

The Weaver's Journal

ISSUE I

JULY 1976 VOLUME I NUMBER I



Countryside II

Multiple- Harness Looms

- * Jack-type
- * Four or Eight Harnesses, Convertible
- * Three Sizes: 36, 42, and 48 Inches
- * Quick Action—Fast Harness Return
- * Wide, Accurate Shed * Balanced Beater
- * Easy to Thread * Open-Eye Heddles
- * Quick-Change Wire Tie-Ups
- * Easy Treading
- * Heavy Canvas Aprons
- * Passes thru 30-inch Doorway
- * Hard Maple
- * Danish Oil Finish

Our goal . . . in building the Countryside II is to provide serious weavers with a loom that will be easy to warp, easy to use, and that will help weavers get the best results from their efforts in the least time. And it should stand up for years.

The type of loom you select and the advantages it offers can be translated into enjoyment . . . time saving . . . easier operation . . . and if you weave as a business, in dollars of work produced. For these reasons, we hope you will consider the advantages which Countryside II offers you.

Sizes Available

Three weaving widths are presently available: 36, 42, and 48 inches. The loom is made with 4 and 8 harnesses; you can buy the loom with 4 harnesses and add four later; however, it is less costly to buy the loom with 8 harnesses at the outset.

Smooth-Action Jack-Type Design

The Countryside II is of jack-type design, the harnesses being raised by an all-aluminum lift system that assures their moving straight up and down, providing a clean, even shed. The lift system provides unusually easy treading and quick return. The harnesses are of high strength aluminum and travel in hardwood tracks. Harnesses cannot "hang up" or interfere with each other, thus assuring an accurate shed. There is no rusting and no paint to peel off.

Hardwood Construction; Oil Finish

The Countryside II is built of selected kiln dried northern hard maple . . . carefully sanded, and finished with durable, water resistant Danish oil, hand applied. Maple is extremely strong . . . dent and splinter resistant . . . and stable in its dimensions.

Quick Tie-Up System

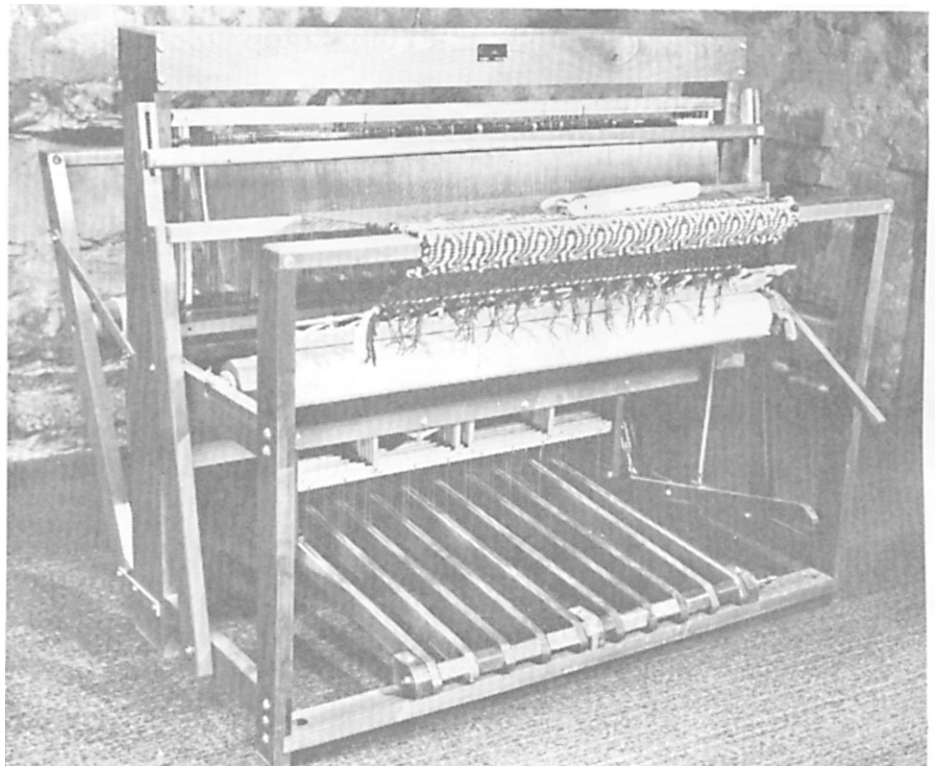
The hardwood treadles are attached to the aluminum lamms with steel wires which attach in a few seconds, need no adjusting, and cannot kink like chain, or wear thru like cord. There are no bolts in the tie-up system.

Wide Spaced Treadles

All Countryside II looms have ten treadles, spaced so two cannot be depressed at once by mistake.

Leg and Knee Room

For tall weavers, or weavers who like to stand while weaving, the high (35") front beam gives plenty of leg and knee room.



"No-stretch" Warping

The breast beam can be easily removed for warping if desired. The rear beam folds in, or down to the floor, to permit working within inches of the heddles. It is not necessary to lean over the beams to warp the Countryside II, making for faster warping in greater comfort.

Beams, Aprons, Ratchet, Brake

The rotary beams are of redwood, used for its dimensional stability. The warp beam has a friction brake which can be released slowly to prevent warp tangles that can occur with a ratchet-type brake. The cloth beam has a ratchet with an easy-to-reach handle to advance the warp. Front and back aprons are of heavy canvas, put on at the factory. Apron rods are 3/8-inch round aluminum rod.

Balanced Beater for Easy Operation

The beater is heavy enough for hard beating and is balanced for easy operation. The angle between the reed and the warp is close to 90° in all positions. There is an ample shuttle race. Extra weight can be added to the beater by fastening a metal bar under the shuttle race.

Wide, Clean, Accurate Shed

In the Countryside II, the warp threads lie flat and rise evenly, all the way across, giving a wide, clean shed (approx. 2¼ inches), adequate for large boat and rug shuttles. Harnesses in the DOWN position rest on a sloping base, which keeps the threads in the same plane. This prevents picking up threads by mistake with the tip of the shuttle.

Easy-to-Thread Heddles

Flat steel heddles with large eyes are supplied—20 per inch of weaving width. They are easy to thread, and easy on the warp. Wire heddles are optional.

Standard Equipment

The basic loom as ordered (4 or 8 harnesses); plain warp beam; 20 flat-steel heddles per inch of weaving width; two canvas aprons; 4 apron rods; lease sticks; slewing hook; friction brake on warp beam; ratchet on cloth beam; 12-dent plain steel reed.

Dimensions

Height: 47 inches. Depth: Open—45 inches; closed—29 inches. Length: 10 inches more than weaving width. The loom will fit in van-type automobiles (including VW).

Optional Equipment at Extra Cost

Loom Tray. Fits on top of loom; 6 by 34 inches inside. Holds shuttles, bobbins, reed hook, crank, etc. Maple, with hard-board bottom.

Sectional Beam. Consists of 4 removable sections which attach to warp beam with screws. Wood dowel separators on 2-inch centers.

Delivery Time

Delivery time depends on the orders on the books and the looms in production. We will be happy to give you an estimated delivery (or shipping) date if you will tell us the size loom you need. In general, delivery time is good.

Terms of Sale

Fifty percent with order; balance when loom is ready for shipment.

Greentree Ranch Wools

163 N. Carter Lake Road

Loveland, Colorado 80537

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The Weaver's Journal

Quarterly Journal For Textile Craftsmen

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July, 1976

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COVER : "Pine Tree Hooded Coat", quilted mohair and wool summer and winter pattern coat with black satin lining and leather trim, made and modeled by Barbara Knollenberg. Exhibited at "The Festival of Arts", May, 1976, in Boulder, Colorado.

Letter from the Editor

There is no substitute for a good weaving teacher, yet very many fiber craftsmen are isolated and their opportunities for taking classes can be limited. The purpose of this Journal is to give fiber craftsmen an opportunity to improve themselves, to learn technical skills, to increase their artistic awareness and to help them produce successful fiber projects. Craftsmanship, color, and design creativity are important factors which determine the quality of the handwoven work. The Weaver's Journal will bring to its readers articles aimed at improving their knowledge of techniques, equipment and aesthetics; articles which will bring to light the tremendous potentials of fibers as a medium for creativity.

The techniques of loom weaving and related fiber arts will be explored beyond the information given in standard textbooks. By no means will this Journal be a substitute for a basic weaving book. It is strongly recommended that the readers use one of these following textbooks for reference:

- "New Key to Weaving" by Mary Black
- "The Art of Weaving" by Else Regensteiner
- "Weaving" by Shirley Held
- "The Techniques of Rug Weaving" by Peter Collingwood
- "Byways in Weaving" by Mary Atwater

The articles in this Journal will deal with new approaches to well known weaves, with fabric structures and techniques which have fallen into obscurity and which deserve to be rediscovered by the contemporary fiber craftsman and with weaves that are used in the industry and which have remained unfamiliar to the handweaver. Some articles will deal with ethnic weaving; the patterns, fibers, colors and equipment which are cultural traditions of racial groups. Some articles will deal with the construction of helpful tools and equipment or will teach the readers what to look for when buying equipment.

Spinners, dyers and non-loom fiber artists will discover that each issue has an article of interest to them. The garment weaver and the interior designer will find information on fashions, on sewing with handwoven cloth, on finishing cloth and on making the proper fabrics for a specific use. For the beginning weaver, still insecure about the proper sett or yarn size, there will be "recipes" for a complete finished project.

Our future plans include the publication of a "portfolio" edition which will contain samples, at least 6" square, of woven material showing the successful use of techniques described in the Journal. These samples will come with all "specs" as to threading, yarn size, sett, etc.

The Journal will not publish "newsy" articles about adventures, experiences and accomplishments of weavers. Instead we will concentrate on scholarly material which will never be outdated. This Journal will become an important addition to your weaving library. The editors welcome requests from the readers for the publication of articles on specific weaves, projects and textile problems. Manuscripts and illustrations dealing with weaving and textile design are welcome and will be considered for publication.

We sincerely hope that this Journal will satisfy a need of the fiber craftsman

and that each issue will become an important contribution to the world of textile arts. The fourth issue of the year will contain an index for easy reference. The Journal hopes to give important information to the beginning weaver as well as to the most advanced. We would appreciate comments on the articles and on our philosophy. This Journal is dedicated to the weavers.

Inlay Techniques

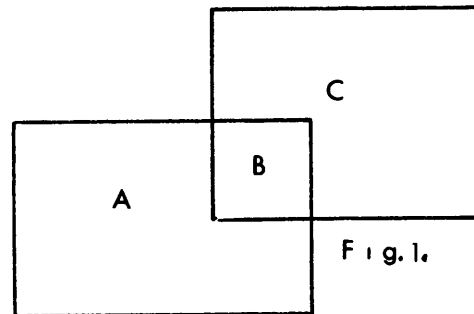
by Clotilde Barrett

Inlay is a tapestry technique, a method of producing free form areas of color and texture on a woven background. Inlay is used for wallhangings, screens, pillows, casement cloth or decorative fashion fabrics. The ground cloth is often a balanced weave, such as a balanced plain weave, woven with a rather fine cotton or linen yarn, in a neutral color. There are, however, many interesting possible variations of the ground cloth which makes the inlay technique a constant challenge to the handweaver. The pattern wefts are laid in in predetermined sheds. When the pattern wefts go from selvedge to selvedge, the technique is often called weft brocade. In inlay the pattern wefts are laid in areas dictated by the design of the tapestry. Note that if all the pattern threads are pulled out, the ground cloth will remain intact. The warps which are lifted to make the pattern shed are called the tie-down warps. The four techniques discussed here, differ in the selection of warp and weft yarns, in the structure of the ground cloth and in an arrangement of the tie-down warps. When the pattern weft is carried from one shed to the next, a small pattern float will appear on the surface. This often enhances the design. If this effect is unwanted, the weaver will have to consider the top surface the wrong side of the fabric which may be rather awkward.

With each one of the inlay techniques the following experiments are advised before embarking on an intricate tapestry:

1. Experiment with different warps and determine the appropriate sett for each.
2. Modify the ground cloth by using colored and textured ground wefts. Brocade the ground cloth by putting an additional and different ground weft in all or every other inlay shed, selvedge to selvedge.
3. Overlap two inlay areas. Fig.I.

When weaving area B, put both pattern wefts A and C in the same inlay shed in the B area. Pattern weft A and C can be the same size yarn in different colors, or a thick and thin of the same color or two shades of the same color.



4. The laid-in weft could be cut pieces of yarn or other fiber. The ends stick out on the wrong side or on the right side of the fabric depending on the desired effect.

weave the ground weft with a shuttle. Wind the pattern wefts in butterflies (fingershuttles).

If you have two warp beams, beam the tie-down warps on the second beam. This will result in a better tension all through the weaving.

INLAY ON A TWO HARNESS LOOM

Suggested yarns for warp: Fine cotton, linen, wool. For the groundweft, use embroidery floss, soft wools or mohairs, unspun wool. Hairs and grasses may be used in wall hangings. The pattern weft should be thicker than the background weft. Thread the loom for plain weave and set the warp for a balanced tabby.

Weave the background in plain weave with the ground weft. To weave the pattern areas insert a ground pick, beat, keep the shed open and lay the pattern wefts in the areas dictated by the design. To tuck in the beginning of the pattern weft, insert pattern weft from right to left in pattern shed, turn loose end around the warp thread that is at the right boundary and back into shed. Fig. II. Or the ends may be fastened on the wrong side of the fabric, and cut short. If the same pattern weft has to be laid in two separate areas separated with a few warps the pattern weft can be carried on wrong side from one area to the other.

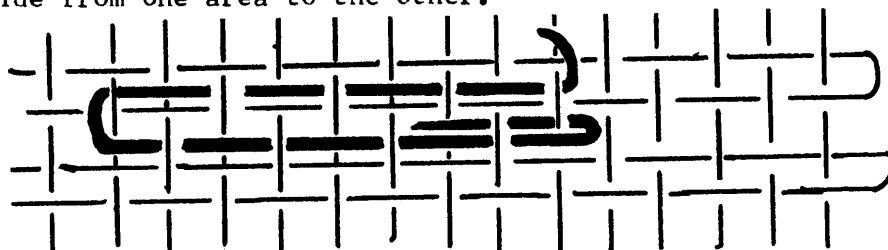


Fig.II.

In the sample woven by Jeanne Richards the warp is American Thread Co. crochet cotton Art. 150, in ecru, sett at 20 ends per inch. The ground weft is the same as the warp. The pattern weft is DMC embroidery floss. The inlaid design is based on Japanese calligraphy. the symbol means joy.

INLAY ON A FOUR HARNESS LOOM

1. Traditional Inlay

Suggested yarns for warp: Fine cotton, linen, wool. For the ground weft, use yarns which are the same or similar to warp. The pattern wefts should be thicker than groundweft. Set the warp for a rather gauzy balanced tabby. Plain twill threading is used. The tie-up is given in Fig. III.

2-harness Inlay

woven by Jeanne Richards



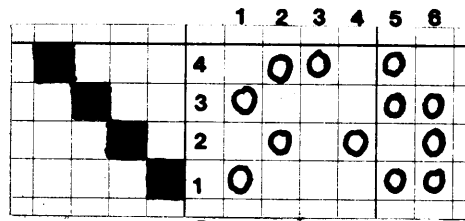


Fig III

To weave the ground, treadle 1 and 2 alternately for a balanced tabby. To weave the pattern areas, treadle 1, insert ground weft, treadle 3, lay the pattern wefts in the areas dictated by the design, treadle 2, insert ground weft, treadle 4, inlay the pattern wefts.

Pattern weft floats formed when the pattern weft is carried from one shed to the next will show on the surface. To avoid this the cloth should be woven upside down and the following treadling sequence should be used:

Treadle 1, insert the ground weft, treadle 5, lay in the pattern weft, treadle 2, insert the ground weft, treadle 6, lay in the pattern weft.

The ends of the pattern wefts are treated in the same way as for the 2-harness inlay (see Fig. II).

Half Dukagång is a variation of this type of inlay or weft brocade. In this case the pattern shed is always the same. Thus, treadle 1, weave ground pick, treadle 3, weave pattern pick, treadle 2, insert ground pick, treadle 3, weave pattern weft, repeat these four picks.

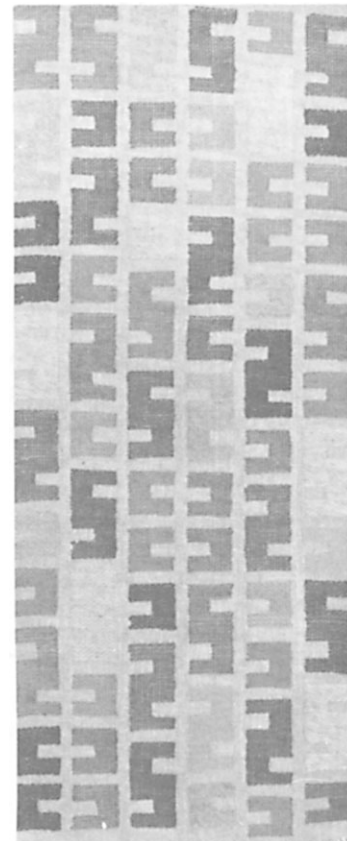
In the sample woven by Clotilde Barrett, the warp and groundweft is 20/2 dry spun linen, sett is 12 e.p.i. The pattern weft is rug wool.

2. Theo Moorman's Tapestry Technique

The tapestry technique used by this famed English weaver is based on four harness inlay. Her technique is described in detail in the book "Weaving as an Art Form, A Personal Statement" by Theo Moorman.

We will describe here, the principles of the inlay technique which she uses.

Two different warp yarns are used. A fine cotton in the background color symbolized by ●. A second still thinner cotton in a dark neutral color which blends in well with the pattern weft is symbolized by X. This is the tie-down warp.



Traditional Inlay
woven by Clotilde Barrett

For the groundweft, use a yarn similar to ●, a thin linen can be used successfully. For the pattern weft, use soft wools or novelty yarns. The threading and tie-up are given in Fig. IV.

Balance the threading by ending with two ●● warps. Sley X●● in one dent. With a 10 dent reed this will result in 30 e.p.i. Another way of sleying in a 10 dent reed is to sley X●●X●● in one dent, skip a dent, repeat.

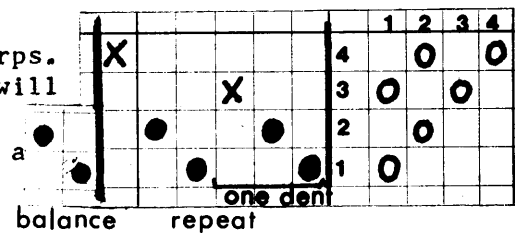


Fig.IV.

The ground weave is not a balanced tabby and is woven by alternating treadle 1 and treadle 2.

For inlay, using tie-down warps on harnesses 3 and 4, weave as follows:

- Treadle 1 - weave ground weft.
- Treadle 3 - weave pattern wefts in areas dictated by design.
- Treadle 2 - weave ground weft.
- Treadle 4 - inlay as required. Repeat

For inlay, using tie-down warps on harness 3 only:

- Treadle 1 - weave ground weft.
- Treadle 3 - inlay as required.
- Treadle 2 - weave ground weft.
- Treadle 3 - inlay as required.

To tuck in the beginning of the pattern weft, start pattern with shed opened by treading 3, then tuck the beginning in the shed opened by treading 1 (Fig V). End pattern with shed opened by treading 4, tuck in end in shed opened by treading 2.

In the sample woven by Maxine Wendler, the warp is 10/2 natural cotton from Lily Mills, the X tie-down warp is 50/3 brown cotton. The sett is 30 e.p.i., in a 10 dent reed, sleyed 6 ends in one dent, skip a dent; repeat. The ground weft is 10/2 cotton and the pattern wefts are 2-ply wool in six colors.

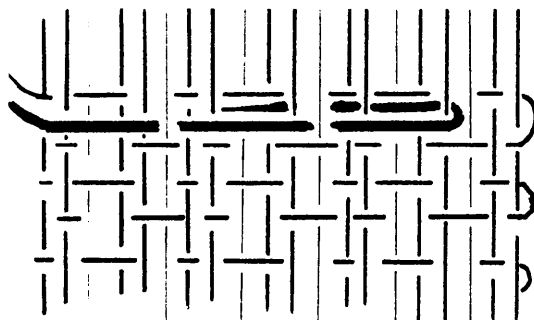
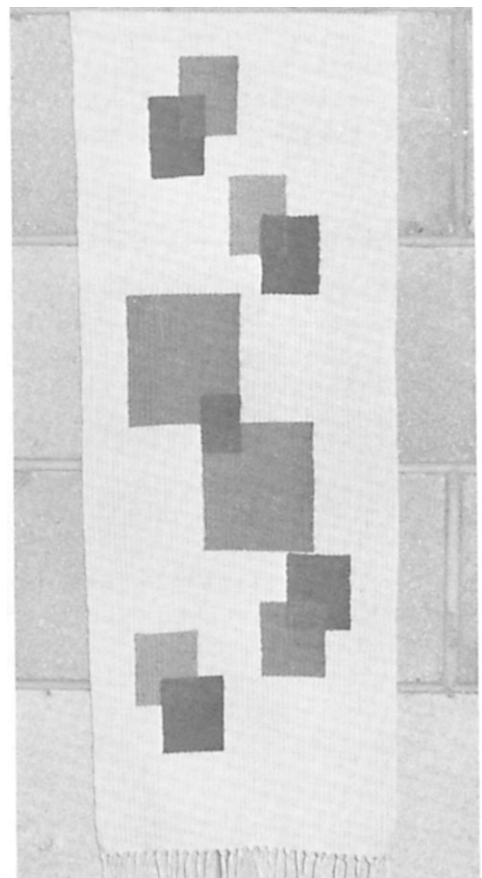


Fig V.

Theo Moorman Technique
woven by Maxine Wendler



3. A new approach to four harness inlay is based on "Biederwand" weave and is related to the more familiar Summer and Winter weave. As in Summer and Winter, the tie-down warp is threaded on harnesses 1 and 2. In 4-harness Summer and Winter, there are two pattern blocks possible, controlled by harnesses 3 and 4 respectively. In 4-harness Biederwand, there is only one possible pattern block involving both harness 3 and 4.

The threading and tie-up are as follows in Fig. VI:

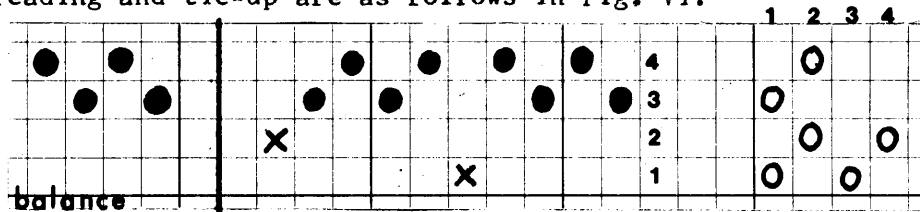


Fig.VI.

Balance the threading by ending with 4 warp ends.

● is a fine cotton in the background color.

X is a very fine cotton in a neutral color which blends well with the pattern wefts. They are the tie-down warps.

The ground weft could be the same as ●. A very thin linen works well too. For the pattern weft, use a heavier yarn suitable for the design.

Sley all four warp ends in one dent, one X in one dent. With a 10 dent reed, this will result in 25 e.p.i.

Compared to the Theo Moorman inlay, there are the same number of ● warp ends but only half as many X warp ends.

The pattern weft is tied down less frequently and will form longer floats, thus a much heavier pattern weft can be used. The overall effect is a heavier, denser pattern on a more gauzy ground. The ground is plain weave but the choice of sleying and warp yarns makes the ground "space-warped", with dense and open vertical stripes.

The ground is woven by alternating treadles 1 and 2. For inlay, using both tie-down warps:

- Treadle 1 - weave ground weft
- Treadle 3 - weave pattern weft
- Treadle 2 - weave ground weft
- Treadle 4 - weave pattern weft

For inlay, using one tie-down warp:

- Treadle 1 - weave ground weft
- Treadle 3 (or 4) - weave pattern weft
- Treadle 2 - weave ground weft
- Treadle 3 (or 4) - weave pattern weft

Tuck in the beginning and end of pattern wefts in the same way as for the Theo Moorman inlay.

In the sample woven by Iris Richards the ● warp is 20/2 cotton from Lily Mills, the X warp is 50/3 cotton. A 12 dent reed was used sleying 4 in one dent, then 1 in one dent, repeat; resulting in 30 e.p.i.

The ground weft is 14/1 linen.

The pattern weft is wool.

The design is the thirteen star American flag.

The room divider woven by Clotilde Barrett combines Biederwand inlay and block weave. It was woven on a 12 harness loom, threaded with 5 different blocks for a pine tree pattern.

The warp was 20/2 cotton and 30/2 cotton; a 12 dent reed was used, sleyed as follows:

4●ends per dent, skip a dent, one X per dent, skip a dent, etc. The ground weft is a fine linen, the pattern wefts are several types of wool.



Biederwand Inlay woven by Iris Richards

dear heddle:

When I wind yarn from a tube placed on a spoolrack, the yarn tends to unwind too fast and snags.

Tangled Spoolrack

Dear Tangled Spoolrack:

You need to create more friction so that the spool unwinds smoothly. In front of each row of spools stretch 2 pieces of yarn twisted together, from top to the bottom of the rack. Pass the ends of the yarn between the twisted strands before they reach you. If you increase the twist, you will increase the friction.

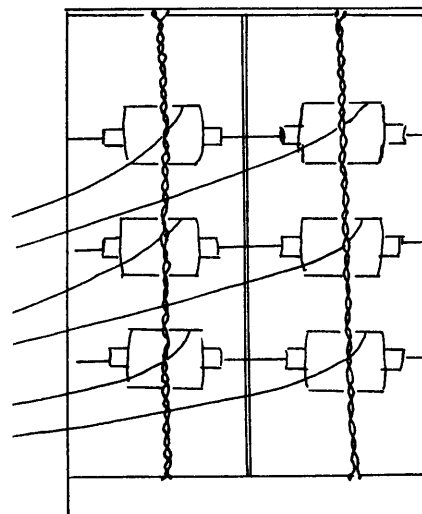
Dear Heddle:

I live in a dry climate. When I use a linen weft wound on a bobbin, the yarn tends to uncoil from the bobbin as I throw the shuttle. Any solution?

Linen Enthusiast

Dear Linen Enthusiast:

Wind your bobbins a few days ahead of time and put them in a sealed plastic box which you have lined with wet paper towels. The linen will be limp and won't uncoil when you weave.





Room Divider woven by Clotilde Barrett

WEAVING WORKSHOP

Clotilde Barrett, editor and publisher of "The Weaver's Journal", will travel and give workshops on the following weaving techniques:

Double Weave
Shadow Weave

Ethnic Weaving
Rug Weaving

Address all inquiries to: Clotilde Barrett
624 Peakview Road
Boulder, Colorado 80302

Braid Your Own Chenille

by Clotilde Barrett

Chenille is a double fringed narrow tape. The fringes can be held together by weaving them into a narrow warp, Fig. I, or by a twining technique, Fig.II. It is the latter type of chenille that will be the subject of this article.

Equipment needed:

A 1" dowel or broom handle.

A few yards of plyed rug yarn in two colors, A & B.

Several strands of wool or other fibers, C, wound together into a ball - in our example, 5 strands.

A helpful friend.

Cut two pieces of rug yarn, each $1\frac{1}{2}$ yards long, tie them together into two loops, A and B, Fig. III, tie 2" away from the cut ends. Tie a knot into the end of your bundle C. Hold the dowel vertically between your knees. Tie the loops and your bundle C onto the dowel by wrapping a string tightly around A,B,C and the dowel, just above the knots and 5" below the top of the dowel, Fig. IV.

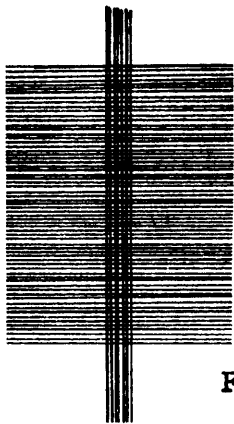


Fig. I



Fig.II

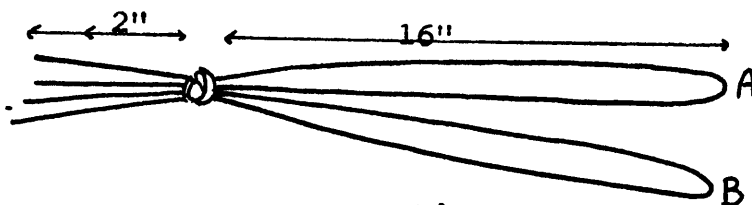
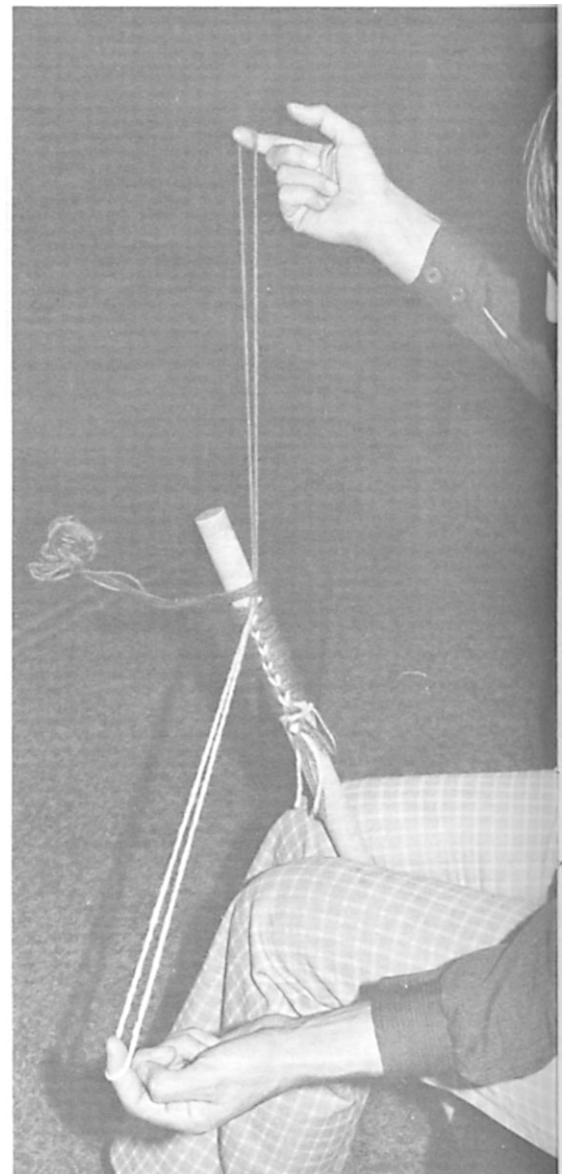
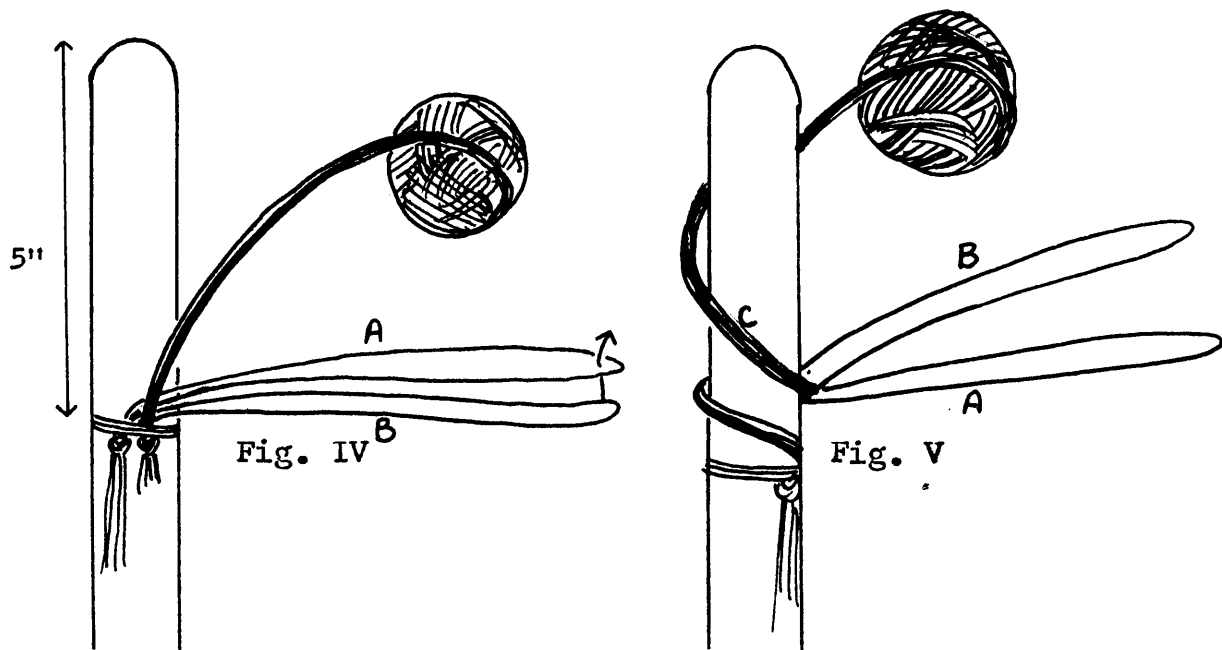


Fig. III





Pass loop B through loop A and hook it on the forefinger of your left hand. Hook loop A onto the forefinger of your right hand. Have a friend holding the ball C. Wrap C clockwise one turn around the dowel and between loops B and A. Pass loop A through loop B; A will be in the left hand, B in the right. Wrap C clockwise one turn around the dowel and between loops A and B. Repeat between *. As the loops accumulate they may be pushed downward, sliding on the dowel. To end, tie loops A and B together with an overhand knot. The chenille is removed by sliding it off the dowel. It may be left uncut or cut through the small C loops. If more yardage is needed the A and B loops can be made larger, but the loops should be wound on bobbins or bundled for convenient handling. Fig. VI.

The chenille can be used as decorative edging, as weft material to weave rugs, as novelty yarn for inlay or special tapestry effects. It may be used to cover a seam or it may be made just for fun.

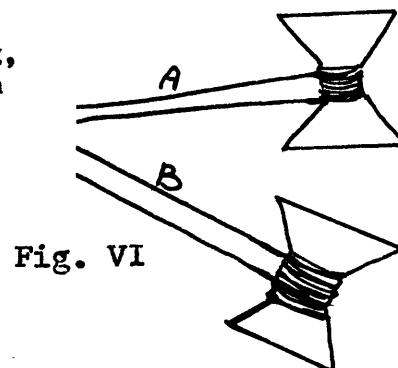


Fig. VI

The Textile Craftsman's Market

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Fig. II shows the draft of color effects in warping. The use of color in warp and weft causes color patterns to appear which do not follow the structure of the cloth. The easiest color drafts are those involving only two colors; black (or dark) is represented by "■", white (or light) is represented by "●". Threading, tie-up and treadling are the same as for the structural drafts, except that special symbols are used to indicate color. In the color diagram the squares are filled when the thread lying on the top of the crossing is black, regardless of whether that thread is a warp or a weft. In the same manner, the squares are left blank when the thread lying on the top of the crossing is white.

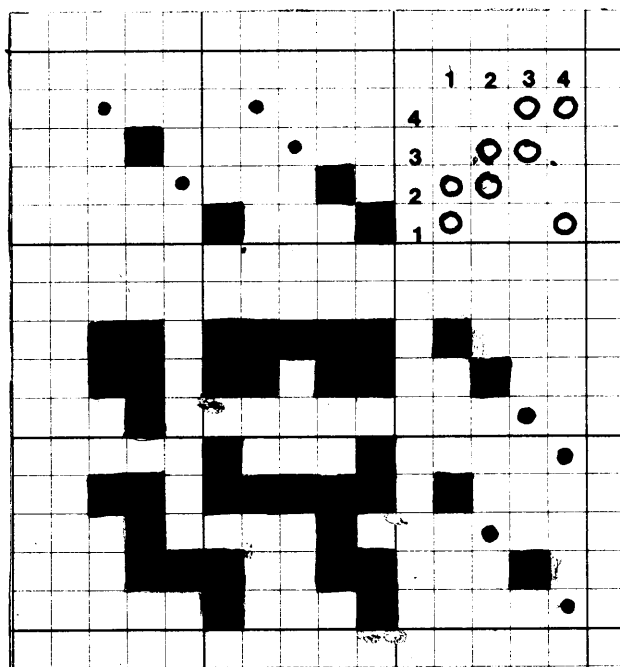


Fig.II.

Shadowweave, Part I

by Clotilde Barrett

Readers are familiar with longitudinal (vertical) and cross (horizontal) stripes on a plain weave cloth. The warp is threaded; one dark, one light, repeat. The cloth is woven one dark pick followed by one light pick or a light followed by one dark. Log cabin is a balanced tabby cloth in which blocks of longitudinal and cross stripes are obtained by threading and treadling in the following color sequence, Fig. I.

By altering the plain weave structure of a cloth slightly with the use of extra harnesses, one can obtain patterns and blocks of longitudinal and cross stripes with a continuous alternating dark and light color pattern in the warp and filling. When a dark pick is laid in, cross stripes will result in the areas where the dark warps are up, longitudinal stripes will occur in the areas where the dark warps are down.

Conventional shadowweave, such as was brought to the attention of handweavers by Mary Atwater, is a pattern of longi-

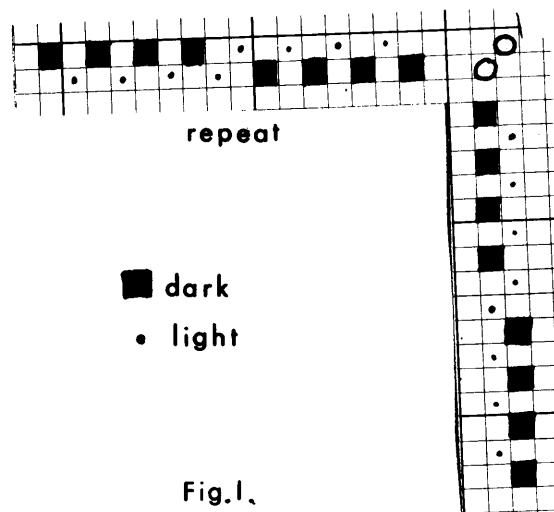


Fig.I.

tudinal and cross stripes derived from a twill. The dark warp and the light warp of the dark-light threading sequence, each follow the same twill motif. For example, take a 4 H plain twill motif, Fig. IIa. Draft the dark warps of the threading first, leaving spaces open in the threading draft for the light warps of the dark-light sequence, Fig. IIb. Draft the light warps of the threading, following the same motif but starting this twill on harness 3, Fig. IIc. Treadle as drawn in Fig. IId.

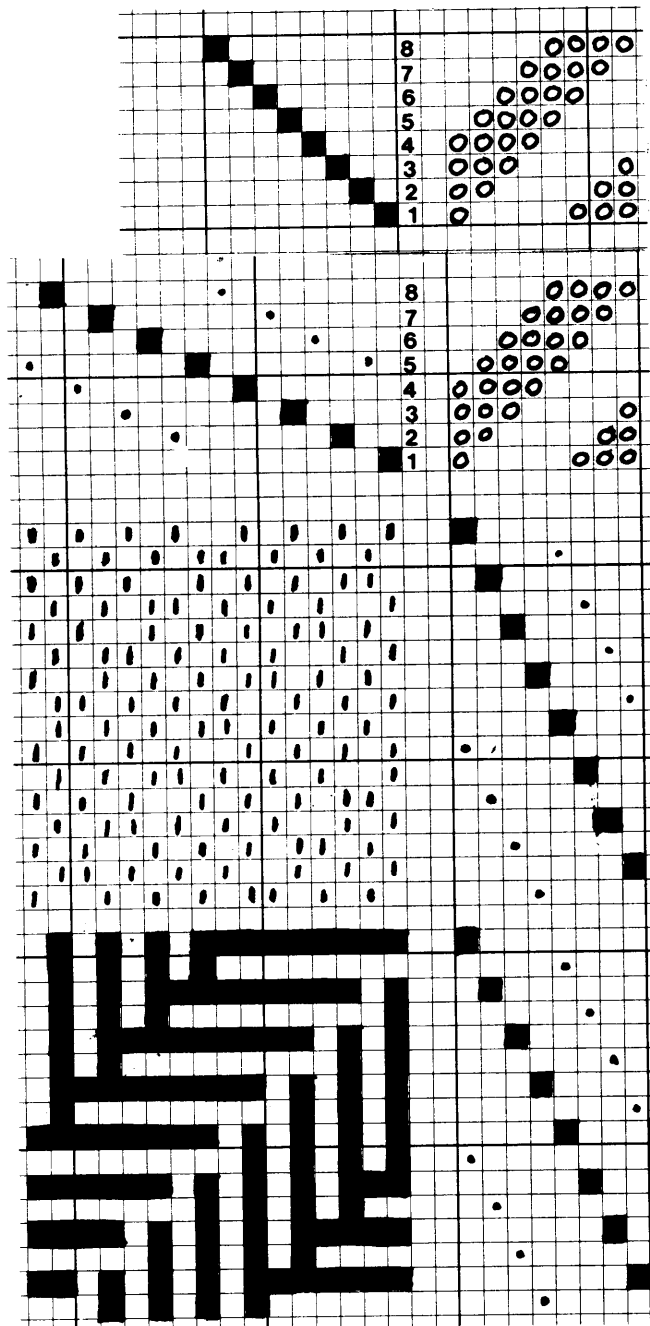


Fig. III.

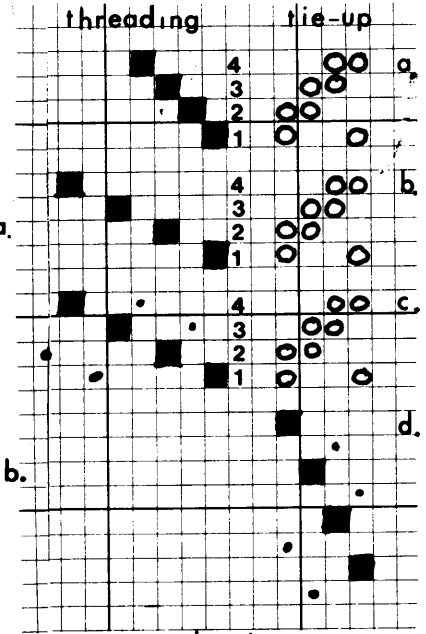


Fig. II.

Fig. III shows the derivation of a shadowweave from an 8-harness plain twill. The twill motif of the light warps starts on harness 5. The rule here is to separate the light motif from the dark motif as far as possible. The number of harnesses will determine the separation.

d. Notice from the cloth diagram that in the structure of the weave there are areas of plain weave separated by diagonal lines where the warp and the weft floats over two threads.

This appears as a dark or light "featherstitching" on the woven cloth. The color diagram of the same cloth structure shows that these lines of featherstitching separate areas of longitudinal and cross stripes. Notice that the light wefts weave on "opposite treadles" from the dark wefts. The wrong side of the cloth will be similar to the right side with dark and light reversed in the featherstitching and a switch between longitudinal and cross stripes.

Fig. IV shows the derivation of a shadowweave from a six harness extended point twill.

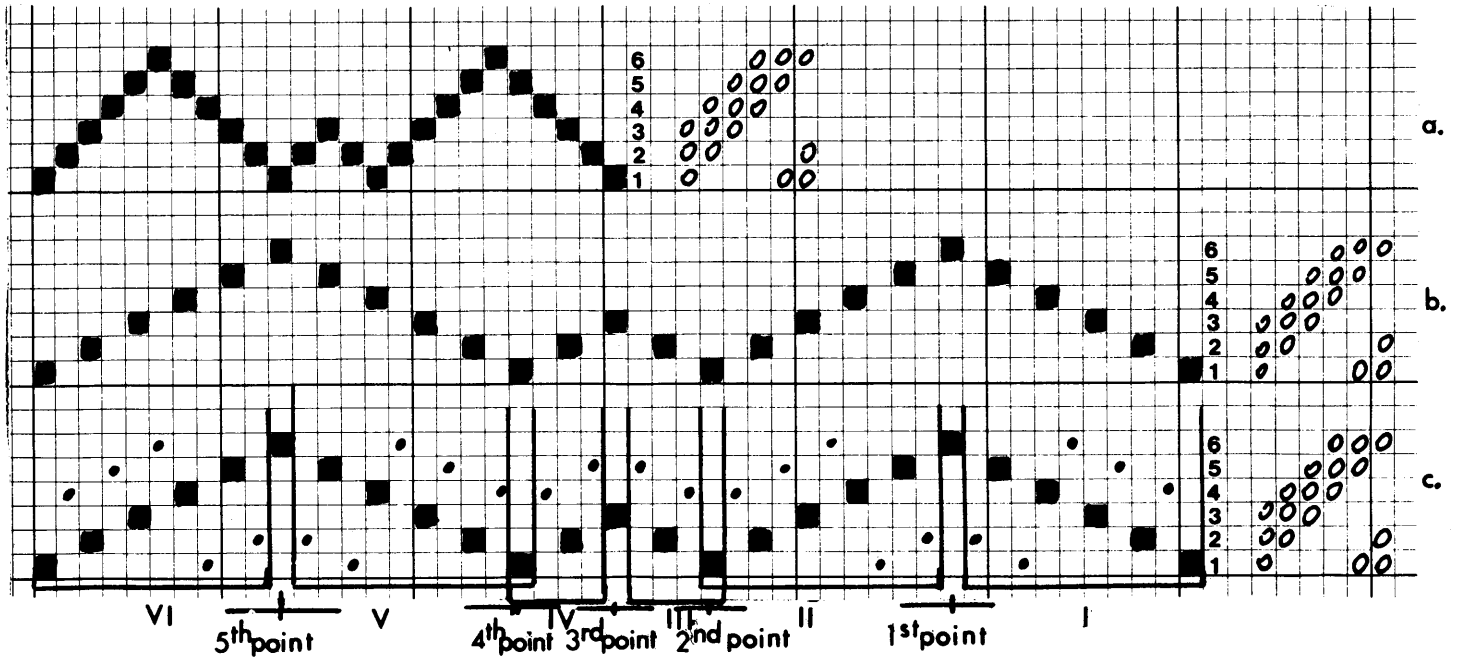


Fig. IV.

a. This shows the motif and the 3/3 twill tie-up.

b. The dark warp follows the motif, leaving open spaces to draft the light warps.

c. The light warps are drawn in. The motif for the light warp is the same as for the dark warps but is started on harness 4. In order to maintain the symmetrical appearance of the shadowweave threading, the following adjustments must be made in the drafting of the light warps:

In drafting the first slope of the motif, the light warps follow the dark warps, section I, Fig. IV c.

In drafting the second slope of the motif, the light warps precede the dark warps, section II, Fig. IV c.

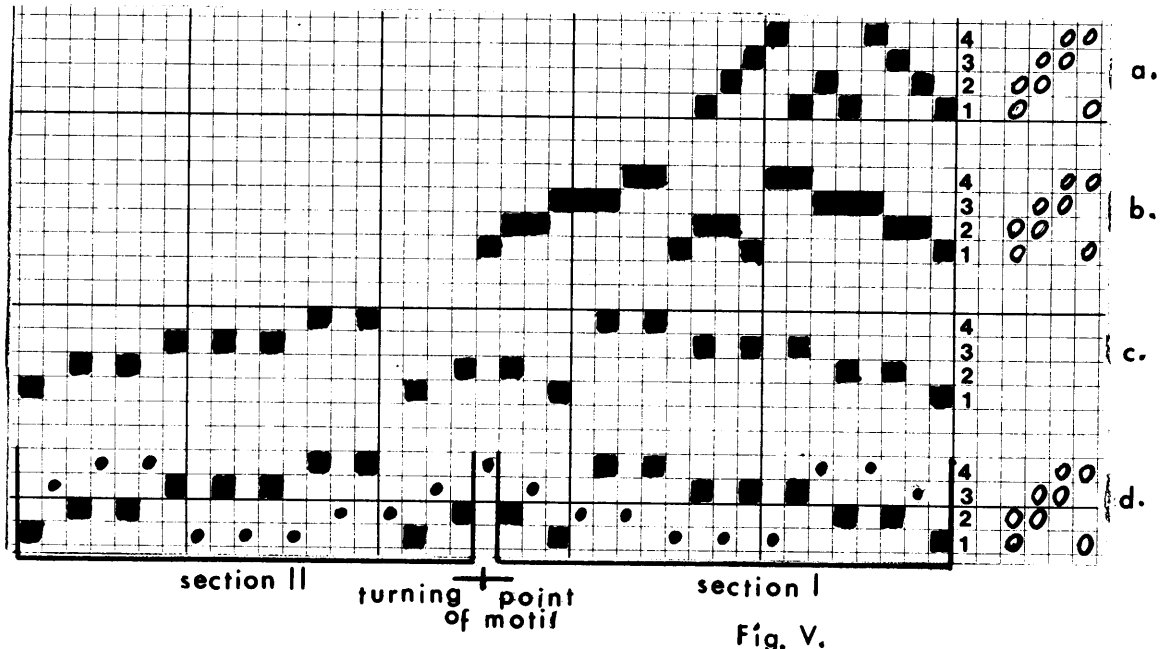
Draft sections III and V as section I.

Draft sections IV and VI as section II.

Notice that the first "point" of the motif has no light equivalents. Odd points will be like point 1, all even points like point 2. Thus, when the motif has turning points, there has to be some distortion of the light warp motif if the shadowweave threading is to have the same symmetry as the motif from which it is derived.

The cloth may be woven as drawn in.

Fig. V shows how the motif can be expanded before converting to shadowweave.



- a. A 4-harness point twill is the motif.
- b. The motif is expanded by the repetition of some warp ends.
- c. This shows the drafting of the dark warps.
- d. This shows the drafting of the light warps. At the turning point, one light warp is missing from the motif.

The cloth may be woven as drawn in. The shadowweave twill treadling, see Fig. II and III, is often used to weave shadowweave.

The cloth samples shown in the photographs were woven as follows:

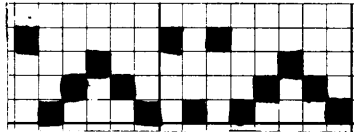
Plate 1. Yardage for placemats.

Warp: Nordica linen-rayon (Craft yarns of Rhode Island) in two colors.

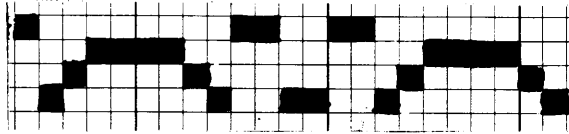
Weft: Same as warp.

Sett: 16 e.p.i. The total number of warp ends is 327 plus a pair on each side for floating selvages.

Width: 20½".



a.



b.

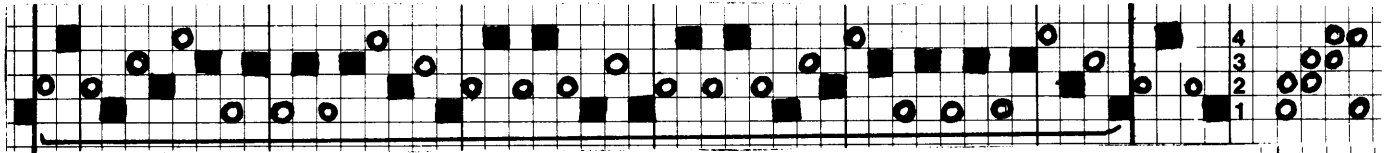


Fig. VI shows:

Fig.VI.

- a. The motif
- b. The extended motif
- c. The threading, tie-up and treadling

Plate 2. Sample of 8-harness shadowweave.

Warp: 10/2 Lily cotton in two colors.

Weft: Same as warp.

Sett: 24 e.p.i.

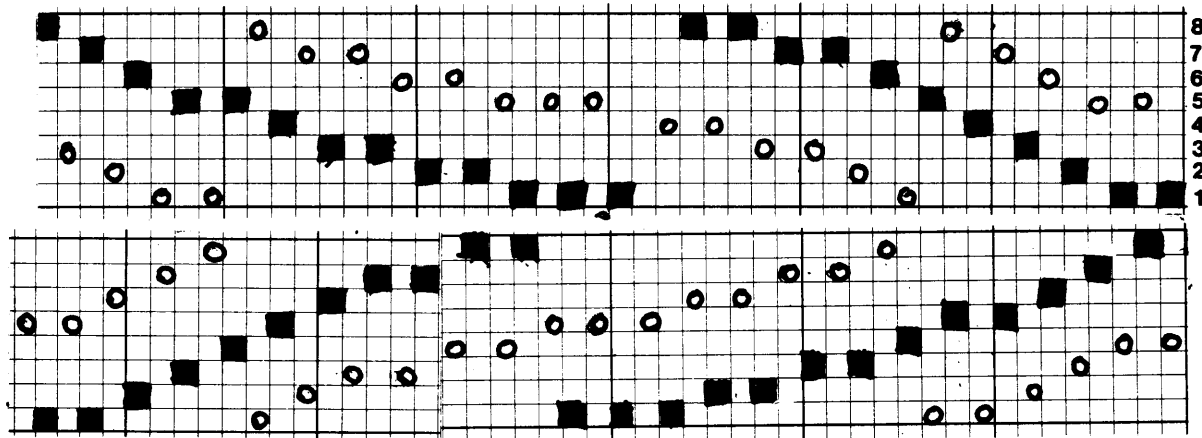


Fig. VII shows:

Fig.VII.

- The threading and tie-up.
- The cloth was woven as drawn in.

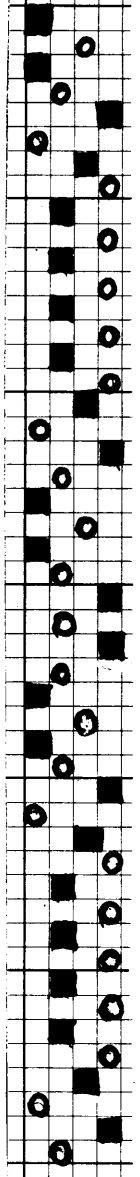


Plate 3. Sample of 8-harness shadowweave.

Warp: 10/2 Lily cotton in two colors.

Weft: Same as warp

Sett: 24 e.p.i.

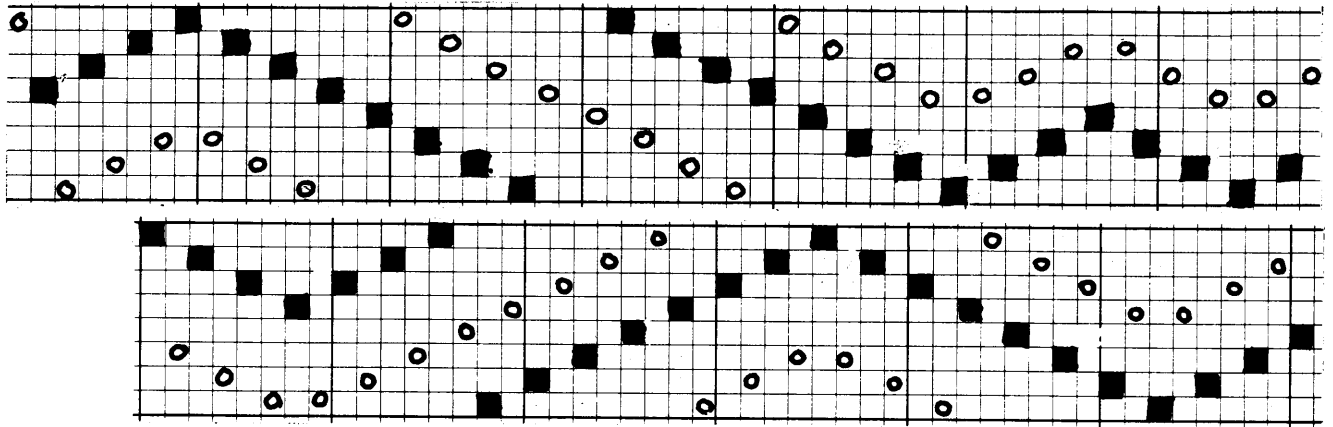
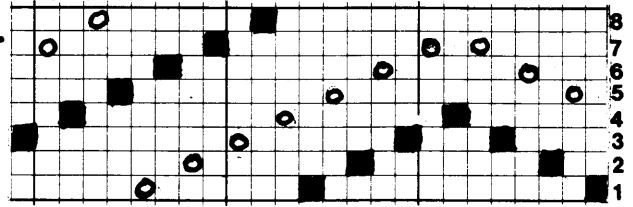
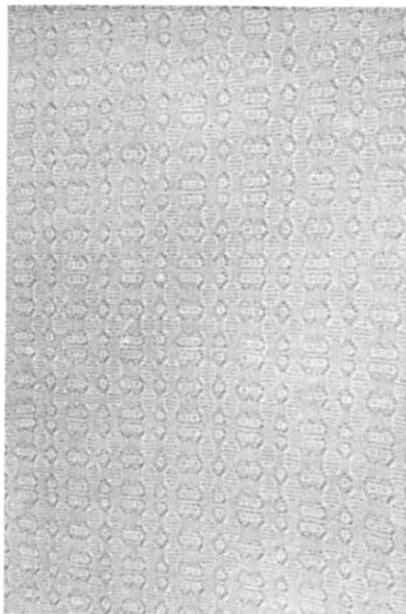


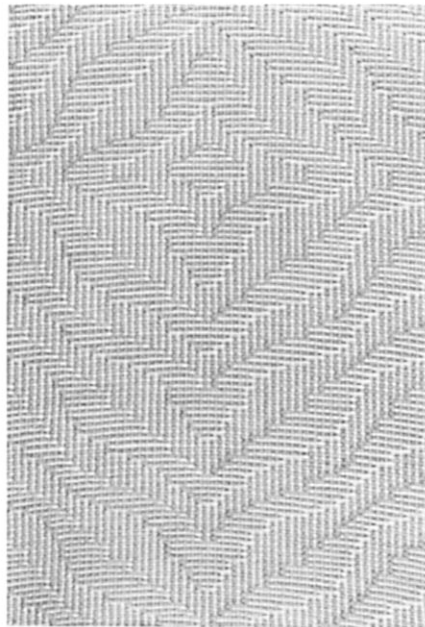
Fig. VIII.

Fig. VIII shows the threading of 8-harness shadowweave shown in Plate 3. The tie-up is the same as in Fig. VII.

The cloth was woven as drawn in.



Shadowweave Plate I



Shadowweave Plate II



Shadowweave Plate III

An Electric Drill Becomes a Bobbin Winder and a Spinning Quill

by Earl Barrett



Plate I.



Plate II

The device which you see illustrated in plates I and II is actually a multi-function tool for the textile craftsman which has been designed around an ordinary electric drill. It can be used as a spinning wheel, yarn plying device, or bobbin winder by a simple interchange of tool bits in the chuck of the drill. It can be constructed with only simple hand tools. As a spinning wheel, it offers an advantage over most conventional types in that the yarn is not drawn through any orifice; there is thus no limitation on the diameter of the finished yarn.

The information given should enable the average home carpenter or hobbyist to duplicate the device.

A. Materials List

1 ea. Electric Drill, 3/8" chuck, 1000 RPM, Reversible (S.S. Kresge No. 511 used in demonstrator).

3 ea. 2"x4", 4-ft. lengths, clear redwood (fir, hemlock, or hardwood may be substituted as desired).

1 ea. Hose Clamp, 4" - 5" (Bowman #72).

8 ea. Wood Screws, #10, 2½", Flat Head

1 ea. Wood Screw, #12, 3", Flat Head

4 ea. Wood Screws, #8, 1", Round Head

4 ea. Flat Washers, #8

1 ea. Wood Screw, #6, 1", Flat Head

1 ea. Foot-Control Rheostat (demonstrator uses Mercury Electric Products #704; a heavier-duty model with 3-ampere capacity would be preferable for heavy use).

Spindle and bobbin-winder material may be varied in accordance with the tools available to the constructor. If a metal-working lathe is available, the recommended material for the spindle is 1-ft. lengths of 3/8" diameter aluminum rod, and that for bobbin-winder is 7" length of 5/16" aluminum rod. Alternatively, hardwood dowel rod of the same diameter may be substituted and the required tapering done by whittling and sanding.

B. Construction Details

1. Cut one piece of 2"x4" to 30" length with squared ends. Save the 18" remainder for use in Step 10.

2. Prepare a template of the cross-section of the upper half of the drill body.

3. Transfer this outline to each broad side of one end of the 30" board.

4. Using a coping or jigsaw, notch the end of the board along the outline so that the drill will rest snugly upside down in the notch. See Fig. 1.

5. Cut one length of 2"x4" into 2 equal 24" lengths with squared ends. Mark the center of each 24" piece.

6. Using a power saw with dado head, or a handsaw in a mitre-box and a chisel, cut a dado centered on each board with width equal to the greatest width of the 2"x4" lumber (usually 3 9/16", but varies slightly) and depth equal to exactly half of the smaller dimension of the material (usually 3/4", but may vary).

7. Place the two pieces with their dados interlocked to form a cross. Locate the exact center of the cross and drill a countersunk hole to pass the #12 screw.

8. Locate the center of the bottom (unnotched end) of the 30" post prepared in Steps 1 through 4. Drill a pilot hole for the #12 screw.

9. Attach the post to the cross (base) with the #12, 3" wood screw. Before tightening, see that the surfaces of the post are parallel to the arms of the cross.

10. Make the diagonal braces from the remaining piece of 2"x4" plus the 18" length left over from Step 1. Because the post does not have a square cross-section, the two pairs of diagonal braces will have different lengths. The precise lengths will vary slightly, depending on the dimensions of the lumber used. To determine the lengths, measure the distance from the end of the base crossarm to the post. This is one side of an isosceles right triangle. The longest dimension of the diagonal is the hypotenuse, h , of this triangle, and

is therefore calculated from the measured base length b by $h = b\sqrt{2} = 1.414 b$. Using a mitre-box, cut the brace with two opposed 45-degree ends and with h (to the nearest $1/16''$) as the longest dimension (see Fig. III). Approximate values for the two h 's are $14\ 5/8''$ and $15\ 7/8''$.

11. Attach the four diagonal braces to the base and post using the #10, $2\ 1/2''$ wood screws, countersinking the holes. If your measurements and cutting have been accurate, the tips of the braces should come just to the ends of the base arms, the base should rest evenly on a level floor without rocking, and the post should be vertical.

12. Cut the hose clamp with a sheet-metal shears at a point diametrically opposite the tightening screw when the latter is loosened so that about 1" of free end remains.

13. Place the drill in its notch with trigger and grip upward. Attach the cut hose clamp to each side of the post so that the drill is held loosely (use the four #8 round-head wood screws and washers).

14. Tighten the hose clamp until the drill is held firmly in its notch on the post.

15. Attach the outlet socket of the foot-control rheostat to the back of the post (opposite the drill chuck) with the #6 1" flat-head wood screw. Plug the drill into the "motor" socket and the rheostat plug into a wall outlet. If the drill has its own speed control, set it so that the maximum speed is about 300 RPM when the rheostat is pushed fully down.

16. If you have access to a lathe, make your spindles by turning the tip of a 1-ft. length of $3/8''$ rod to a point using a 10 or 15 degree taper. Blunt the tip slightly with a fine file after turning. Bobbin-winders are made by tapering 6" of a 7" length of $5/16''$ diameter rod down to $3/16''$ at the end; this is a taper angle of 0.6 degree. If you do not have a lathe, you can have these pieces prepared at a local machine shop. Alternatively, you can use $3/8''$ and $5/16''$ dowel rod and do the tapering by whittling and sanding by hand.

17. Insert blunt end of spindle into drill chuck and tighten; you are now ready for spinning. For right-handed spinning (the usual convention), the drill must be in the "reverse" rotation. Lock the trigger in the "on" position and control the speed with the foot pedal.

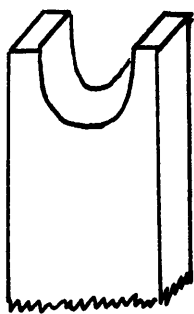


Fig. I.

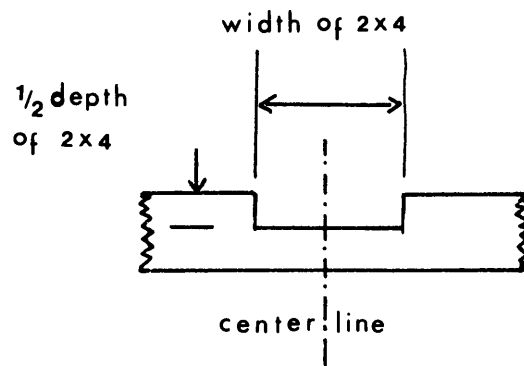


Fig. II.

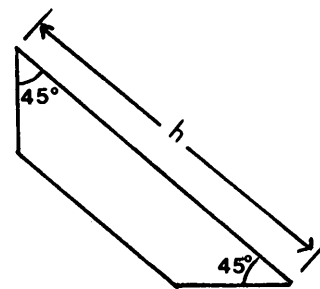


Fig. III.

Navajo Saddle Blanket Patterns

by Clotilde Barrett

The Navajo Indians of the Southwest are famous for their tapestry rugs. These rugs have a continuous warp, stretched on a frame loom. The shedding mechanism consists of a shed stick and a heddle bar. The Navajo saddle blankets are less known than the tapestry rugs. They are woven on the same loom. In most cases four different sheds are necessary: three pull sheds opened by pulling the heddlebars forward and one shed-stick shed. These same Navajo saddle blanket patterns can be woven on a Western type four harness loom equipped with four treadles opening four different sheds.

Fig. I shows the threading, tie-up and partial cloth diagram for popular Navajo saddle blanket patterns. The threadings are point twill and the twill tie-up is used. The warp for saddle blankets should be a strong medium-thin wool with low elasticity. The sett 6 e.p.i. or $7\frac{1}{2}$ e.p.i. (15 dent reed with every other dent skipped). On the loom, the width of the blanket should be 32" to 36", the length 56" to 60". Off the loom size should be approximately 30" x 54".

Use a floating selvedge:
Wind six more warp ends than are needed for the width of the blanket. Do not thread the first and last three warp ends through the heddles; sley all three in the same dent as the first and last warp.

As you thread the warp, make sure that the diamonds are centered. For example:

Pattern - large diamond
(30 ends for one repeat)
Width of blanket - 32"
Sett - 6 e.p.i.
Approximate number of warp ends - 192
Number of pattern repeats (each repeat having 30 warps) - 6 (6 x 30 ends = 180 ends)
Number of warps left - $192 - 180 = 12$ or 6 for each side.

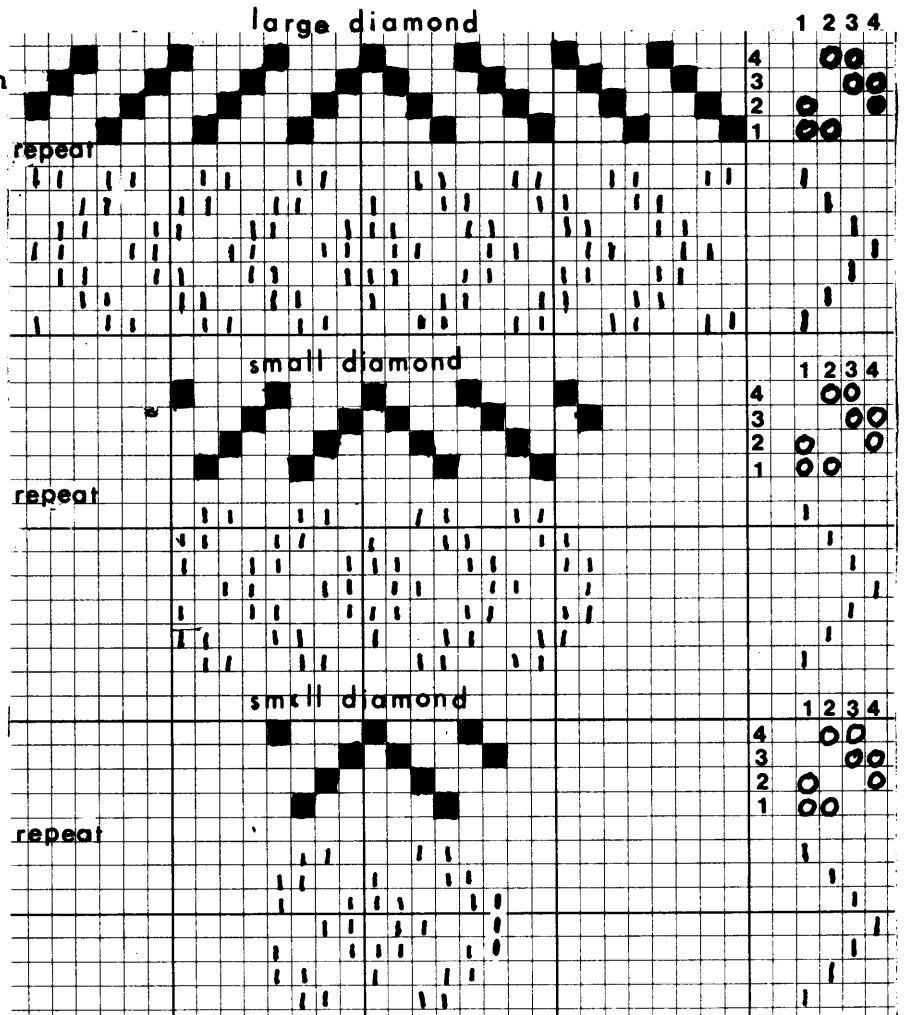


Fig. I

The threading is given in Fig. II.

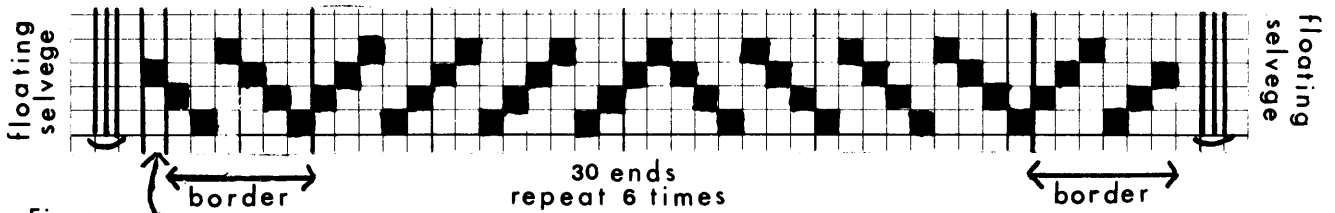


Fig.II one warp end to balance the threading

Add a warp on harness 3 to balance the threading.
 Wind 6 warps for floating selvege.
 Total number of warps - 199.

For the weft, select a plyed or single rug wool in three different colors, A, B, C; about one pound of each.

The treading is as follows:

Treadle	Color
1	A
2	B
3	C
4	A
1	B
2	C
3	A
4	B
1	C
2	A
3	B
4	C

Four treadles are used, 3 colors and the following pattern will develop.



Fig. IIIa

Treadle	Color
1	A
2	B
3	C
1	A
2	B
3	C
1	A
2	B
3	C

Three treadles are used, 3 colors and the pattern will develop as follows:



Fig. IIIb

Reverse treading and color, but do not repeat the last treadle 3, color C. When the treadle 1, color A combination is reached, reverse again. The units I and/or II may be repeated if desired.

To use the floating selvege, open the shed, the floating selvege should be half way in the middle of the shed. Enter each weft above the floating selvege; leave the shed under the selvege. See Fig. IV.

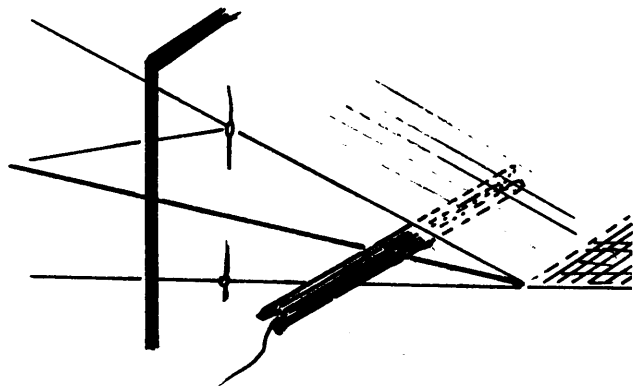


Fig. IV

To finish the blanket, the Damascus edge is recommended. Treat the floating selvedge as one working end. Work on right side of the rug. Begin on the right hand edge.

Step 1 - Hold end 2 taut and half-hitch end 1 over end 2. Pull tight upward. Continue by holding 3 taut and half-hitching end 2 over end 3, etc.
 Step 2 - Turn the rug to the position shown in Fig. V.b

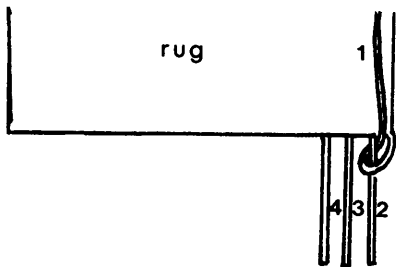


Fig.Va

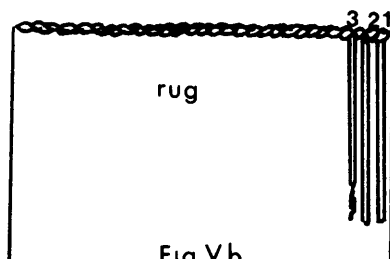


Fig.Vb

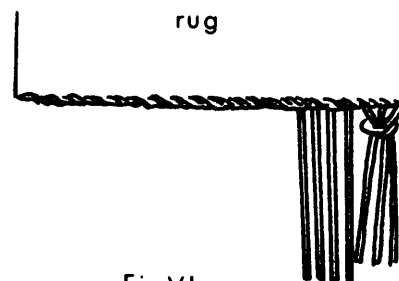
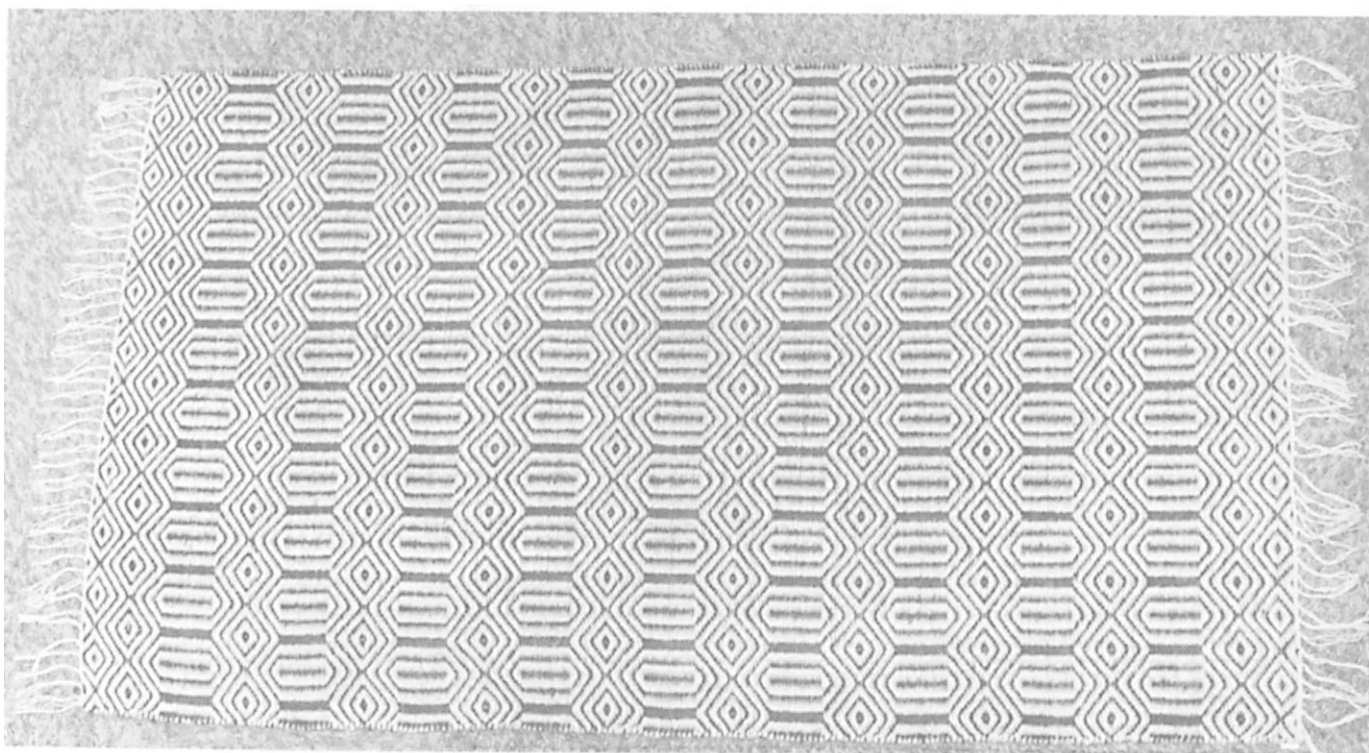


Fig.VI

Begin at right hand side. Hold end 2 taut , half-hitch end 1 over end 2, pull tight upward. Repeat across.

End by making bunches of three ends and tie overhand knots in the fringe as in Fig. VI.



Saddle Blanket woven by Clotilde Barrett in Navajo Saddle Blanket Technique



Basic Sewing Techniques in Handling Handwoven Fabric for Garments

by Barbara Knollenberg

Sewing with your precious handwoven fabrics can be the most interesting part of your creativity. I am of the opinion that too many handweavers involved in the production of yardage need to know more about sewing to facilitate their products use. Sewing with your own handwoven fabrics will demonstrate to you how and where to improve your weaving techniques. Likewise, handwoven fabrics will demand improved sewing methods.

There are two very basic and necessary principles for satisfactorily handling handwoven fabrics in garment making:

- 1) Handle the cut pieces very carefully and as little as possible. You must accomplish a straight and correct seam the first time it is sewn. Ripping and resewing of seams causes fabric edges to shred and the grain or even fabric pattern to distort.
- 2) Be conscious of and reduce the fabric bulk occurring at seam junctions, hems, and turned corners. It is the reduction of this bulk that creates a smooth, polished, professionally finished appearance of your handwoven, handmade garments.

The following specific sewing techniques are meant to help identify areas of particular concern in handling handwoven fabrics.

PATTERNS - whether you use commercial or original patterns, be sure to choose styles that are simple in construction with few or no small pieces. If your fabric is 20-30 e.p.i., or finer in weave your creative use of small pattern piecing and complicated garment structure is possible and maybe even desirable. With a fine weave gathers and draped areas of a design are also feasible; the reverse is true of bulky, heavy fabrics. A good guide to follow for fabric use is :

5-12 e.p.i. - make coats and jackets
15-30 e.p.i. - make dresses, skirts and pants

CUTTING - since most handwoven fabrics are not precision in beating pattern pieces should be laid out and cut separately with attention focused on matching fabric repeats seam by seam. This is best accomplished on a hard, flat surface. This surface is also needed for pinning and basting of all large cut pieces before machine stitching, which also helps to match fabric repeats at seams.

LININGS - linings make for a more wearable handwoven garment. Choose lining material according to the compatibility of fiber to the handweaving in use; natural fibers with natural fibers and synthetics with synthetics. The only exception would be when your lining selection is limited; then pre-clean the lining and the handwoven fabric in a like manner before cutting and sewing. Cut linings out 1/8 inch larger in each dimension (Fig. I). This will eliminate tight linings that cause unsightly draping in the outer garment. This is especially useful when enclosing the lining in the hem area. When sewing layers of linings and fabrics together always sew with lining material as the top layer. Using linings in handwoven

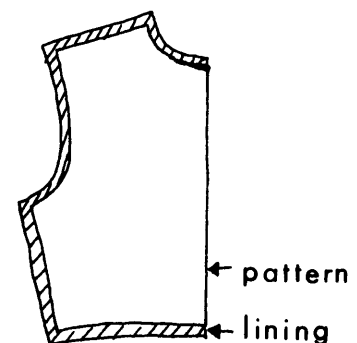


Fig. I

garments facilitates covering and protecting seams from wear. Therefore, if you choose not to line your garments, create finished and polished seams.

SEAMS - all handwoven fabrics need to have cut edges finished to prevent excess raveling, even if hidden under linings. There are three specifically good seam types to use in accomplishing this desired need :

- 1) **FLAT - FELLED SEAM** : Stitch a plain seam and press it to one side. Trim the inside half of the seam to $\frac{1}{8}$ ". Turn under the other half of the seam $\frac{1}{4}$ " and press. Then place it over the trimmed half. Machine stitch close to the folded edge. (Fig. II)
- 2) **SELF - BOUND SEAM** : Stitch a plain seam and trim one half of it to $\frac{1}{8}$ " or $\frac{1}{4}$ ", depending upon the amount of bulk of the fabric. Turn the other edge of the seam under and over the trimmed half and sew over the seam encasing it. (Fig. III)
- 3) **PLAIN SEAM ZIGZAGGED ON EDGES or SEAM BINDING - ENCASED EDGES** : This is excellent for very bulky fabrics that fray easily. For binding-encased edges simply enclose each edge of a plain seam in double fold bias tape. The narrower edge of the tape is placed on top followed by edge stitching thru all layers. (Fig. IV)

Choose the seam type you plan to employ in your garment during the lay-out stage of production. Bulky and loosely woven fabrics need more than the normal seam allowance (i.e. $\frac{3}{4}$ " to 1") when using the flat - felled or self - bound seams. The normal seam allowance with commercial patterns is $\frac{5}{8}$ ". When the cutting is completed, stay - stitch all arm, neck and other bias cut pieces before any further handling. This prevents grain distortion or stretching of these seam areas. The next step in production is to sew the seams together and finish the seam edges immediately after their completion. Pressing as - you - go is also an immediate essential after each seam completion.

BULK - The bulk of several layers of fabric at seam junctions must be reduced in order for seams to lay flat and smooth. (Fig. V) Some other methods of reducing bulk effectively are :

- 1) **SEAM GRADING** : This must be done when seams are turned together in one direction, and when there are more than two layers of fabric sewn together. Each layer of fabric is trimmed to a different width. (Fig. VI)

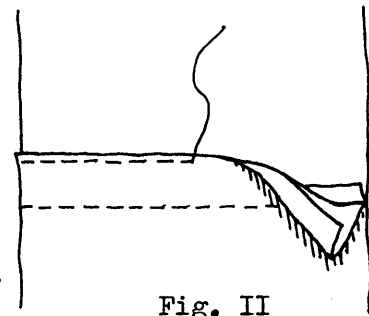


Fig. II

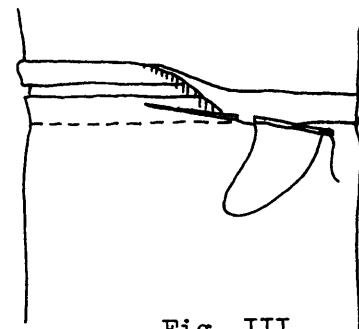


Fig. III

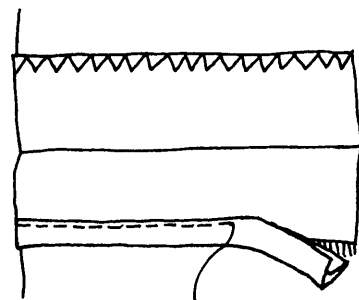


Fig. IV

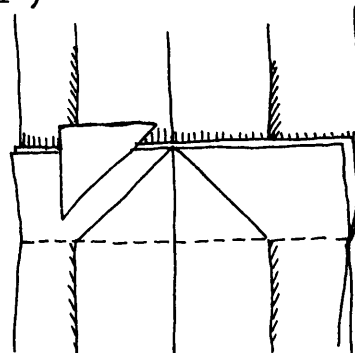


Fig. V

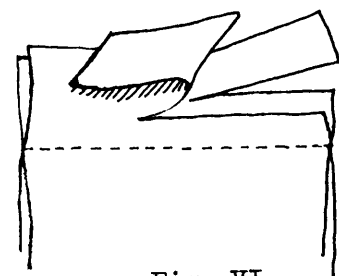


Fig. VI

2) NOTCHING AND CLIPPING: This is done on curved seams after grading of that seam. At intervals of $\frac{1}{2}$ " to 1", small notches or triangles of fabric should be cut from the seam allowances on outward curves, and on inward curves clips are made in the seam allowances just to the stitching. (Fig. VII)

You can also eliminate bulk at front and neck edges by not using facings cut of handwoven fabric, instead line the garment to the neck, front and or hem edges. These two layers can then be encased in decorative bindings after the whole seam allowance has been cut away.

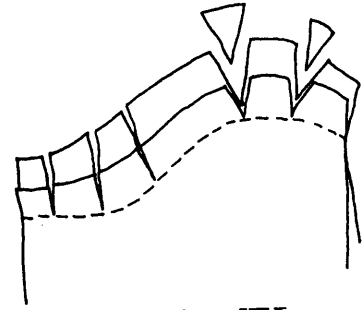


Fig. VII

Happy sewing! I know the above techniques can improve your weaving skills by helping you to successfully complete the creative process you began by hand-weaving fabrics for garments.

Spinning Dog Hair

by Clotilde Barrett

Doghair is an interesting fiber for textile craftsmen. It has an unusual texture; sometimes soft, sometimes scratchy. It comes in a large range of colors and makes a very warm cloth. The quality of the fiber depends a great deal on the breed of the dog. The best breeds are the working dogs. Under their resilient guard hairs lies a thick soft undercoat, which they shed yearly during the Spring. Usually the undercoat can be combed out easily with a little cooperation from the dog. Occasionally, when the undercoat is matted or felted, this may become a very hard job. Old English Sheepdogs matt a lot. They are sometimes sheared, but then the "fleece" is a mixture of undercoat and guard hairs. All dogs have guard hairs. The softer ones, such as the poodle's are suitable for spinning. Wiry and short hairs should be blended with wool fiber before spinning. Fabric woven with these fibers tends to shed some hairs. Fabric woven with clipped or sheared hair is usually scratchy.

Collecting Hair: Gather doghair in plastic bags. Label the bags with the breed and owner of the dog and with the quality of the fiber.

Washing: Doghair can be spun unwashed (in the grease). If it is necessary to wash the hair, prepare warm soapy water. Use, for instance, "Ivory Snow", (flakes or liquid). Gently lay the hair in the bath; wash by squeezing the fiber.

For "wet spinning", squeeze out all the suds or spin dry in a washing machine. Keep the fibers wet in a plastic bag, but spin the fibers within a day.

For "dry spinning", rinse the fiber in several baths of warm water. Spread the fiber out to dry. When the washed fibers are dry, spinning oil has to be applied with a spray bottle. The spinning oil consists of an oily emulsion mixed with water. In dry climates, mix one tablespoon of the emulsion with one cup of water. Use less water in humid climates.

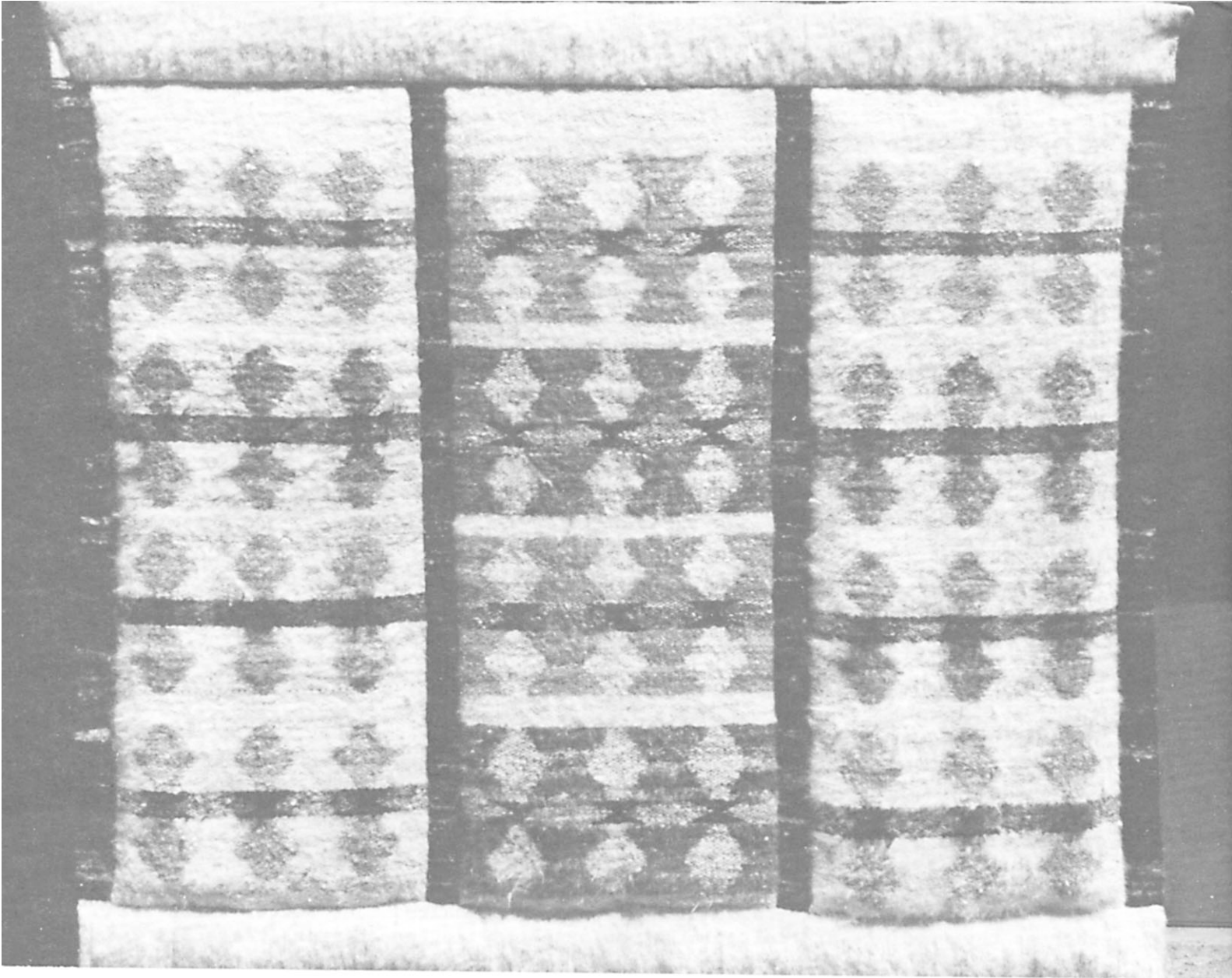


Plate I. Stuffed wallhanging woven by Clotilde Barrett is 7' high, 8' wide. The warp is silk, the weft is doghair. There are seven panels in addition to the top and bottom strips.

To prepare the emulsion, put one ounce of clear detergent ammonia in a blender. Turn to high speed and gradually add four ounces of olive oil. The emulsion looks like mayonnaise.

Spinning oil may also be purchased from Paula Simmons, Box 12, Suquamish, Washington, 98392.

Spray the spinning oil on the fiber and work it in. Put the moistened hair in a plastic bag and let stand, at least overnight.

Carding: The texture, size and evenness of the finished yarn will depend on the amount of carding which has been done. If the undercoat is not matted, the fiber may be spun without carding. This will give a coarse, uneven, lumpy yarn. When the yarn is spun in the grease, the animal oil in the fiber, will act as a lubricant during the spinning. When the yarn is wet-spun, the soapy water which has been retained in the fiber acts as a lubricant. In either

case, the spun yarn should be wound in skeins, washed, rinsed and dried. During the drying, the skeins should be hung by one end; the other end should be stretched taut with a weight.

For a controlled, even spinning, card the fibers with medium cards, then with fine cards. If the hair is matted, the hair should be picked apart by hand, then carded with coarse cards. If the hair is short, or if it consists mainly of guard hairs, it is advised to blend the doghair with wool and to card the mixture well.

Spinning: Any spinning wheel is suitable for spinning doghair. If a drop-spindle is used, the whorl should be medium light in weight. If a Navajo spindle is used, the hair should be well carded and preferably blended with wool.

Plying: Thin, even doghair yarn can be plied as wool. Two thick lumpy yarns will not go through the orifice of a spinning wheel. These yarns have to be plied on a drop spindle or on a spinning quill.

Use of Doghair Yarn: To weave with the yarn, use it single or plied for weft. To knit, crochet or sew baskets, use the yarn plied.

When the project is finished, wash once more in cool soapy water. Before the cloth dries completely, brush gently in the direction of the yarn with a stiff brush or a dull fine card.

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