VOLUME 14 NUMBER 1

THE LOOMING ARTS

treadle talk ~

Last week was the summer Navajo weaving workshop here in the studio. It's one of my most enjoyed workshops. I love to help the students learn about the Navajo people and the weaving they do. The Navajo rugs are exquisite and I never cease to marvel at what they can do on their primitive frame looms. Much of the weaving they do today is considered tapestry rather than rugs. I'm sure few of their weavings end up on the floor.

Years ago almost every Navajo woman wove a few rugs each year to supplement her income, but today she can apply for welfare so weaving isn't as much a necessity. Those that weave today want to weave for the joy of it; consequently, the quantity has diminished but the quality has improved tremendously.

If the student comes to class thinking the Navajo rugs are overpriced, she/he usually changes her/his mind about the third day, and to me, that's what it is all about. If I thought my students were going to go out and compete with the Navajo weavers, I wouldn't teach Navajo weaving, but I feel that learning how to weave a Navajo rug gives the student a better appreciation of the Navajo rugs and what goes into creating them. I really don't think the Navajo weavers have to fear competition from the students in my Navajo weaving workshops. In fact many students end up buying a Navajo rug to take home with them. I would be happy just knowing my students finished the rugs they began in the class.

Mary Pendleton

I want to thank all of you who wrote such very lovely letters about my dog Penny. So many of you are dog lovers and understand the loss.

FOR YOUR READING ENJOYMENT

Every craftsman that wants to go into business must know something about business procedures if he is to succeed. You should read every book you can about pricing, selling, marketing, production, etc. Here are books that are worth reading:

Profitable Crafts Marketing - A Complete Guide to Successful Selling by Brian T. Jefferson, who is a successful professional potter, a university instructor in pottery and art, a marketing consultant to craftspeople, a leader in state and national craft organizations and a lecturer at workshops and symposia on craft marketing. 233 pages - $10.95 paperback.

Business Forms and Contracts (In Plain English) For Craftspeople by Leonard D. Duboff. This book has to do with Copyrights, Fair Use, Licensing, Trade-Secret Protection, Consignment Agreements, Tax Records and Tax Deductions, Commissioned Works, Craft-Show Sales, Mail-Order Sales, Seminar Contracts, Warranties and Disclaimers, Employees, Collection Letters, Incorporating and Donating Works. Leonard D. Duboff is a professor of law, a practicing attorney and past president of the Oregon Volunteer Lawyers for the Arts. 111 pages $14.95 paperback.

The Law (In Plain English) For Craftspeople by Leonard D. DuBoff. $7.95 paperback.

Making It Legal - A Law Primer For The Craftmaker, Visual Artist and Writer by Marion Davidson and Martha Blue, both practicing attorneys. 242 pages $8.95 paperback.

Order from The Pendleton Shop, P.O. Box 233, Sedona, Arizona 86336. Add plenty for postage. Any overage will be refunded. Arizona residents, please add 5% sales tax. $1.00 service charge on orders under $10.00.

STATEMENT OF PUBLICATION
AND SUBSCRIPTION RATES

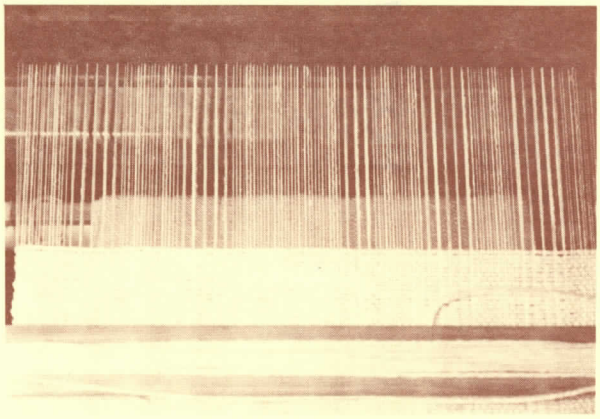
The Looming Arts is published five times yearly beginning January 25th of each year. Subscription rates: United States and possessions: Issue with 4-harness designs and sample, $8.50 a year or $2.00 single copy; above issue plus an additional multi-harness design, $10.50 a year or $2.50 single copy. Outside of U.S., $2.00 per year extra. Mary Pendleton, editor and publisher. Business office: Box 233, Jordan Road, Sedona, AZ 86336. Phone: 602-282-3671.

USING THE REED AS A DESIGN TOOL

I'm sure all weavers at some time or another end up with a rather uninteresting warp. One way to put a little spice in a warp is to change the sleying from even to uneven. I use the reed as a design tool quite often, for instance: I'm always looking for a way to weave place mats that will sell and yet not take too much time to create. Here's one idea we use often.

Mats woven with white and natural yarns sell very well but an all white or all natural colored mat is not the most exciting fabric. To spice up these mats, I use eight different yarns in different sizes - 3/2, 5/2, 10/2, 8/4 and a novelty or two. Some are bleached white and some are natural in color. The yarns are cotton except I may add one with a little more sheen to it for contrast. The warp is sett 12 ends per inch and approximately 14½'' wide in the reed. I wind the eight warps at a time using the paddle. The loom is warped, the heddles threaded and the reed sleyed one end per dent. At this point I randomly pull out three adjacent warp ends and put them all back in the center dent of the three empty dents. I do this about twenty times across the warp before tying warp to apron. See photo. The weft is usually white or natural Sugar and Cream cotton yarn or Soft-Spun rayon and cotton yarn.

With the variation of warp sizes, the shading of white and natural yarns and the uneven sleying of the warp in the reed, the tabby weave mats become much more attractive. This is a great project for weavers with just two harness looms.



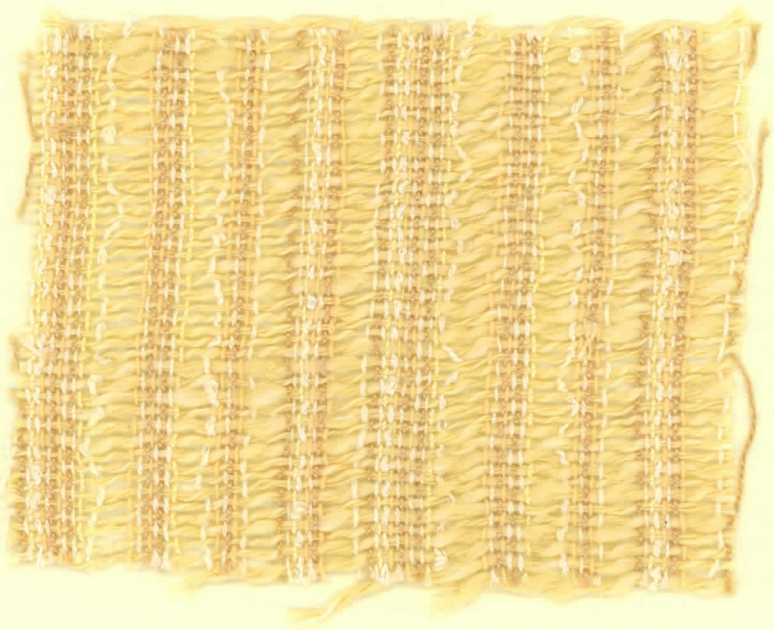
Uneven sleying of the reed to develop interest.

YARNS SELECTED FOR YOU

The glitter yarns are still very popular and we've tied this issue with one that is especially nice. It's 97% cotton, 2% metallic and 1% nylon. Good yardage of 1,000 yds. per lb. It's an excellent weft yarn but a little too fragile for warp. 88¢ per oz. plus postage.

Order from The Pendleton Shop, P.O. Box 233, Sedona, AZ 86336. Add plenty for postage. Any overage will be refunded. Arizona residents please add 5% sales tax. $1.00 service charge on orders under $10.00.

CASEMENT FABRIC FOR MY LIVING ROOM



It's always been my belief, why weave it if you can buy it, but I've found an exception to this idea.

I desperately need some casement curtains in my living room. I want something very much like what I have and I'm sure I could find a suitable fabric at the decorator's showroom, but I don't want to spend that kind of money so I'm going to weave something similar. I'll probably make up the curtains and save even more.

I need a lot of yardage so it has to be a fabric that will weave up fast. The tabby weave sample shown here is what I've decided on. The main interest is the sleying arrangement.

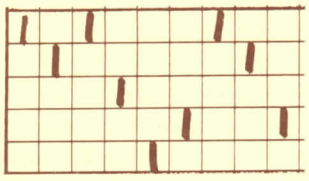
There are nine threads in one repeat of the warp arrangement so I recommend using a paddle to wind the warp. The warp averages 18 ends per inch so use this figure to plan quantity needed and for spreading the warp in the raddle. It isn't necessary to space it unevenly in the raddle and on the warp beam.

Warp: 20/2 cotton and fine weight novelty.
Weft: Fine cotton flake (3,000 yds. per lb.)

Reed: 18 dent sleyed as follows:
222222200000222200000222000022220000
Repeat

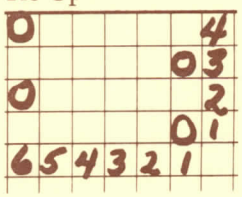
Order of warp:

20/2 natural
20/2 tan
20/2 yellow
20/2 yellow-gold
Novelty

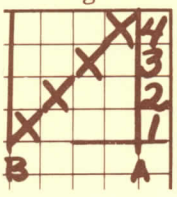


4 repeats equals 2''

Tie Up



Threading Draft



Threading Directions:
Thread A to B as desired

Weaving Directions:
Treadle 1 and 6 throughout for tabby weave.
Use medium beat to give 16 picks per inch with tension.
To finish fabric, steam press.

LEARNING HOW TO WEAVE

Steps 1 through 41 appear in Vol. 9 No. 4 through Vol. 13 No. 5.

Step 42 - Taking Care of Your Loom and Weaving Equipment

A good weaver takes good care of her/his equipment. Your loom is like a fine piece of furniture and should be treated as such. It gets very dirty where your hands touch the beater and it shows where your hands touch the breast beam. From time to time you need to clean these areas and wax the loom. Get out the vacuum and give your loom a real dusting. Lint accumulates in many areas on and around your loom. Lint or loose threads can get wrapped around the rods that hold the jacks under the harness frames and cause tightness in the loom action of a jack type loom.

About every six months or so depending on how much you use your loom, tighten every screw, bolt and nut. No matter how good a loom is put together in the beginning the constant vibration from the beating of the fabric can loosen the screws and bolts. Wood joints will wear unnecessarily if they are not kept very tight. More often than six months you should check the screw that holds the pawls in place. These are the pieces that fit into the teeth of the ratchets on the beams. The constant loosening and tightening of the beams during the weaving puts a lot of wear on these screws. Check often the screws or bolts and nuts that hold the beater together.

Release the tension of the warp when you leave your loom for a long length of time. This is good for the warp and it is good for the loom, particularly if you have a narrow warp in the middle of a wide loom. No point in putting tension on the loom parts when it isn't necessary.

Keep your loom out of direct sunlight. Too much sun can effect the finish. Store your loom in a dry place always. Looms sitting near air-conditioning vents can be effected by the dampness created and, don't set your loom next to a heater, hot air register or the like. Excessive heat or excessive dampness isn't the best environment for your loom.

To keep the finish on your treadles looking new, use soft soled shoes or slippers.

If you move your loom by pushing it to where you want it to be, don't put the pressure on top of the loom. Always put the pressure in the middle of the height of the loom or you may crack some joints.

Your electric bobbin winder needs to be oiled often, so does your hand bobbin winder if made of metal.

Periodically wood umbrella swifts need new ties. Be sure the slats are crossed properly before making the *very loose* tie.

About the only care boat shuttles need is to keep them smooth. Ends can splinter if dropped on a hard floor. Fine sandpaper will solve the problem. Sometimes the pins that hold the rollers in the Swedish boat shuttles will work loose. Hammer pins back in place and put a spot of glue on pin holes to hold.

Your constant movement as you sit on your weaving bench can cause screws to loosen, so tighten periodically.

Additions - No matter how much time you spend in researching and trying to cover everything, you often later think of something that you wished you had included. In looking over past articles of this series on Learning How To Weave I've thought of a few things I would like to add. For those of you that have the complete series, I suggest you cross reference these additions right now before you forget to do it.

Addition to Step 14, Vol. 10 No. 3 EQUIPMENT NEEDED - Heddles - Another heddle that has been on the market for sometime but is just now being offered by a number of loom manufacturers is the inserted eye heddle. This is actually a wire heddle with a solid eye. This is quite a bit better than the old wire heddle where the eye is made just by twisting the wire.

The newest type of heddle is the Swedish Texsolv Polyester heddle which is an improvement over the original cotton string heddles. This heddle hangs a little straighter on the harness frame.

You now have five choices in heddles - cotton string heddles, Texsolv polyester heddles, wire heddles, inserted eye heddles and flat steel heddles. I still much prefer the flat steel heddle for ease in handling and threading.

EQUIPMENT NEEDED - Treadle Ties - I should have added this item to my list of things to consider when buying a loom. Treadle ties are rather important because some kinds are much easier to work with than others. I hope you are not a weaver that never changes a tie up. You'll miss a lot of good weaves if you are. For heavens sake, don't get a loom with a tie up you can't change. You may not enjoy changing the tie up on your loom but you shouldn't dread it. The best kind of tie up arrangement is one that is easy to do and one where you can add and remove ties without disturbing other ties. If you don't like the tie up arrangement on your loom, you can probably change it without too much difficulty.

Addition to Step 15, Vol. 10 No. 4 PREPARING THE WARP FOR PLAIN BEAM METHOD OF WARPING Part 1 - This step covered how to wind a warp on a warping frame. Some frames may be an odd number of inches wide and it becomes a little harder to know how many pegs to use to get the length of warp you wish. To help you decide just what pegs to use, take a piece of yarn, put a slip knot in the end and then measure off the length you wish your warp to be. Take this yarn to your warping frame and put the slip knot over the beginning peg. That's always peg A on our warping frame. Wind

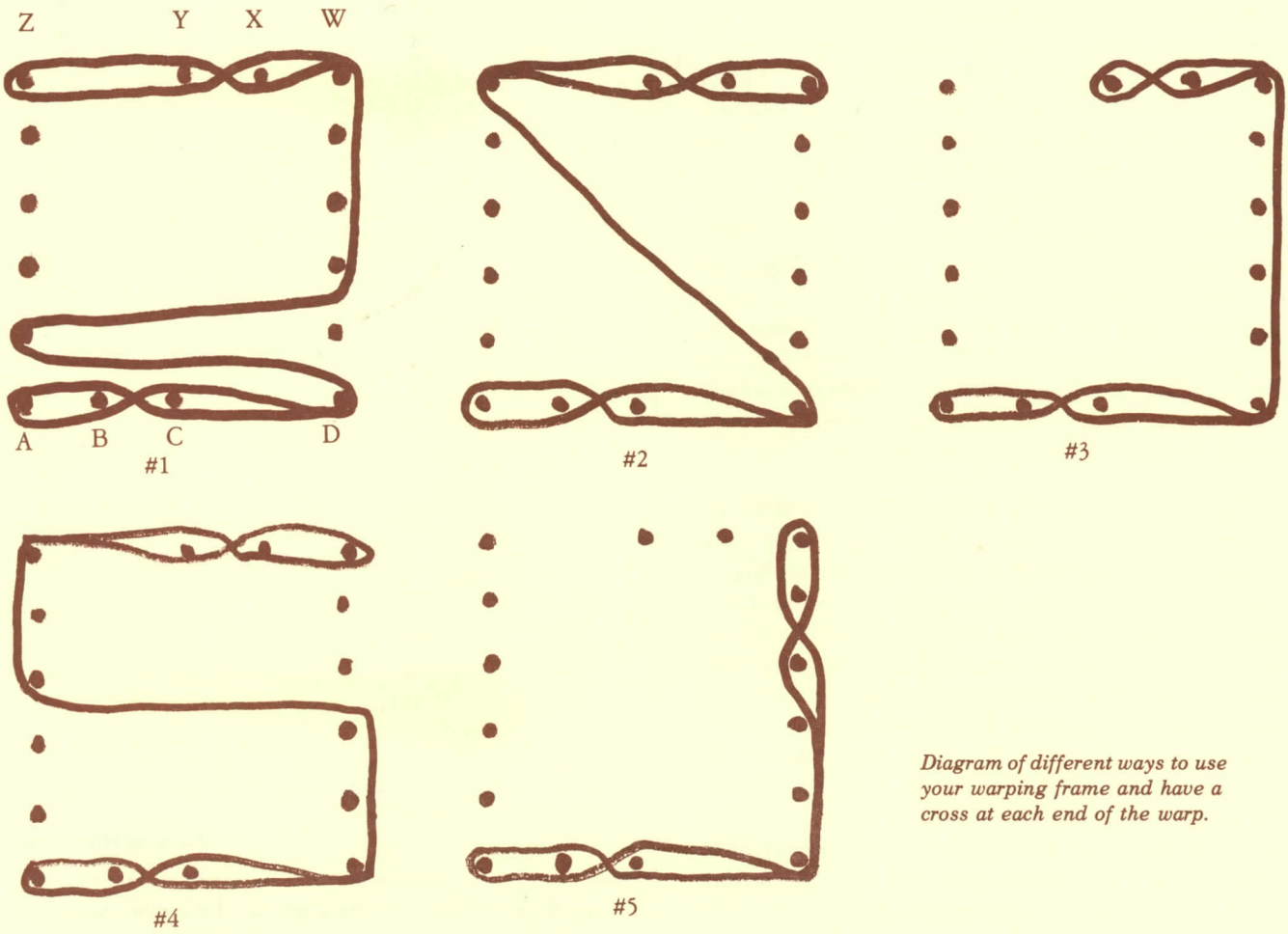


Diagram of different ways to use your warping frame and have a cross at each end of the warp.

this yarn onto the frame in different ways until you have worked out the pegs to use to give you the correct length. See diagram for suggested ways of using your warping frame and still have a cross in each end of the warp. I always use pegs A, B, C and D at the beginning and I always try to use pegs W, X, Y and Z at the end but, if it's a very short warp, I have to plan some other way for the second cross. See #5 in diagram.

Addition to Step 15, Vol. 11 No. 1 PREPARING THE WARP FOR PLAIN BEAM METHOD OF WARPING - Part 3 - Winding Warp With A Paddle On A Horizontal Warping Reel.

The directions given are for right-handed weavers so here are the directions for using the paddle in the left hand.

Read the directions for right-handed paddle warping until you are familiar with them and then make changes as outlined below. Everything else remains the same.

Position spool rack to the left of the warping reel. Place yarns on spool rack with #1 yarn in upper right-hand corner, #2 yarn below #1 and #3 yarn in upper left-hand corner with #4 below #3. Standing in front of your spool rack, hold paddle so the hole closest to the end is in up position and pointing to right. This is the #1 hole. Thread #1 yarn through it. #2 yarn comes through first hole on bottom row. #3 yarn comes through second hold on top row and #4 yarn comes through second hole on bottom row.

For winding, hold paddle in left hand so yarns go over index finger and under #'s 3, 4 and 5 fingers. Fingers are on top of paddle, thumb is under paddle. This is palm down position.

Put a slip knot in end of warp yarns and slip over Peg A. Tilt paddle so handle is up and the yarns are coming from the spool rack to the top side of the paddle. Slide warps over peg B so #2 and #4 are on the left and #1 and #3 are on the right. Hold paddle to left of pegs A, B and C and with right hand pick up #2 and #4 warps in order. That is: skip #1, pick #2, skip #3, pick #4. Put warps #2 and #4 over peg C. Warps are now crossed singly between pegs B and C. There is a partial cross between pegs A and B.

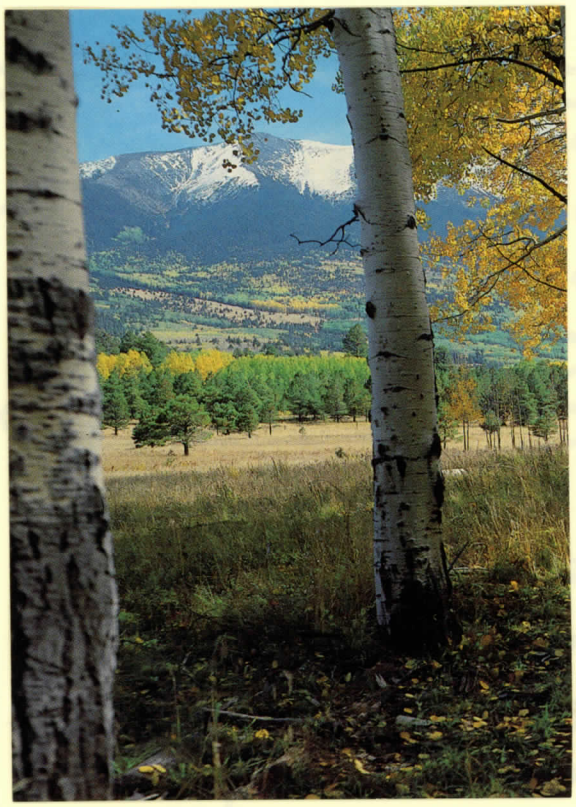
Holding paddle in palm down position, move reel towards you and carry yarns around to pegs, X, Y and Z. Take all yarns to left of peg X and right of pegs Y and Z. Go around peg Z right to left and turn your wrist so hand is palm up. Stay on left of peg Y and go to right of peg X. The warps cross together between pegs Y and X. Continue winding in palm up position staying on the right of yarns wound previously. Right hand can push yarns into position next to other yarns wound as it turns the reel away

from you. As paddle approaches peg C stand it on end and slip warps over peg C with #1 and #3 to left and #2 and #4 to right. Holding paddle to left of pegs pick up, in order, yarns #1 and #3 and put over peg B. Take all warps around peg A from right to left. As you come around, turn wrist to get into palm down position ready to begin again.

Addition to Step 38, Vol. 13 No. 2 - WEAVING THE PATTERN. You balanced your threading draft in the initial planning of the project and so you will also want to balance your weaving. If you're weaving an all over pattern, you will want to end like you began. Analyze your treadling directions and weave full pattern repeats for desired length and then repeat enough of the pattern to balance.

This concludes my LEARNING HOW TO WEAVE series of articles. It was meant to be a very basic ouline for the beginning or novice weaver on how to plan a project, prepare the warp, warp the loom, thread, sley the reed and weave the project. If you will learn and perfect this way of setting up your loom, I know you will enjoy your weaving with less time spent setting up the loom and more time spent throwing your shuttle. This is the exact method I've been teaching my students for many years and the method I use to produce my own fabrics. I hope this series of articles on learning how to weave has been a help to you. I've appreciated the very nice letters some of you have written regarding the series.

Happy Weaving!



Another view of the San Francisco Peaks north of Flagstaff just 30 miles from Sedona.

Photo by Bradshaw

A STICKY PROBLEM

There is always a natural draw-in of width on most fabrics but too much draw-in becomes a real problem. The amount of draw-in has to do with several things: The weaver - some weavers draw in more than others because of the way they handle the shuttle. The weave construction - if the weft skips over groups of warps, the fabric will draw in more. The weight of your warp and weft yarns - a fine warp with a heavy weft will draw in less than a heavy warp with a fine weft. The elasticity of the weft - if you stretch the weft in the weaving, it will contract and draw in when tension is off.

One way to solve a draw-in problem is to use a stretcher, sometimes called a temple. A stretcher or temple is a tool that breaks in the middle and has a row of teeth on the underside at each end. Stretchers can be made of wood or metal or a combination of both.

There are different kinds of stretchers. They are adjustable to a point. Some of the ones we stock are adjustable from 15'' to 22'', 23'' to 38'' and 36'' to 60'' and larger. See photos #1, 2 and 3. I don't recommend using a stretcher on every fabric but there are times when a stretcher is worthwhile. It takes time to use a stretcher so the need must be great enough to warrant spending that extra time.

To determine the width for your stretcher, lay it on the warp in front of the reed. Set it about an inch less than the width of the warp. You will have to weave a few inches before you can attach your stretcher to the fabric. Fix the stretcher so it will break, and hook

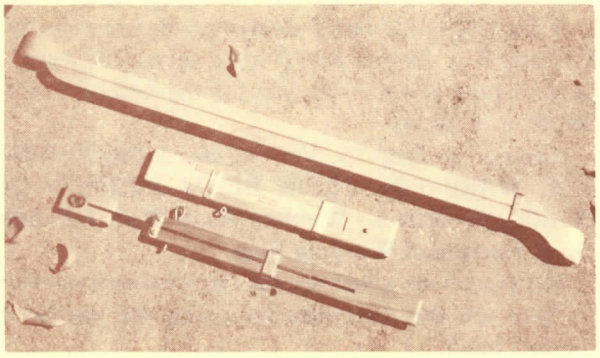


Photo 1 - Different types of stretchers.

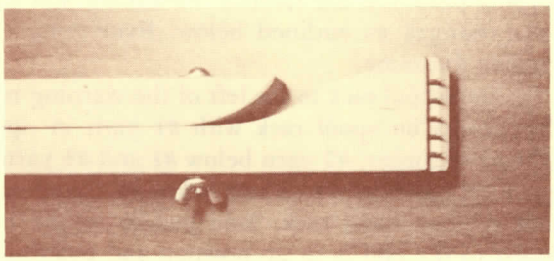


Photo 2 - Underside of stretcher showing a row of teeth.

one set of teeth close to the edge of the fabric about an inch from the fell line. If you have a wide shuttle race, stay farther away from the fell line or the teeth will damage the beater. Now hook the other set of teeth in the other edge of the fabric. Push the stretcher down to the cloth and secure. As you push it down, you will feel your fabric being stretched out. See photos #3, 4 and 5.

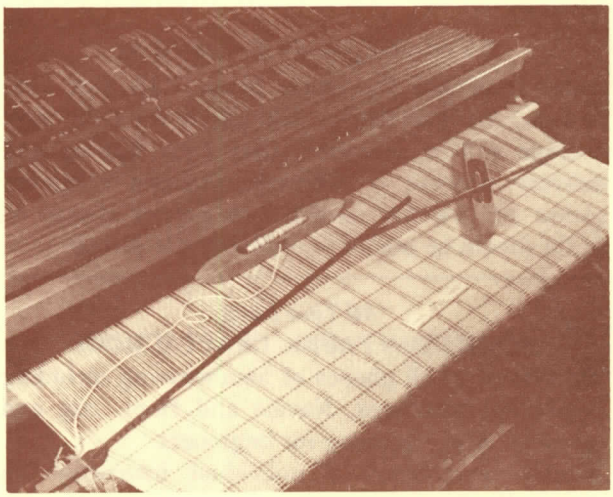


Photo 3 - The teeth have been hooked into the edges of the fabric but the stretcher has not yet been leveled and secured. Shuttle under stretcher is only for holding stretcher in position for the photograph.

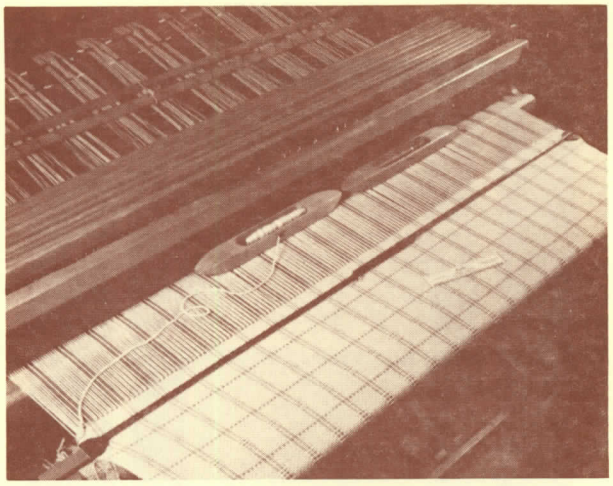


Photo 4 - Stretcher is in place and weaving can begin again.

After three to four inches of weaving you should move the stretcher up to within an inch or so of the fell line. Always re-position the stretcher **before** you roll your weaving onto the cloth beam. If you leave it in place, you may roll the stretcher over the breast beam and the teeth will make deep scratches in the wood. Also, when you reach down to your cloth beam handle or reach under your fabric for any reason, the teeth can scratch your arm. I know from experience. Be careful when using a stretcher.

You can weave with a little less yarn out of the shuttle when using a stretcher and in many cases you get a better edge. It's a good idea to have a stretcher or two on hand.

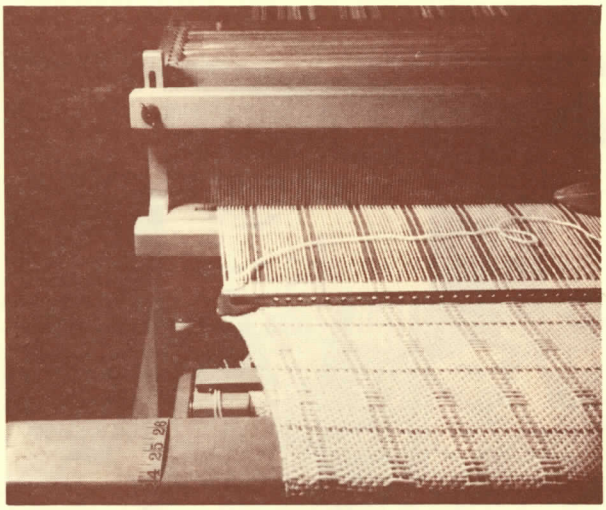


Photo 5 - The stretcher holds the fabric to full width during the weaving.

FOR YOUR READING ENJOYMENT *Continued . . .*

Rigid heddle looms are very popular and here's three very good publications about weaving on that kind of loom:

Textures and Patterns For The Rigid Heddle Loom by Betty Davenport. Lots of photos and 48 pages full of good information - $6.50 pb.

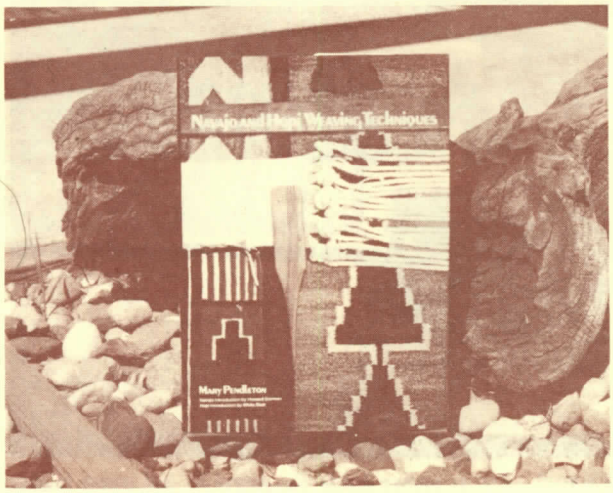
Moorman Inlay Technique For Rigid Heddle Frame Looms by Karen Searle. 10 pages well illustrated - $3.00 pb.

Soumak Workbook by Jean Wilson. Soumak is a wonderfully versatile warp-wrapping technique that is easily done on simple frame looms, floor, table or tapestry looms.

This handy reference guide to the soumak techniques is clearly illustrated, 48 pages - $5.00 pb.

See page 2 for ordering information.

Beekeeper, Fred, retrieving a swarm of bees. The dots in the photo are thousands of bees flying around. Our bee population has grown to four hives.

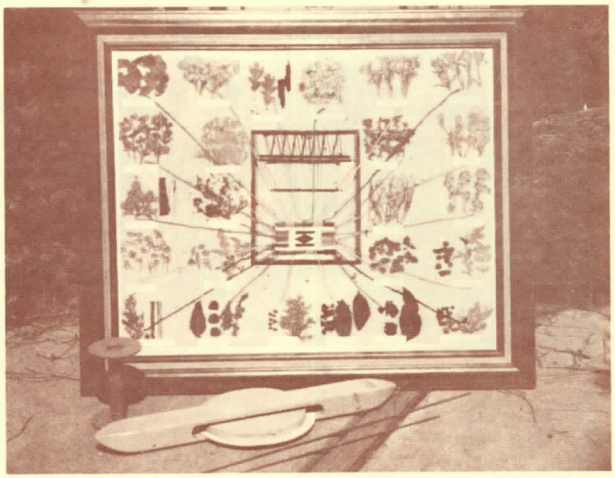


NAVAJO AND HOPI WEAVING TECHNIQUES
by Mary Pendleton
Navajo introduction by Howard Gorman
Hopi introduction by White Bear Fredericks

A craftsman and masterweaver who has worked for more than fifteen years with Navajo and Hopi weavers explains - for the first time - exactly how their rugs and sashes are woven, and how even the novice weaver can duplicate their traditional techniques. 156 black-and-white and 20 full-color photographs. The photographs are taken so that you see the work in progress just as it would look if you were seated at the loom. Every aspect of the weaving process is described, from making a loom to finishing a rug or sash.

8x11, 224 pages. All copies autographed by author. Soft cover, $8.95. Add $1.50 for postage, insurance and handling. Arizona residents add 5% sales tax.

The Pendleton Shop, Dept. B, P.O. Box 233, Sedona, Arizona 86336.



Navajo Native Dye Chart in color - Frame not included. 20''x 24'' - $4.00.

Cardboard spools (shown lower left) 3¾'' long x 2½'' flange. 45¢ each or 10 for $4.25.

Shuttle with rollers to hold your Poppana cut rag rolls. Makes rag weaving go much faster. 15'' long - $15.25.

Long needles used in the last few inches of weaving your Navajo rug. Substitutes for the Navajo weaver's umbrella rib tool. Also used in frame loom weaving, tapestry, etc. Points are rounded. 12'' - $2.25, 18'' - $2.50.

All prices listed are plus shipping

Order from The Pendleton Shop, P.O. Box 233, Sedona, Arizona 86336. Add plenty for UPS. Any overage will be refunded. Give both mailing and delivery address if different. Arizona residents please add 5% for sales tax. A service charge of $1.00 should be added to orders under $10.00.

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Workshops in all phases of handweaving including beginning, advanced, Navajo and Hopi, rug and tapestry. Also, spinning for beginners.

Weekly workshops or individual instruction in whatever subject you prefer and for whatever length of time you wish to study.

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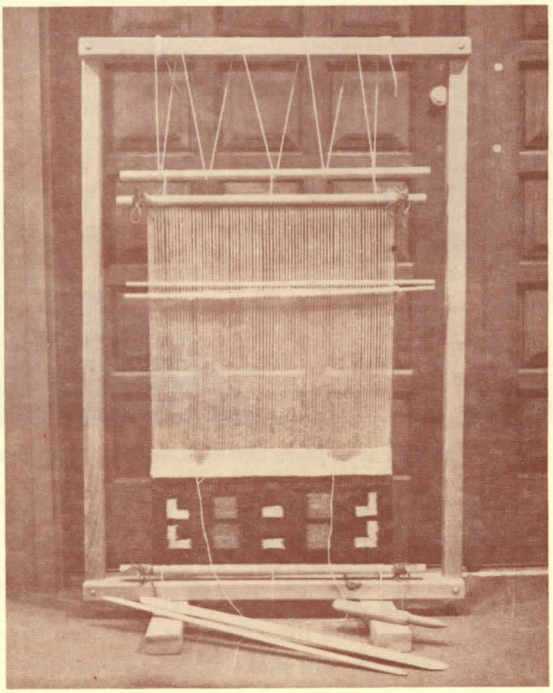


NAVAJO TYPE LOOM FRAME

Designed so weaving is held forward for ease in handling tools. 30''x 43''. With rods, shed sticks, two battens, comb and cord. Shipped knocked down. Easy to assemble with six bolts. $61.00 Postpaid USA. The Pendleton Shop, Box 233, Sedona, Arizona 86336.

HUCK CURTAIN FABRIC

I needed to do some cafe curtains for my dinette and kitchen so I'm giving you the information in case you need some, too.

I wanted my curtains to be sheer enough to let the light through and I wanted them to be cheery looking. I chose yellows as my main colors as I think yellow is an "up" type color. When the sun shines through yellow, it really brightens up the room. For an added interest I put in some red-orange like the color of the old brick in my fireplace that divides the dinette from the living room. For a little extra zing I decided to add a little texture change. I tried some avocado green rayon flake and even though I liked the fabric I felt it dulled the effect somewhat. I tried the white rayon-cotton novelty and liked the result the best.

In my sampling, I tried all the colors as weft but at this writing I haven't decided which color I will use but, I'm sure it will be either the natural or the pale yellow with the white novelty.

For a threading I chose the same huck weave that I used in Vol. 12 No. 13 with a slight change in tie up so both blocks weave the same. Here I'm using it with fine yarns but in the earlier fabric I used a heavy cotton rug yarn. You might want to compare the two fabrics to see how differently they are even though it is the same exact threading.

My warp is arranged to finish in 6" stripes in natural, two shades of yellow and the red-orange with the white novelty. The colors are arranged from dark to light and, of course, the darkest color will be at the bottom of the curtains.

Even though this weave uses 8 treadles, the order is quite easy to remember. The one pattern block is 4-3-2-3-4 and the other block is 5-6-7-6-5. The two tabby treadles used between each pattern treadle can be remembered this way: The last tabby treadle used is the first in the next pair; that is, treadle 8 is followed by treadle 8 and treadle 1 is followed by treadle 1, so your treadling is 4-1-8, 3-8-1, 2-1-8, 3-8-1, 4-1-8, 5-8-1 etc. Also note that the white novelty is always on treadles 4 and 5.

The warp is the width of the fabric and the weft is the length. You must wash and shrink this fabric before making it up. The beauty of the lace type weave is not developed until this is done.

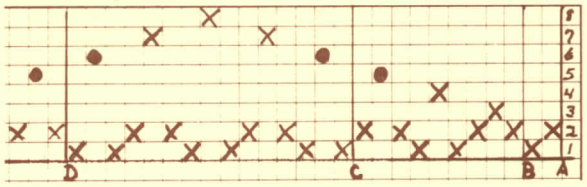
The lower panel for the dinette must finish 23" and the upper panel and kitchen window panel must finish 19½". Allowing for large hems and shrinkage I'm going to set the warp for the wider width at 39" in the reed. After weaving what's needed in the wider width, I'm going to take out a little from each stripe, but mostly from the edge stripes and re-sley the warp 35" in the reed. The little bit of warp wasted does not compare to all the labor it would take to set up another warp from scratch.

Warp: 10/2 mercerised cotton: 11" natural, 6½" lt. yellow, 6½" yellow, 15" red-orange and white rayon/cotton novelty.

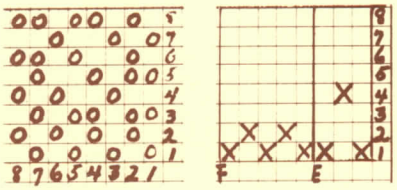
Weft: 10/2 mercerized cotton in one of the lighter above colors and white rayon/cotton novelty.

Reed: 16 dent, 1 per dent

Threading Draft



Tie Up for rising shed loom



x = 10/2 cotton

• = novelty

Threading Directions:

Thread A to B - 2 times	4 ends
Thread D to E - 1 time	6 ends
Thread B to E - 20 times	600 ends
Thread B to C - 1 time	9 ends
Thread E to F - 1 time	5 ends
39" in reed - - - - -	624 ends

Weaving Directions:

Treadle 4-1-8, 3-8-1, 2-1-8, 3-8-1, 4-1-8

Treadle 5-8-1, 6-1-8, 7-8-1, 6-1-8, 5-8-1

Repeat as desired.

Treadles 4 and 5 are always the white novelty.

To finish, wash and iron fabric before making it up.