This frame holds a comb-like frame of steel known as a reed, which has evenly spaced steel bars forming vertical slots. The reed is precisely constructed, with a specific number of spaces, slots or dents per inch. As these dents control the spacing of the warp, a weaver must have several reeds of different dentages to produce different types of fabrics, and the top of the beater must be easily removable to permit the changing of the reed. The reed should be placed in the beater so that the bottom of the dents is level with the tops of the heddle eyes on the lower harness when the harnesses are separated. It must move freely and be of strong and heavy construction because the beater is used to place each weft thread into correct position as weaving progresses.

These are the basic requirements for a loom of the simplest type. The width of the loom is a matter of preference and determines the maximum width of a fabric woven on it. The way to determine the maximum warp or cloth width for any loom is to measure the inside distance from one side to the other of the harness. The reed should be at least this width. A very practical 2-harness loom is the #14 Leclerc, as it compromises none of the basic points mentioned above. It has an inside harness width of 14 3/4 inches, and a warp and cloth beam capacity of 5 to 10 yards, according to the fineness of the material. As the cost of this loom is only \$24.85, it provides a means for a person to learn all of the basic principles of handweaving and to produce a wide variety of textiles, without making a large investment.

Most of the tools for weaving are supplied with the Leclerc loom: a pair of stick or poke shuttles around which weft thread is wound, a drawing-in hook for drawing the warp threads through the reed (sleying), and two sticks with holes at either end known as lease sticks. A few further items are required for warping the loom, mainly a warping or measuring board. This may be made at home from hardwood and dowels or a good 5-yard capacity one may be purchased for \$5.25 or a 12-yard one for \$8.00. Weavers, notably ingenious people, have been known to wind warps on bureau drawer knobs, large nails driven into a wall, or even an arrangement of chair backs, but these make-shifts do not give the best warps. Useful in warping are a few dowel sticks, 3/4" hardwood dowels cut in half to make 6 are sufficient. In shuttles, a Norwegian Belt shuttle is useful for many types of weaving and may be purchased for \$1.00 from Lily Mills Co, Handweaving Dept, Shelby, N C. The small size Swedish throw shuttle (11", \$1.25 each) is practical for this loom and is much easier to use than a stick shuttle. This, however requires bobbins wound on quills of paper and a bobbin winder. A satisfactory wall-type hand bobbin winder (somewhat like a pencil sharpener) is \$6.00 and the Swedish type which clamps to a table is \$6.50. All manner of electric bobbin winders are available at considerable cost, but it is quite practical to make one by having a 7" shaft fitted into an electric mixer, sewing machine motor or any other small home motor. For weaving with fine material it will be necessary to have additional heddles as the loom is equipped with only about 250 and a fabric 14 2/3 wide with 30 ends per inch will require 440. The heddles are standard 9" wire ones which are \$1.25 per hundred, though string heddles may be made of carpet warp to substitute. Additional reeds are \$5.00 each, standard, 4 1/2" high and the weaver should have a 10-dent and a 12-dent in addition to the 15-dent with which the loom is equipped. The economic approach to reed purchasing is for 3 people to get a 45" one, which is \$7.50, and cut it to 15" lengths. A pick-up stick is required for many types of weaving.

A long wooden knitting needle may be used, but is improved if the point is sanded until it is beveled flat; or a wide type pick-up stick may be made from a ruler by sanding the finish off and whittling and sanding one or both ends to rounded points.

INSTRUCTION and REFERENCE BOOKS on 2-HARNES WEAVING

HANDWEAVER'S INSTRUCTION MANUAL by Harriet D Tidball
The Shuttle Craft Guild, Kelseyville, Calif,
\$3.00. Basin information on the loom and weaving processes, bobbin winding, thread selection, warping, etc and also contains 4-harness weaving.

HAND LOOM WEAVING for AMATEURS, by Kate Van Cleve,
Charles Branford Co, Boston, \$1.50. Excellent basic instruction for the small, 2-harness loom including directions for specific articles.

HANDWEAVING FOR PLEASURE AND PROFIT by Harriette J Brown, Harper and Brothers, New York, \$5.00.
A thorough treatment from equipment and yarns through processes and techniques.

THE INKLE WEAVE by Harriet D Tidball, The Shuttle Craft Guild, \$2.00. This booklet is devoted to the various types of Inkle weaving which are usually done on a special Inkle loom but may be woven even more easily on a 2-harness loom with the beater removed.

Shuttle Craft STYLES, 36 projects not all 2 har. \$4.00.
Shuttle-Craft BULLETINS on 2-harness techniques:

1950-#7	Spaced Warp Weaves, Linens	25¢
1951-#3	Linen Towels with Monograms	25¢
-#4	Rugs and Weft-faced weaving	25¢
-#5	Rugs and Flossa Pile weaving	25¢
-#6	Casual Decorative Weaves	25¢
-#11	The Spanish Eyelet (Lace) Weave	25¢
-#12	Pick-up Leno (Marquissette) "	25¢
1952-#6	Brookes Bouquet Weave	35¢
-#7	Danish Medallion Weave	35¢
1953-#5	Color Effect Weaves, Fine Wools	35¢

A SERIES OF BEGINNING LESSONS

These lessons are planned for the guidance of either the teacher or the group leader, or for the individual weaving student who works alone. The teacher will probably have adequate experience and a library of supplementary material. The individual learner will need at least a text book and the recommended one is the Kate Van Cleve HAND LOOM WEAVING, which may be purchased from the Craft and Hobby Book Service, Coast Route, Monterey, Calif. A serious handweaver will wish to start building a reference library at the outset. All of the threads and yarns used in the early lessons and most of those used throughout may be ordered from the Handweaving Department of Lily Mills Company, Shelby, North Carolina, who will send a set of sample cards for \$1.00.

LESSON I -- Preparing a Warp, Dressing the Loom,
Weaving a Table Runner.

Materials: 1 pound white carpet warp (Lily Art 414)
1 pound red carpet warp. Other colors such as blue and white, green and yellow, brown and tan, if preferred.

Warp: 15 ends per inch
x14 inches wide, 5 yards long
210 warp ends, but actually 208 because of
Color arrangement: 16 red, 16 white, 6 times, 16 red.

Dressing the loom:

1. Prepare, or wind, the warp, making a perfect cross on the lease pegs.
2. Tie the cross or lease with a loose loop of cord.
3. Chain the warp from the bottom of the board to the lease pegs, cut at the end peg beyond the lease and remove from board.
4. Substitute lease sticks for the lease tie, tie the two sticks together with cord through the holes at the ends, and tie the pair of sticks loosely to the breast beam.

5. Sley the warp through the reed, one end per dent, selecting threads in order from the cross.
6. Thread the warp through heddles on harnesses 1 and 2 alternately, working from right to left. At the end of each color stripe check the thread for accuracy and tie off the 16 correctly threaded ends, back of the heddles, with a simple loop knot which may be jerked to untie, and push right.
7. Tie-in the warp to the warp beam rod by carrying a color group (about 1" of warp) over the warp beam rod, dividing in half and bringing one half up on each side and tying in a hard knot.
8. Unchain the entire warp and cut the loops at end.
9. Straighten the warp its full length by pulling it from the extreme end.
10. Cut cords holding lease sticks to the breast beam.
11. Grasp the entire warp firmly with the left hand below the lease sticks, turn the lever to make a shed, holding the warp tautly, and insert a 3/4" dowel into the shed in front of the reed.
12. Change the shed, push the dowel forward, and insert another dowel in the new shed. Repeat until 4 dowels are in place.
13. Pull the pair of lease sticks down the warp about a yard (or less) to straighten and organize it.
14. Go to the back of the loom and turn the warp beam clockwise, pulling the warp toward the beam. The dowels will tension it. If tension is so heavy that warp will not move, remove a dowel.
15. When warp knots reach the warp beam, lay a piece of stiff paper or cardboard the width of the beam along the warp beam and roll the paper onto the beam with the warp to separate layers. Insert another piece of paper along the warp beam when required. Continue thus until entire warp is wound, pulling down the lease sticks each time they reach the tensioning dowels.
16. Remove dowels and lease sticks from warp and trim warp ends if they are uneven.
17. Make tie-in to cloth beam rod, using the handweaver's bow-knot, retying until tension is perfect. Test tension behind the beater.
18. Open a shed, carry a shot of weft through shed

and place it with the beater about half way to the breast beam. Change shed and carry another weft shot through it, leaving a $\frac{1}{2}$ " loop at the edge. Close the shed and beat the two shots together as far toward the tie-in knots as they can be forced. For some materials, 3 or 4 shots can be beaten together to spread the warp. Repeat until the warp is perfectly spread. The loom is now ready for weaving.

Weaving Process:

1. Open shed with right-hand motion, and beat.
2. Place shuttle carrying weft in shed, from right to left, just in front of beater, without touching either warp edge with shuttle or hands, and remove shuttle at left, making a sharp weft turn at right selvage but not drawing warp in.
3. Pull the beater sharply forward.
4. Open shed with left-hand motion.
5. Pull beater sharply forward.
6. Carry shuttle from left to right, and beat.

To Discontinue an old Weft and Enter a New Weft:

1. Cut discontinued weft about 1" outside selvage.
2. Carry this short end around edge warp and into same shed as last shot, under 4 warp ends.
3. Beat.
4. Change shed. Beat.
5. Place new weft shot in shed leaving about 1" at edge where previous thread was discontinued.
6. Beat. Carry this end around edge warp and into shed under 4 top warp ends and bring through.
7. After several shots are woven, clip the two ends. If old and new weft ends are of the same color and yarn the two may be crossed in the same shed, under 4 or 5 warp ends in the selvage area.

Selvage note: Make the weft turnings at the edges as neatly as possible, trying not to draw in the warp with the weft. Do not finger the selvages. Perfect selvages are the result of experience and rhythmic weaving so try first of all to establish good, rhythmic motion.

Weave a Table Runner:

Fill one shuttle with red carpet warp and one with white carpet warp. With the red shuttle weave $4\frac{1}{2}$ inches of plain cloth by throwing shots alternately in the two sheds and beating sufficiently to give a pleasing, practical cloth. Then weave with the white weft for about 20". Weave $4\frac{1}{2}$ inches with red to finish the other end, and cut the 29 inch piece from the loom. Whip or overcast the ends loosely with sewing thread 3 or 4 weft shots deep. Stitching on the machine is poor practice and may lead to puckering. Finer materials do not need whipping. Turn under ends and hem to the white line for a hem about 2" plus wide. It is always good design to make the hem to a structural design unit. Wash and iron. Complete finishing always includes this.

LESSON 11 --- Weaving a set of 4 Checked Table Mats.

On the warp which was prepared for LESSON 1, this is a problem in weaving perfect tabby. The tabby weave is a perfectly balanced plain weave which has exactly as many weft shots per inch as there are warp ends -- in this case, 15. The perfect tabby is achieved through developing the correct beat for the particular material and warp setting, and requires practice, counting and measuring for each new fabric. Double beats may be required, or very light beats.

Weave: 63 shots with red weft which should measure, with the cloth beam tension released, exactly $4\frac{1}{2}$ ". Change to the white weft and weave 16 shots to make exact white squares; weave 16 shots of red and repeat these two squares 6 times, then end with the white square. Weave $4\frac{1}{2}$ " red. Weave 2 shots with white to indicate the end of the mat and the beginning of the next one and then repeat the entire design 3 times to make 4 mats. The mats when hemmed will measure about 18 inches long and will shrink in washing to about 13" by 17".

LESSON III -- Weaving fine Cotton Napkins and Apron
to match the Luncheon Mats.

Materials: $\frac{1}{2}$ pound red 20/2 cotton (Lily Art 314)
Red and white carpet warp from previous lesson.

Warp: 30 ends per inch May be made 14" wide
 $\frac{\times 12}{360}$ inches wide if desired.
360 warp ends, 5 yards long.

Sley: 2 per dent in a 15-dent reed

Thread: Harnesses 1, 2, alternately. This will require
360 heddles so it will be necessary to purchase
additional ones or to tie string heddles.

Design for Napkins:

Weave: 1" tabby (30 shots) with red 20/2 cotton.
Enter red carpet warp and weave 2 shots but do not
discontinue. At opposite selvage enter white carpet
warp and throw 2 shots and do not discontinue thread.
Weave 2 red, 2 white 2 red, 2 white and discontinue
white, 2 red and discontinue red. Resume the red 20/2
weft and weave $11\frac{1}{2}$ " to complete napkin. Throw pair of
white shots to indicate end, and repeat for 4 napkins.

Design for Apron:

Weave: 24" of red 20/2 tabby for making apron
strings; and 28" red tabby for the top part of the
apron. For the lower part or ruffle of the apron
weave in alternate stripes of 3" of 20/2 red tabby
and 1" with alternated double shots of red and white
carpet warp as in the napkin borders. Make this
piece about 44" long, or longer if desired. To make
up the apron, gather the 44" strip onto one side of
the 28" strip, or pleat it on with box pleats.
Cut the 24" piece into 3 lengthwise strips for the
waist band and apron strings. Gather the other side
of the 28" strip onto the waist band, after the sides
of the skirt have been hemmed under. Hem and attach
the apron strings and hem under the waist band in the
conventional manner. The bottom of the apron may be
hemmed or not, as desired.

LESSON IV -- Linen and Raffia Mats.

Materials: 2 2-ounce or 1 4-ounce tube of 20/2, 12/2 or 14/2 linen in a color, and 2 large hanks of raffia, colored if desired, from a school supply store. (These mats were designed by Mrs L M Neudeck who used copper colored linen with a dark mossy green raffia).

Warp: 84 ends of linen, 6 yards long.

Sley: In a 15-dent reed, 1 per dent and skip a dent for 12 ends, skip 7 dents, repeat to end of warp. Width will be $13\frac{1}{2}$ inches.

Thread: Harnesses 1, 2 alternately.

Weave: Place raffia in the two alternating sheds, beating firmly. When raffia length ends, cross new end and the old one about 1" to $1\frac{1}{2}$ " inside the selvages and continue weaving. The raffia is easier to weave, particularly in making neat turnings, if it is damp, so it is a good idea to keep it rolled in a damp towel. Weave 13" per mat. At the end of a mat place a 3" wide strip of cardboard or fold of stiff paper in a shed to separate it from the next mat and allow for a fringe. The warp is sufficient for 3 mats. When mats are removed from loom cut apart in the middle of the fringe allowance. Tie pairs of warp ends in small knots, pushing knots firmly, in a neat row, against the first raffia shot.

LESSON V -- Linen Towels with Blended Color Stripes.

Materials: 4 ounces 40/2 linen, white or natural.
4 ounces each of 3 light, harmonizing colors in 12/1, 10/1 or 7/1 linen, and 2 ounces of a harmonizing dark color. The 12/1 will make fine, light weight towels, the 7/1 heavier ones.

Warp: $22\frac{1}{2}$ ends per inch

X10 inches wide

224 warp ends, 5 yards long for 6 towels.

Sley: 15-dent reed, 2, 1 alternately.

Design for Towels:

This plan is for 2 sets of 3 small hand towels, each one with one of the light colors for the body, the other two light colors and the dark color for the blended stripe borders. The colors selected for the models were yellow, chartreuse and aqua with conifer green as accent. Other combinations might be peach, tawny tan, light blue, cattail brown; pink, blue, grey, Persian blue; etc. The towels should have hems about 1" deep at each end the length should be twice the width when the towel is finished, or about 19" long, requiring about 22" of weaving.

Weave: 3" plain with the first color. Then blend stripes thus:

1	shot	-	color	2
3	"	-	"	1
2	"	-	"	2
2	"	-	"	1
3	"	-	"	2
1	"	-	"	1
4	"	-	"	2,

then enter the 3rd color and blend in the same way. The 4th or dark color is carried as far as 3 shots and then the entire succession is reversed to make the border symmetrical. Weave in plain weave until 19" have been completed, using the first color. Then weave 2 shots each of colors 2, 3, 4, 3, 2, and end with 3" plain in first color. For the other two towels of the set, use the 2nd and 3rd colors as the basis and make stripes in the same manner.

Harnist D Tidball

Further lessons for the 2-harness table loom will be presented in the October 1953 BULLETIN. The lessons are planned to give a logical approach to 2-harness designing and to introduce the handweaver to the use of materials of many types. The early lessons all use the 15-dent reed which comes with the loom. The Leclerc loom and all equipment mentioned may be purchased from the Shuttle Craft Guild and the two instruction BULLETINS supplied free with each. September PORTFOLIO has samples for Lesson II and Lesson V, available for \$1.25.