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# THE WEAVER

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# THE WEAVER

VOLUME IV NUMBER I

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# An Adventure for the Adventurous

by MARY M. ATWATER

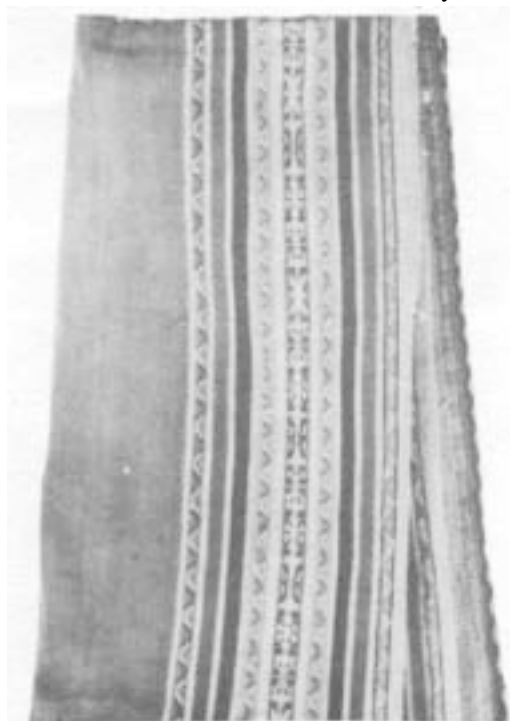


Illustration No. 1

Many weavers enjoy "Honeysuckling" along year after year, tying each new warp to the ends of an old warp left in the loom. But we are not all like that; some among us get a real thrill of adventure from trying the untried, seeking out old weaves and patterns that have been lost, or searching for something unusual and new.

Weaving is a very ancient art. Perhaps there will never be anything completely "new" in weaving. At least authorities state that the last fundamentally new thing was the invention of the drawloom by the Chinese—and this world-shattering event took place in the year Two Hundred, B. C.! However, for each weaver there are many new things. No one could live long enough to know and try all the weaves, and it is altogether probable that the fascinating weave I am about to describe has never before been produced on a civilized harness loom by the method suggested.

Last summer a group of experienced weavers gathered at the Drifting Snow Ranch in Montana. As it happened, there were no honeysucklers among us, and we went on a real spree of experiment and discovery, with some highly interesting results.

We had for study some beautiful and unusual pieces of weaving from Guatamala, from Peru and Bolivia, from New Zealand, and other far away places. Among us we solved the puzzle of the structure of all these fabrics and worked out practical techniques for reproducing them on the types of loom in use among us. We made no attempt to weave these things in the manner and with the equipment probably used by the original weavers.

As it happens, I lived for some time in Bolivia. It was a good many years ago and at the time I was not a weaver, so I missed a wonderful opportunity. However, I saw the women at their weaving and was not tempted to go and do likewise. The warp was spread flat on the ground between two heavy beams, held in place by pegs



Illustration No. 2

driven into the earth. The weaver crawled about on her web on hands and knees. It would be hard to imagine a more inconvenient method of weaving.

However, the results of this technique are extremely handsome, and our problem last summer—among others—was to find some way of producing these results on a civilized loom in a civilized manner.

We had for study a small "poncho", shown on illustration No. 1, and a small bag, illustration No. 2, probably intended for coca leaves. The poncho is the outer garment of the Indian men of that country. It consists of two strips of fabric, seamed together, with an opening left for the wearer's head. It is always predominantly red in color, with lengthwise stripes of other colors and borders in pattern weaving. The bag for coca leaves hangs at the owner's belt when he is on a journey. He takes no other provision for a trek of several days across the high desert, chewing the coca leaves to relieve the pangs of hunger. The small quantity of cocaine he absorbs from this exercise comforts and sustains him. It seems to have no bad effects on his tough and sturdy body.

Many of the shawls and ponchos and bags of the natives, even at the time I was in Bolivia, were "made in Germany" and were of no artistic interest at all, but the pieces we had for study were ancient native weaving, done in a very fine, very hard-twisted woolen yarn.

We had no wool in the least like the material of the ancient pieces, but this did not matter greatly as we were not attempting to reproduce the texture of the originals but simply to study the structure of the curious and beautiful weave. We therefore used mercerized cotton #5 in the colors that most closely approximated the colors of the original. This material being much coarser than the old hand-spun yarn made it easier to see what we were doing. The color numbers, from Bernat's color card for perle cottons, are as follows:



|              | <i>Color</i> |
|--------------|--------------|
| Red .....    | 1045         |
| Green .....  | 1018         |
| Blue .....   | 1042         |
| Yellow ..... | 1020         |
| Brown .....  | 1058         |
| Black .....  | 1031         |
| Taupe .....  | 1013         |

The first experiment in reproducing the weave was done on a little English belt-loom or "inkle" loom, only the pattern figures being done and the background woven plain. This experiment is shown in illustration No. 3.

We next set up a narrow warp in a six-harness loom, including the number of threads required for the broad stripe of pattern weaving in the poncho, with two of the narrow borders. This warp was made as follows:

For the plain edge:

Taupe ..... 8 threads  
Red ..... 4 threads

First pattern stripe:

Brown and taupe, alternately—8 threads of each color.

Stripes in plain weave:

Red ..... 4 threads  
Taupe ..... 8 threads  
Red ..... 16 threads  
Taupe ..... 4 threads  
Blue ..... 16 threads  
Taupe ..... 4 threads  
Yellow ..... 4 threads

Second pattern stripe:

Taupe and red, alternately—6 threads of each color.

Plain stripes:

Yellow ..... 4 threads  
Taupe ..... 4 threads  
Red ..... 4 threads

For the broad pattern stripe:

Green and taupe, alternately—8 threads of each color  
Red and taupe, alternately—6 threads of each color  
Green and taupe, alternately—8 threads of each color

As this stripe makes the center of the piece, we repeated the rest of the warping in reverse order back to the beginning.

We set this warp at 48 ends to the inch, slewing four threads through each dent of a 12-dent reed. The manner of threading through the heddles is shown at (a) on the accompanying diagram.

It is possible to produce the weave on four harnesses, as shown at (b) on the diagram, but the six-harness threading is much more convenient.

For weft we used a soft, coarse cotton, heavier than the warp, in a taupe shade. As the weave is a warp-face weave and the weft is completely covered, the color of the weft is unimportant. However, it shows a little at the edges, so that it is best to use the same color as the edge warp-threads.

We used one of the despised flat "poke-shuttles" for weaving—for reasons that will appear—and for the pattern work we used a narrow flat pick-up stick, pointed at one end. The pick-up stick must be narrower than the shuttle.

The weaving proved unexpectedly simple. Weaving on the two tabby treadles alone produces a cross-banded effect over the pattern stripes, as shown at the bottom of the practise piece,—illustration No. 4. The square figures, alternately dark and light, that appear above the bars may be woven as follows:

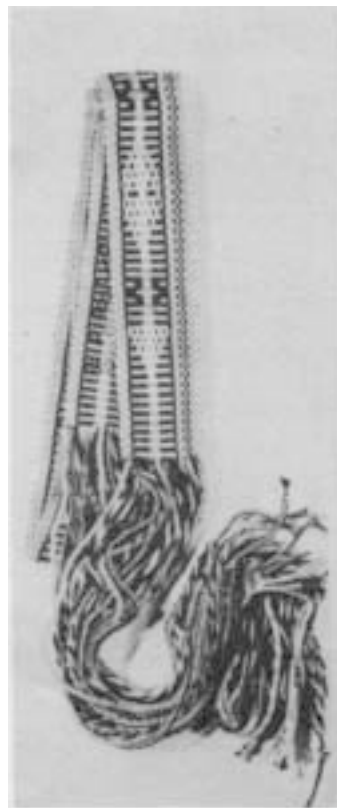


Illustration No. 3

For the dark figure:

Treadle A, plain.  
Treadle B and treadle 1, together  
Treadle A, plain  
Treadle B and treadle 3, together  
Treadle A, plain  
Treadle B and treadle 1, together  
Treadle A, plain

For the light figure:

Treadle B, plain  
Treadles A and 2, together  
Treadle B, plain  
Treadles A and 4, together  
Treadle B, plain  
Treadle A and 2, together  
Treadle B, plain

This simple way of weaving has, in itself, an interesting effect, and a piece might be woven in this manner all the way, with perhaps the introduction of cross-bars between the pattern figures.

To produce the more fanciful figures, the pick-up stick comes into use. These figures may be woven, according to fancy, in a great variety of forms. Detailed directions cannot be given for more than one of these figures, but this will illustrate the method and any weaver of ingenuity will find it easy enough to produce other figures in the same manner.

To weave the X-figure that appears above the squares in the practise piece, and that is shown in large-scale detail on the diagram, proceed as follows:

Treadle A, plain. Hold down treadle 3, which raises alternate pairs of dark threads across the pattern stripe. Take up on the shed-stick the three middle pairs. Let treadle 3 go back into position and weave on treadle B. The shed-stick simply rides on top of the shed. Now hold down treadle 2 and take up on the stick two pairs on each side of the pattern stripe. Weave on treadle A. Now pick up the two pairs at the center on treadle 1; weave on treadle B. On treadle

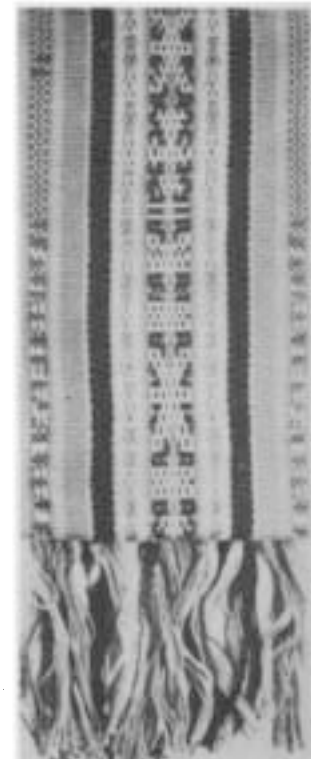


Illustration No. 4

4 pick up two pairs on each side of the pattern and weave on treadle A. Pick up a single pair, at the center, on treadle 3 and weave on treadle B. Pick up the four pairs at the center on treadle 2 and weave on treadle A. On treadle 1, pick up the pair on each edge of the pattern border and weave on treadle B. Pick up three pairs at the center on treadle 4 and weave on treadle A. Weave treadle B, plain. Pick up all pairs on treadle 2, and weave on treadle A. This is the center of the figure. Repeat in reverse order back to the beginning: treadle B, plain, and so on.

The fabric should be very firmly beaten up, and it will soon appear that this is impossible by the use of the batten in the ordinary way. This is because the warp is set so close and so many threads are drawn through each dent of the reed. To get a firm beat, insert the flat shuttle through the open shed. Leave the shuttle in place and beat against it with the batten. This produces the desired effect. If the pick-up stick is narrower than the shuttle, it will not interfere at all with this method of beating. If preferred, a different type of shuttle may be used to carry the weft and a special stick, beveled down to a knife-edge along one margin, may be used in the shed as a beater. The thin edge, of course, should be against the web.

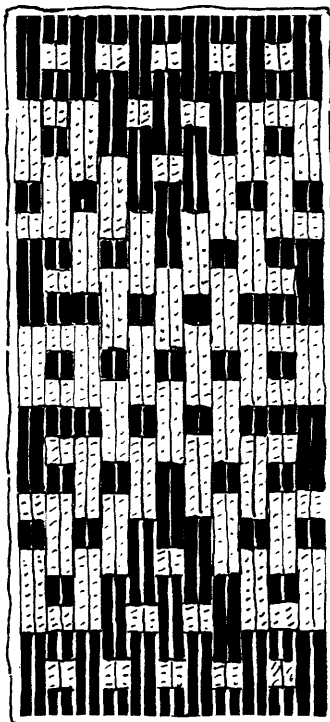
In our experiments, as noted above, we were not aiming at texture. However the texture of the piece produced proved extremely handsome. The fabric is firm and smooth and agreeable. It would make beautiful chair-covering, and would outwear almost any fabric I can think of.

The weave might also be developed in Fabri yarn, beaten more lightly, and used for scarves and mufflers.

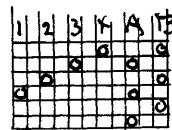
Many other uses for this weave suggest themselves.

The finish of the ancient pieces deserves mention. All the edges of both the poncho and the little bag are finished with a narrow braid, that at first glance appears to be woven separately and applied. On examination it develops that the braid was made directly on the fabric in a very odd and interesting manner. The braid is made of a strand of very fine wool threads—16 green, 8 taupe, 4 red. These strands were attached to the piece in an inconspicuous spot and the weaving was done with a needle, passing first through a shed of the braid and then through the fabric in a sort of overhand stitch. Some shedding equipment, as a slot-and-hole heddle, may have been used in doing this work, as it is very regularly and evenly done, in a little pattern of diamonds. I find I can reproduce it, but awkwardly and slowly. I may find some easy way of doing it. Certainly it provides a very handsome finish. The little pattern is probably traditional, for the same diamond figure is shown in the braid finish of both pieces though they are not likely to be the work of the same weaver and possibly were not made at anywhere near the same period. The detail of the pattern figures in the main fabric is quite different. The same finish appears also in illustrations of ancient Peruvian pieces in d'Harcourt's fine book on ancient Peruvian textiles. A similar effect could be produced with less effort by weaving a narrow strip on the inkle loom or in card weaving and binding the edges.

And though there may be nothing new in weaving, this interesting ancient weave from a far country will be new, I am certain, to readers of THE WEAVER. For its qualities of beauty, simplicity of production, and sturdy durability it should appeal to all except confirmed honey-sucklers.

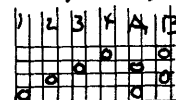


Detail of the X-figure

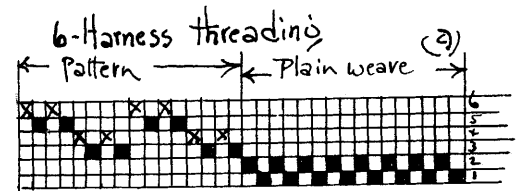


tie-up

tie-up, Rising Shed

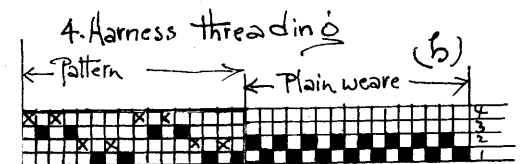


tie-up, Sinking Shed



■ Dark threads

□ Light threads



Mary M. Atwater, 1930  
Basin, Montana

# Bon Voyage Gift

by ROSE S. SHAPIRO

None of my friends weave so I find that hand woven gifts are always most acceptable. I've made dozens of guest towels, knitting bags, luncheon doilies, tray cloths and now I wanted something different. One of my friends runs a circulating library and often carries books to read on the bus trip home, so I hit upon the idea of making her a book cover-carrier.

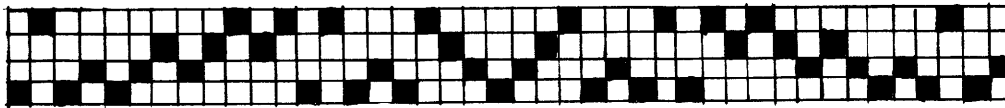
On my loom was a short warp threaded in miniature Maltese Cross design, left after making guest towels. It was of 40/3 linen threaded twenty-four to the inch and twelve inches wide. I selected a large average size book for pattern and found that it required about twenty-seven inches of material nine and one half inches wide, so I cut the warp narrower to conform to those measurements.

After looking through odds and ends of thread (of which I have many) I found part of a skein of a rough brown novelty yarn, which I used for pattern with some gold color perle number 20 mercerized cotton for tabby. This made a most interesting fabric. Any of the minia-

ture patterns or honeysuckle or a small diamond would make a satisfactory design.

Now for making up the carrier. Stich, then cut two strips 2 inches by 9½ inches. Turn both edges under to meet at center. Cover this joining with brown silk binding ribbon, stitch along both edges of these handles on your sewing machine to make a firm tailored edge. With binding tapeface back both edges of remaining material. My book was 9" x 6" x 1½" thick so I allowed 4" on each end to turn inside the cover of the book. Next stitch handles to edges of this flap that turns in. Turn the flaps so that the right side faces right side of cover material. Stich very close to edge at top and bottom, carrying a piece of binding tape all across top and bottom of the cover. Turn right side out and hem binding silk to cover by hand. Stich close to two right hand edges of cover from which handles protrude. Press, and your carrier is complete. This makes a very acceptable bon voyage gift.

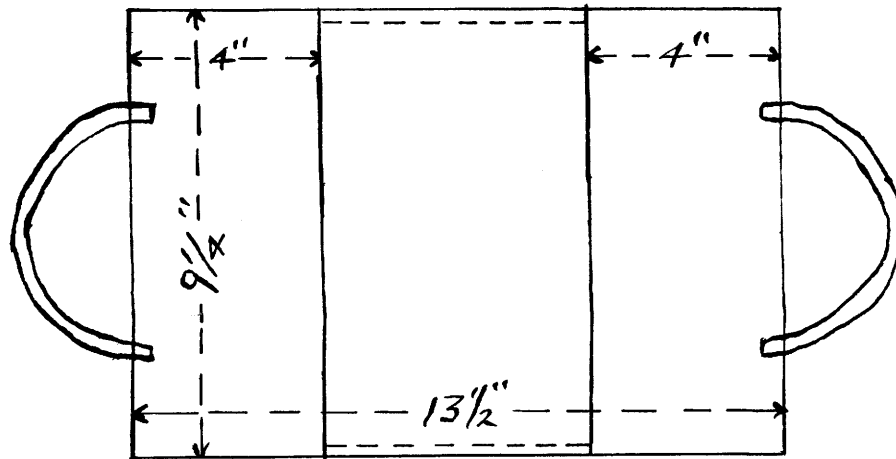
## BON VOYAGE BOOK COVER-CARRIER



*Miniature Maltese Cross Pattern*

### Treading Pattern

|     |   |       |     |   |       |
|-----|---|-------|-----|---|-------|
| 2-3 | 2 | times | 1-4 | 1 | times |
| 1-2 | 3 | "     | 3-4 | 1 | "     |
| 1-4 | 3 | "     | 2-3 | 1 | "     |
| 3-4 | 3 | "     | 1-2 | 2 | "     |
| 2-3 | 3 | "     | 2-3 | 3 | "     |
| 1-2 | 2 | "     | 3-4 | 3 | "     |
| 2-3 | 1 | "     | 1-4 | 3 | "     |
| 3-4 | 1 | "     | 1-2 | 3 | "     |
| 1-4 | 1 | "     | 2-3 | 2 | "     |
| 1-2 | 2 | "     | 1-2 | 2 | "     |



*Rose S. Shapiro.*

# The Weaver's Guild of Boston

The Weaver's Guild of Boston is an organization started in 1922 by a group of enthusiastic weavers for the weavers of Greater Boston. Its purpose is to stimulate interest in the artistic and technical development of hand weaving and it also aims to raise the standard of hand woven fabrics by exhibitions previous to which all entering articles are carefully judged by a jury of artists. The Guild now has members in all parts of the United States who enjoy an occasional trip to Boston and who send their most interesting pieces to the exhibitions.

On December 2 and 3 such an exhibition was held at the Women's Educational and Industrial Union on Boylston Street at which the work of thirty-eight weavers was displayed; demonstrations were also in progress of spinning and of weaving on different types of looms.

The exhibition comprised a large variety of articles for use in the home, for personal use and for use in and decoration of the church and the grouping was such that everything was shown to great advantage. Long tables were put together to form a large table where the linens were displayed. The use of attractive pieces of pottery with flowers added greatly to one's enjoyment and one could visualize them on table or stand at home as there was no crowding. The coverlets and tapestries hung on the walls with the ecclesiastical group in the center of the wall opposite the entrance. Two candles gave this group a realistic touch.

It was an exhibition purely, nothing being for sale.

The greatest interest seemed to center about the linens.

There were table cloths in Crackle Weave and in Twill. A luncheon set set in linen floss in plain weave, with a pleasing color combination worked out in border effect was much admired. There was a beautiful luncheon set in the eight-harness Bronson lace weave and several sets with pattern borders. Beside these, there were odd napkins, towels, runners, table mats, and center pieces showing a wide variety in materials employed and in the use of pattern weaving. On an old Shaker loom, a luncheon set was being woven in plain weave with a dash of color and a heavy thread for texture.

Upholstery materials included the simple Log Cabin pattern for two harnesses, chair seats and footstool covers in the overshot weave and in tapestry. Heavy portieres in raw silk were very nice. Pillow tops in a variety of materials attracted favorable attention.

Coverlets, the aim and ambition of every weaver, were exhibited by two members. They included different patterns and color schemes. One such coverlet is shown in Illustration No. 1. Another one, also woven by Dr. Dole, was displayed with drapery material to harmonize, woven of the same yarns and making a very attractive set.

Illustration No. 2 represents a tapestry rug with a modernistic design in pile. Other rugs included Navajo weaving and one in hand spun natural wools, designed in Swedish loops, background in a Swedish knot.

Wall hangings included both the simple Dukagang and the elaborate Pictorial (Illustration No. 3) the method of which was being demonstrated on a tapestry table-loom. Transparent tapestry was also included; this is often used for a window-hanging or for portieres in wide doorways.

Weavings for personal use included dress fabrics and coatings of plain weave with two colors, one for warp and one for weft; plain twill of Shetland floss, using the same color for both warp and weft. A plaid in three hues of purple in twill weave of homespun for a coat and plain purple twill weave of homespun for a skirt—the hat of this suit combined both plain and plaid cloth. Coat material of a plain yarn and a twisted yarn of three colors alternated for a warp and woven with a dark thread of Weaving Special in a twill weave. Also a man's sport coat of black and white with a single red thread between the dark and the light, forming half-inch checks. This coat to be worn with white trousers of homespun.

Men's neckties (Illustration No. 4) may be woven on a twenty-inch loom using Scotch tartans for patterns and fine wools for weaving.

Women's shawls (Illustration No. 5) were woven with fine Afghan for warp with two-fold Saxony and Miro together with the Afgan for weft.

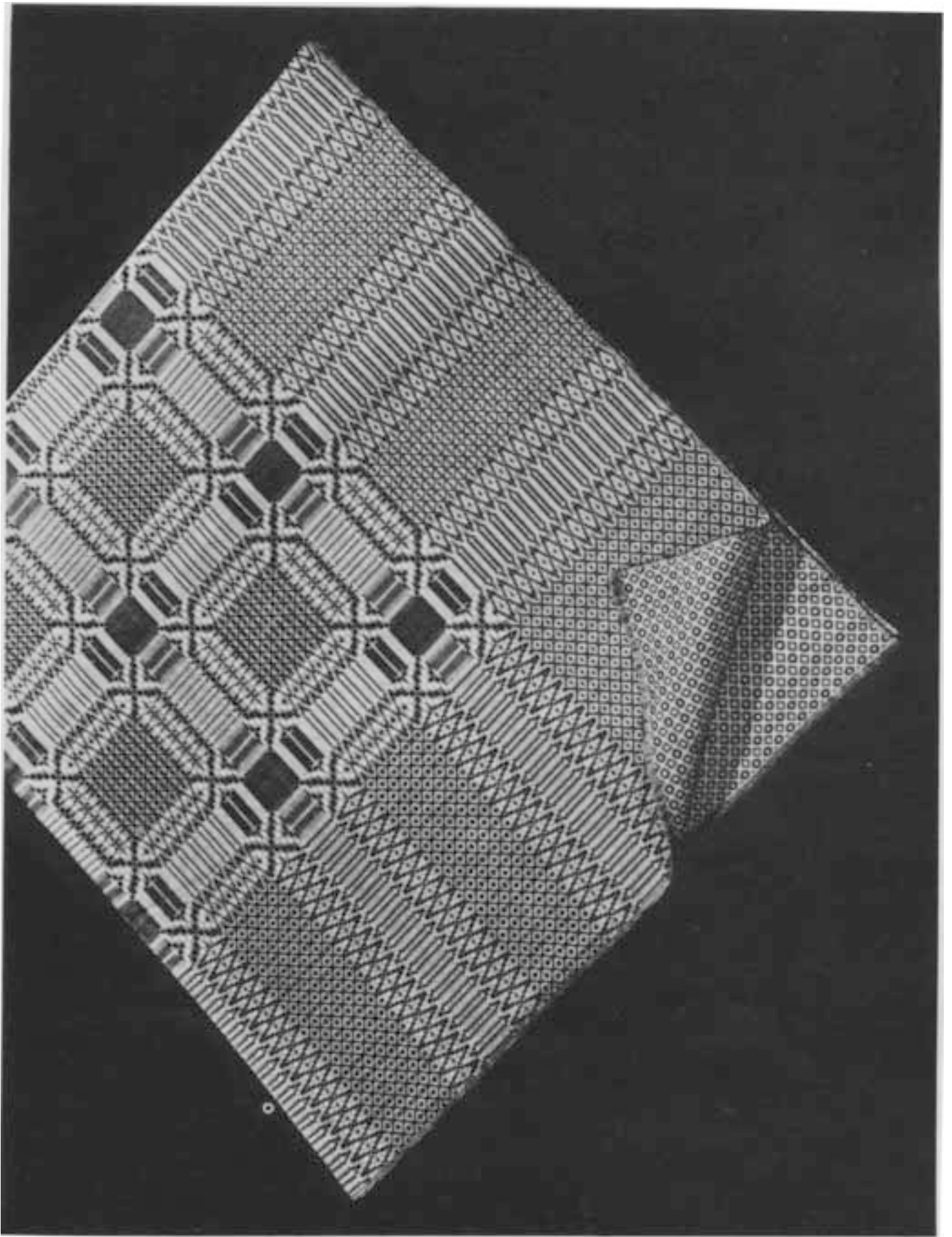
Weavings for church use included altar frontals, a chasuble, a veil and several stoles, some of which are seen in Illustration No. 6 and all of which were in significant colors.

Many weavers will be interested in the types of technique that were displayed. Pieces in overshot included work on three, four, six and eight harnesses. Brentwood, a technique which can be applied to any overshot weave. Summer and Winter was well represented both in linens and mercerized cottons. Crackle weave was used for many articles and shown to be a very adaptable technique. Twill weave was best shown in the clothing materials. There was the solid Bronson weave in a material for bag or upholstery, and the Bronson lace weave was used both in fine wools (Illustration No. 5) and in linen (Illustration No. 7). The Spanish type of lace weave appeared on some of the linen pieces. Laid-in work embraced the simple finger weaving and the Swedish embroidery weaving. Tapestry technique showed both solid and transparent effects in pictorial designs. The variety in size of articles stretched all the way from a small bookmark to the portieres and coverlets. Textures varied from soft, loose weaves to the very compact linen twill weave and the heavy tapestry work.

The exhibition was marked by a wide range in the use of color, from pieces in extremely dainty color effect through the various grades of boldness to the typical peasant style of color combination.

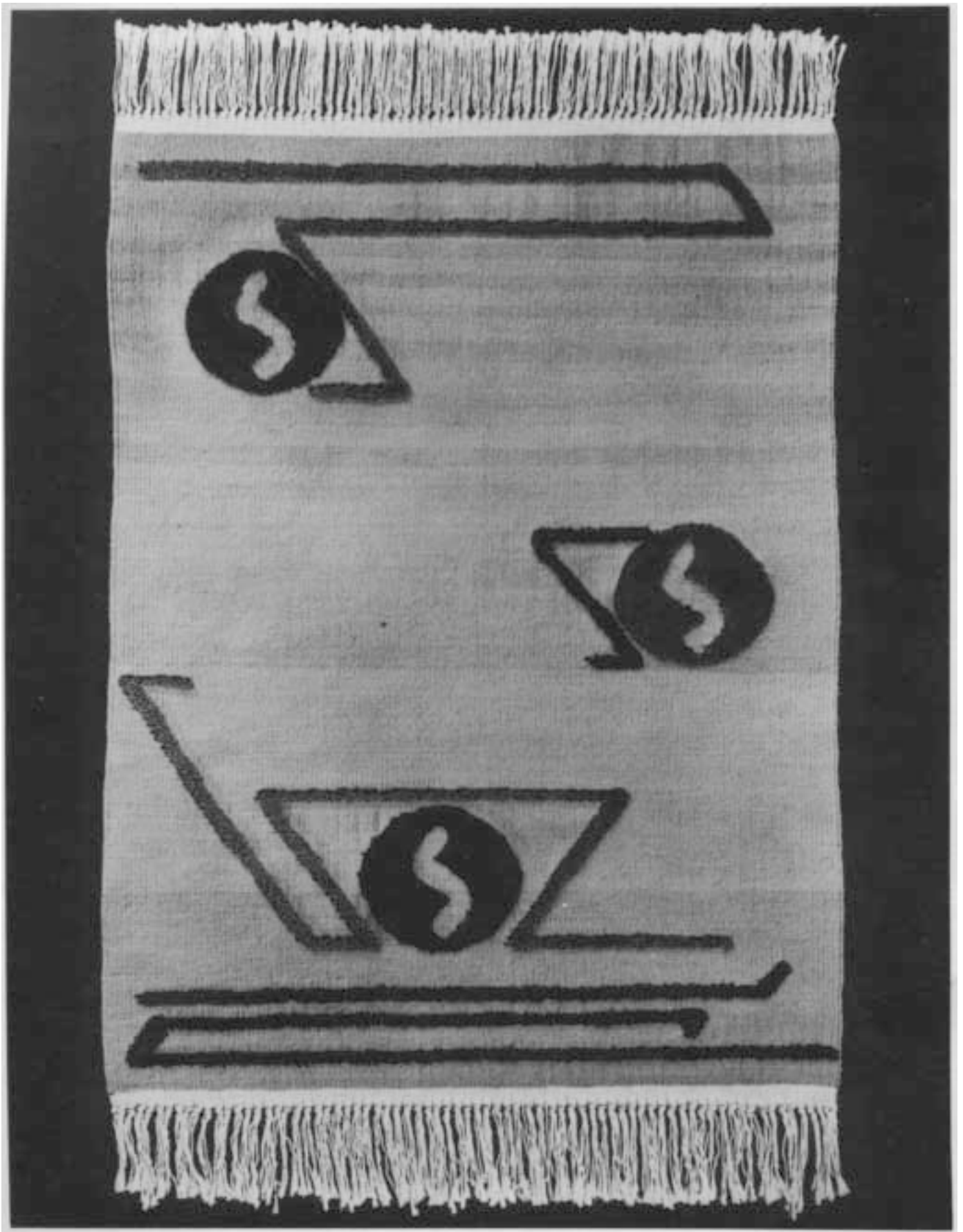
Materials used included wools, silks, rayons, linens and cottons.





*Coverlet, Governor's Garden pattern. The twenty-fifth coverlet woven by Dr. Mary P. Dole of Shelburne Falls, Massachusetts.*





*Rug—Design in Pile, background in tapestry weave without design, woven by Emily N. Goodwin of Brooklyn, New York.*



*Tapestry "El Greco" Material spun, dyed and woven by Mrs. Elsa Bockmann, Newton Center, Massachusetts.*



*Neckties, Scotch Tartan weaves by Mrs. Grace MacAllister of West Barrington, Rhode Island.*



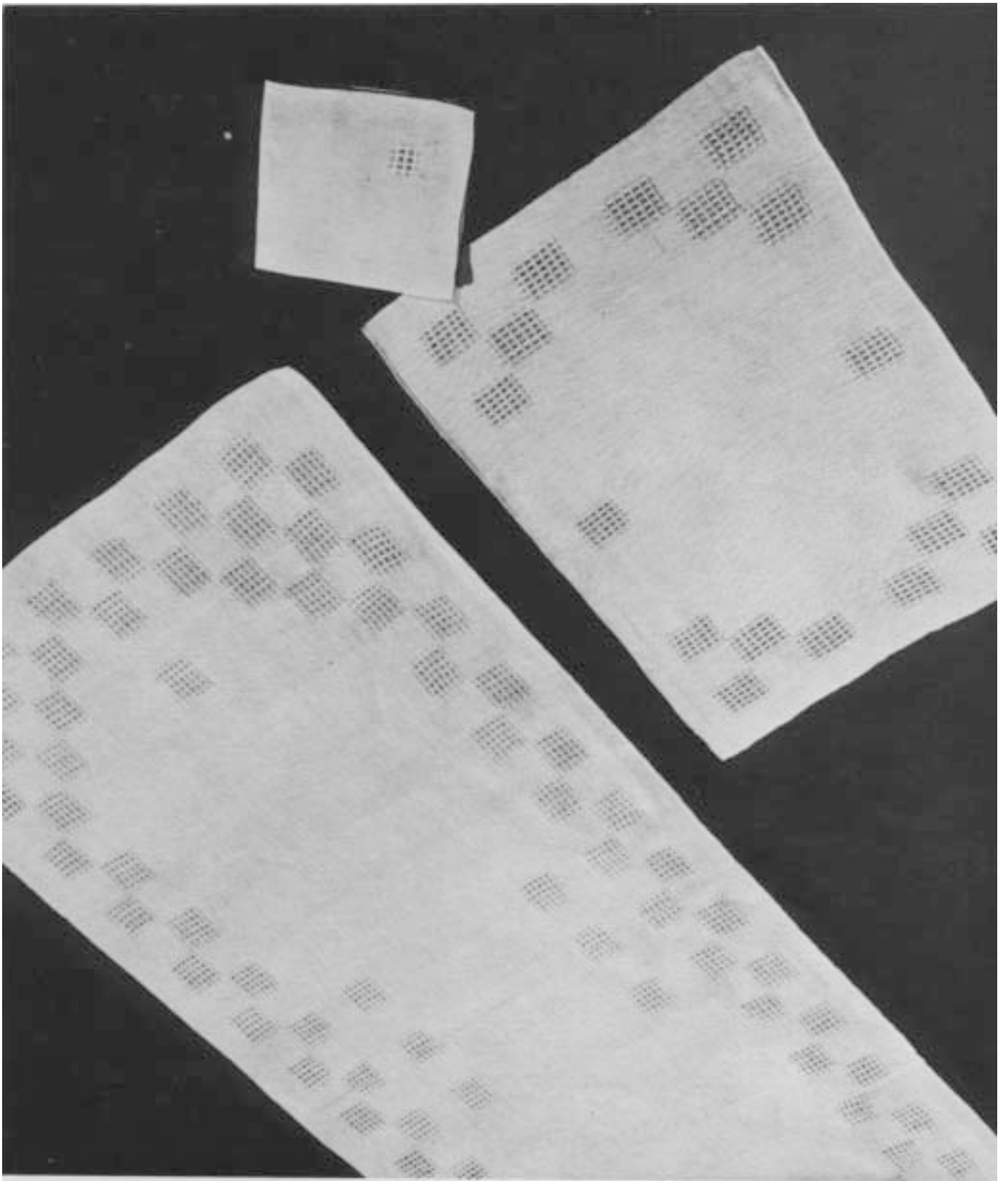


*Shawl of violet and white wool woven by Miss Mary Bradlee of Boston, Massachusetts.  
Heavy Scarve in lace weave, woven by Elizabeth Capen of Dedham, Massachusetts.*

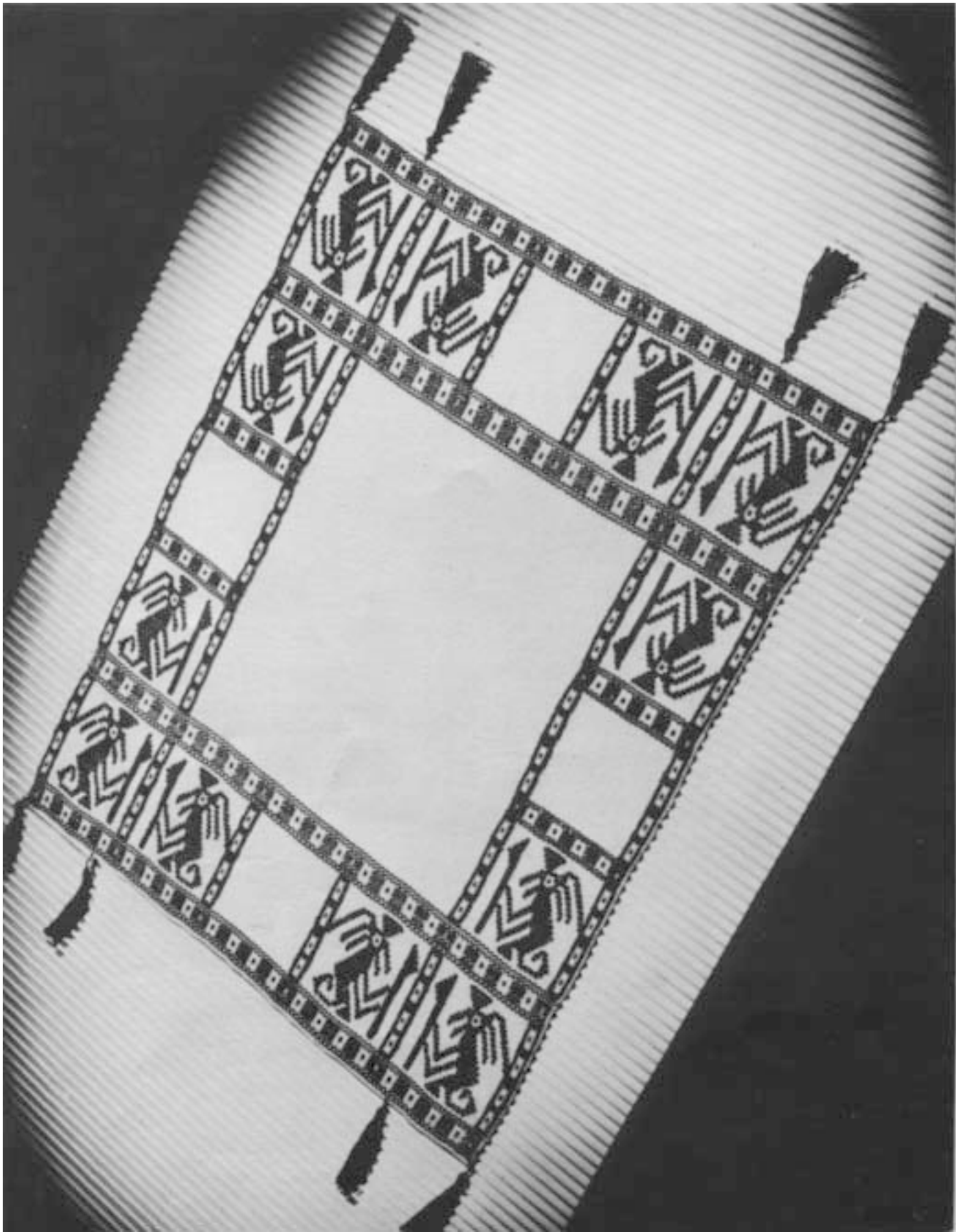




*Stoles belonging to Altar Sets woven by Mrs. Francis S. Kershaw of Cambridge, Mass.*



*Lunch set of linen woven by Mrs. Margaret Fisher Carpenter of Columbus, Ohio.*



*Finnweave woven by Mrs. Gertrude M. Tyler of Providence, Rhode Island.*



# Penland's Tenth Weaving Institute

by BONNIE WILLIS FORD

On June 26, The Penland School of Handicrafts will open its tenth consecutive Weaving Institute and Crafts School. In the years since the simple beginnings, the classes have been extended gradually over longer periods of time, until this year the courses will run for nine weeks from June 26 to August 26, and will be divided into three sessions of three weeks each. The first three weeks will be devoted primarily to beginners and the classes will be conducted by Rupert Peters, Director of Visual Education in the public schools of Kansas City, Missouri. Since attending the Penland Institute four years ago as a student under Mr. Worst, Mr. Peters has, by much experimentation and self-teaching, become an expert in the field of hand weaving and its processes. His course in elementary weaving last summer was enthusiastically received by his students and the course for the summer of 1939 promises to be even more valuable due to the extensive preparation which Mr. Peters has been giving to plans for it over the winter months. The second and third periods will be devoted primarily to advanced weaving although beginners will not be barred from these classes. During one of these periods, Edward F. Worst, Founder of the Penland Institutes, will be present and will personally conduct the courses in advanced and elementary work.

This will mark the tenth consecutive summer of Mr. Worst's courses at Penland, and the anniversary will be observed by special celebrations to which many of his former Penland students will come to join with the Penland staff in doing him honor. In the ten years of Mr. Worst's work at Penland, the school has developed into one of national importance which has drawn students, numbering into the hundreds, to his courses on Penland's remote hill top. To each of these students and to the Penland group, he has given unstintingly and unselfishly of his time and knowledge, and it is with grateful hearts that his students and the workers at Penland look forward to celebrating this tenth Anniversary. Although it is not possible for Mr. Worst to remain at Penland longer than three weeks, Mr. Peters will be here for the entire nine weeks and it is possible that other weaving specialists will be present for at least a part of the time.

Courses in metal work and jewelry-making will be in progress under the leadership of competent instructors throughout the entire nine weeks period, and instruction in pottery, basketry, dyeing, spinning, chair seating, corn shuckery, and other minor crafts will be given intermittently. Last summer, Ruth Brenan, a student at one of the craft centers in Tennessee, came and spent one half of her time in teaching Institute students how to make beautiful and useful objects from corn shucks in exchange for the opportunity of taking Penland courses the other half of her time. Ruth's classes proved very popular and the experiment in cooperative exchange worked out so well that it is planned this summer to follow the same plan with other centers. Arrangements have already been made to have Ruth back to continue the study and teaching which she started last summer.

The metal work and jewelry classes have been developed over a period of years by Clyde P. Miller of Milton, New York, into a place of prominence and popularity second only to that held by the courses in hand weaving.

Housing conditions, which up until last summer constituted something of a problem, have been expanded greatly so that it is possible now to house a large number of people in comfort and with a greater degree of privacy than it has ever been possible to do before. The beautiful Edward F. Worst Crafts House, which was started in 1934 by Institute students and named in Mr. Worst's honor, has been all but completed, excepting for the heating facilities, by loans and gifts so that it not only can adequately take care of classes in weaving and other crafts on the ground and first floors, but its attractive rooms and dormitories on the second and third floors furnish comfortable sleeping quarters for large numbers of people. The third floor, finished last spring, proved to be the most popular of all sleeping quarters last summer. Consisting of a large dormitory, running the full length of the building, two bath rooms, and a number of dressing rooms, this floor provides a pleasant arrangement for congenial groups. A limited number of private and semi-private rooms are available, nine of which are in the Edward F. Worst Craft House. The Health House, adjacent to the Craft House, will provide other rooms and a sleeping porch. The Pines which last summer was converted from a shabby old farmhouse into most attractive kitchen and dining rooms will house a limited number of students or workers, and the newly-finished home of Miss Morgan will provide space for others. Dining room space is no longer a problem since the re-modelling of The Pines for not only is the dining room itself commodious, but two spacious screened porches furnish additional dining space. Thanks to the interest of our friends, last year was a year of expansion in all directions. In addition to the work done on the Crafts House, The Pines, and the Health House, a new but temporary metal shop was erected which filled a great need in furnishing more room to the ever-growing classes in metal work and jewelry, and a well was drilled which solves a knotty water problem.

Plans are already in progress to make the 1939 session the best in the history of the school. Applications for the courses are already being received and indications point to a record attendance. Aside from the attraction of the courses themselves, many former students and friends will be inspired to return to participate in the tenth anniversary celebrations and to re-new old acquaintances. Visitors will be welcomed. In short, there will be great doings on the Penland hill top come June.

All inquiries or applications should be addressed to: Miss Lucy Morgan, Director, Penland School of Handicrafts, Penland, North Carolina.

## A CORRECTION

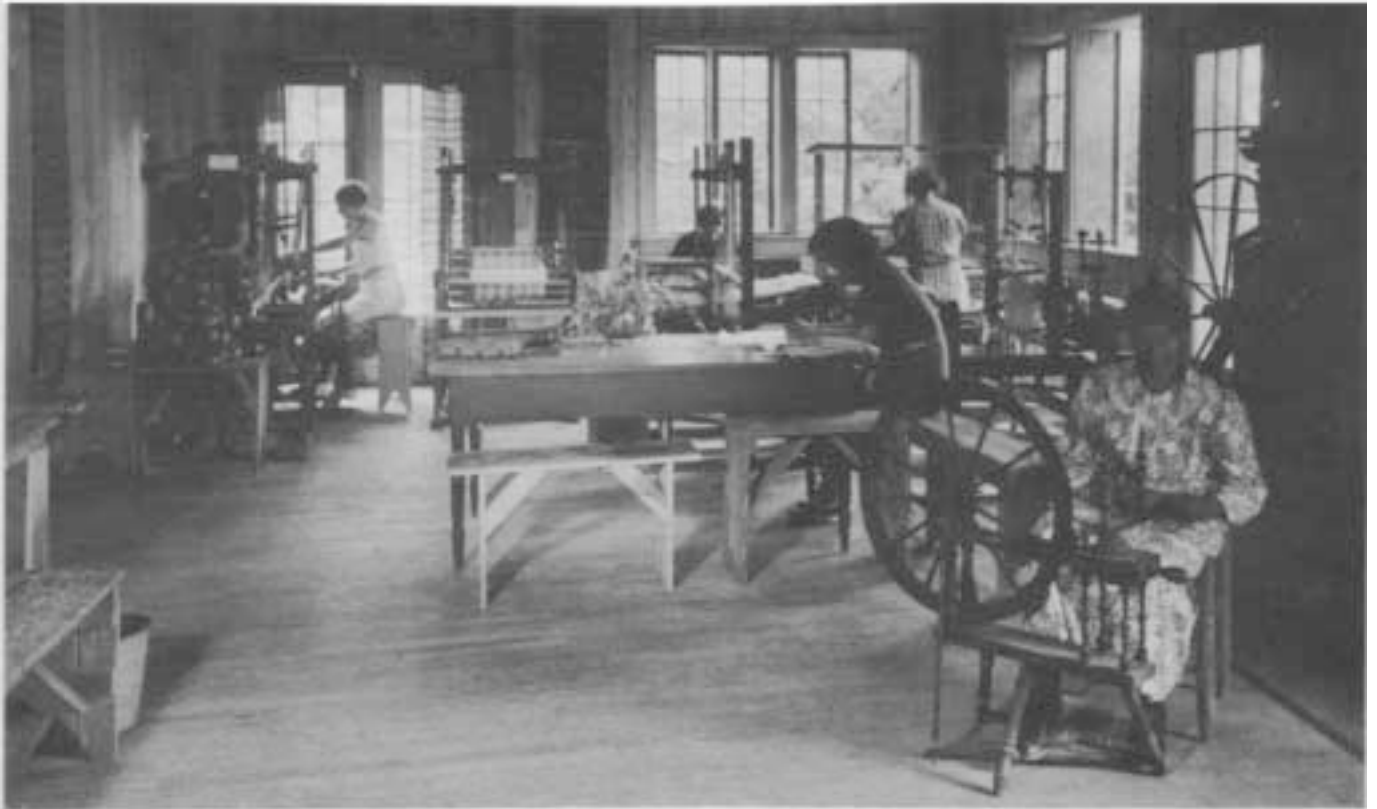
*Through an error, credit for an article in the recent issue of THE WEAVER was given to BETA IVEY instead of the rightful author BERTA FREY.*

ED.





*Edward F. Worst building, which is center of Penland School of handicrafts. Largest log structure in South.*



*This room in Crafts House newly finished last year by Mr. Worst's former students and associates in Chicago schools.*

# Shawls

by ELMER WALLACE HICKMAN



How many of our weavers have thought of weaving large shawls of heavy woolen yarns for a lucrative source of income? It can be done.

In the Scandinavian books . . . weaving books and catalogues of textile exhibits, etc. . . one can find diverse photographs of heavy shawls in all patterns and colors. In the Scandinavian countries the climate is such in winter as to welcome a heavy covering for indoors as well as outdoors.

There are a great many people who are enchanted by these soft, fluffy handwoven fabrics, and will pay well in order to be the owner of one. True the "young sweet thing" will not be inordinately enthralled by one of these luxurious textiles, but the grand old lady, or the appreciative convalescent, or the resort inhabitant who knows what lightweight warmth means on a chilly evening . . . these and many more . . . will appreciate the possession of one. I have found it so. At one time, several years ago, I wove all sorts . . . brightly colored shawls, somber ones, plain colored ones and those of several color combinations. It all began by being asked if I could weave a textile (to be used for a shawl) that was of an openwork texture rather than the fabric that usually comes from a loom, the solidly woven material. The first one was a gift. Soon came the demand for many more and were readily saleable. The most beautiful of all, I thought, were the ones woven of natural color rayon and worsted yarns. A few of these shawls were woven of finer yarns about the thickness of Saxony yarn; some were made from yarns that go by such trade names as Miro and Pompadour. But the most engaging ones were the shawls

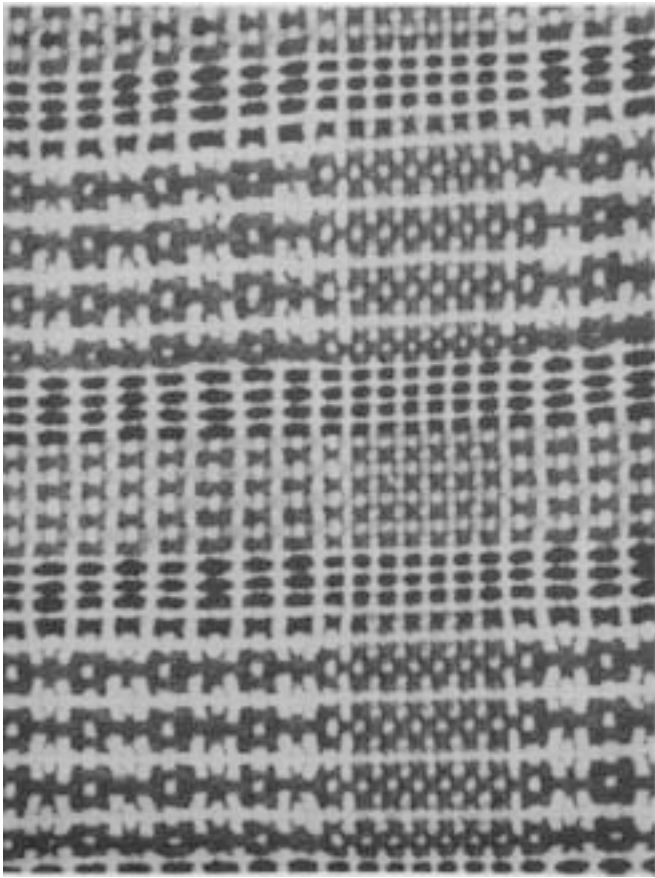
woven of the heavier yarns such as Knitting Wool and Bernat's Glorine.

And what a pleasure one gets working with these heavy wools. The thick wool warp is easily handled and the weaving of the material progresses rapidly.

Since an openwork texture was necessary to accomplish the result desired, a pattern was chosen that is familiar to many weavers. The pattern was a draft for curtain material, a sample of which may be found in the packet accompanying the text called "Vaevebog for Hjemmene" by Jenny laCour and Johanne Siegumfeldt, a valuable Danish publication (Albert Bonnier, 561 Third Avenue, New York City, New York).

Because of the openness of the weave . . . the group of little "windows" framed by a stripe of close weave . . . this pattern suited admirably for the experiment. Such is the weave pictured in the illustrations, with a close-up of the weave in detail in Illustration No. 3.

One can weave the entire shawl with the warp and weft of one color, but a more elaborate color scheme was more frequently used. The single thread between the group of three threads (in the "windows") was, say, white; the three threads were deep rose. The "framing" of all the little "windows" was a stripe of several values of the rose color. Sometimes the weft was woven in several values to form plaids; while, at other times, just the white weft was used. I found that combining a white yarn for the weft with colors in the warp gave a chalky appearance to the finished product, killing, to a great extent, the richness that I originally saw in the skeins before making the warp.



A color, other than white, used in the warp is better to choose for the weft yarn . . . if only one color of *weft* is used. That is, if your warp is composed of light yellow, medium yellow, orange, and white . . . rather than choose white for the weft . . . use one of the other three colors for the weft. The choice of the color being, of course, whether one wishes the shawl light or dark in appearance. Two of the colors might be used as one through the "windows" area and the other through the plain tabby stripe. Also one color of weft could be used through the "windows" section and the plain stripe woven with the other two colors. Of course, the more colors of weft yarns one weaves into the fabric the more work one makes for oneself by having the ends to place in the work at the selvages.

The weft is laid-in with the batten but never beaten hard. In fact, the weft shots have to be really *placed* by the weaver so that the fabric is not too closely packed. When the single weft shot is put into the weaving on the 1, 2, 3 shed, it is laid-in more lightly than the shots that are laid-in on the 1 & 3 and the 2 & 4 sheds, as the single weft strand must remain isolated in the warp. The 1, 2, 3, weft shot is the isolated bar of the "windows" and the 1 & 3 and the 2 & 4 form the divisions between these openwork spaces. The three weft shots in the openwork on the 1 & 3 and the 2 & 4 sheds have to be pressed together tightly so that they remain closely associated. The plain stripe *between* the group of small "windows" is made on the 1 & 3 and 2 & 4 sheds and these weft shots are pressed firmly into the warp. If heavy beating were used the fabric would be too compact which would spoil the pattern design completely, and the loose texture desired in the fabric.

The same size yarn is used for both the weft and the warp.

The plain stripe is ended with the eleventh weft shot on shed 1 & 3 so that the first "frame" division of the "windows" group can be started on the 2 & 4 shed.

The warp yarn must not be stretched but lie loosely as possible on the loom . . . but, of course, sufficiently tight so that the sheds can be made conveniently. If the warp is too tight the openwork will be drawn together when the fabric is removed from the loom.

Long flat shuttles seem best for laying-in the weft. These shuttles . . . or any used . . . must be wound so that the weft yarn is as loose as it lies in the original skein

If the warp on the loom gets entangled bring the beater back easily to the finished work and this action will separate the warp threads.

At the selvages have the *weft* yarn tight and hold the turn into the next shed with the thumb and finger. But let the weft yarn in the shed lie in the usual diagonal line as one does in overshot weaving.

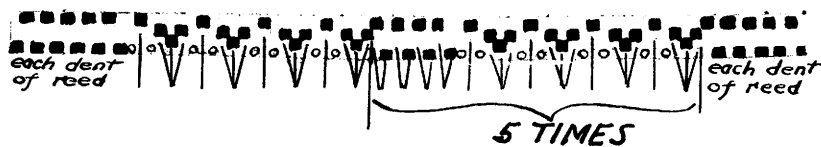
When a strand of weft yarn is finished . . . or if the weft runs out . . . turn the remaining end into the work in the same shed in which the last weft shot was put. And it is well to have such an end run out within a certain area rather than at the end of that section, that is; have the end in the plain stripe turned in on any of the weft shots except the last weft shot. In case the end should or must come on the last weft shot, turn the end into the shed in back of your last weft shot. These suggestions will help to keep the work neat, compact, and save loose ends showing in the fabric.

It is well to join a new weft thread in about the middle of shed or at a point in the shed where the warp color corresponds with the weft color that is being used (if more than one color is used in the warp). Join the new weft strand thus: take the old weft thread, now in the



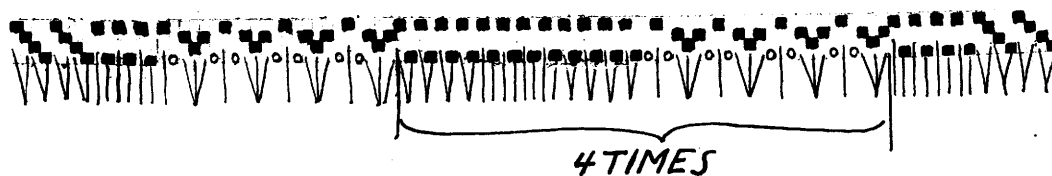
# SHAWLS

DRAFT  
A



3 2 1  
\* \* \* \* \*  
\* \* \* \* \*  
\* \* \* \* \*  
\* \* \* \* \*  
\* \* \* \* \*  
TIE-UP

DRAFT  
B



THREAD HEDDLES AND REED AS EXPLAINED IN TEXT

TREADLING DIRECTIONS ARE AS FOLLOWS:

TREADLE LOOM

3, 2, 1, 2, 3

2, 1, 2, 3

HAND LEVER TABLE LOOMS

SAME AS TREADLE LOOM TREADLING,

OR TRANSPOSE AS USUAL

EWY

weaving, up through the warp and unravel about two inches of the yarn; clip off two strands of four-ply yarn. The same must be done with the new weft thread that is to be introduced into the shed. Put the new weft bobbin through the shed; pull out the end of the new weft thread at the point where the old weft thread was pulled up through the weaving; unravel it and clip off about two inches of this new end; roll the two ends (the old one and the new) together so that you will have a four-ply strand similar in thickness to the weft yarn being used. This will save having a lump in the weaving, which is extremely undesirable in this type of textile.

An explanation of the pattern draft might be advisable. One warp thread is threaded through each heddle. The "circle" on the pattern draft should be disregarded when threading the heddles; but in threading the reed this "circle" means that a dent in the reed is skipped. The lines drawn down to meet each other on the pattern draft mean that the group of three, for instance, is threaded through *one* dent in the reed. Then a dent is skipped and a single warp thread is drawn through the next dent in the reed; the next dent is skipped, and so on. When two lines meet, that means that both warp ends are drawn through a dent; and when a single line is drawn down, that indicates that only one warp end is threaded through a dent.

Description of Shawls.

Illustration No. 1 Arranged for use on a 20 inch table loom.

Warp: 4-ply Knitting Wool, 2½ yards long of different values of yellow.

Weft: 4-ply Knitting Wool in light yellow.

Reed: 8 dents to the inch.

Pattern Draft: "A".

Reel 160 ends of warp as follows: (Border; 3 orange, 7 medium yellow, 2 orange)—(Main part; 1 med. yellow, 3 lt. yellow, 1m.y., 3 lt.y., 1 m.y., 3 lt.y., 1 m.y., 3 lt.y., 2 orange, 4 m.y., 2 orange.) Repeat Main part five times. Then 1 m.y., 3 lt.y., 1 m.y., 3 lt.y., 1 m.y., 3 lt.y., 1 m.y., 3 lt.y. (Border; 2 orange, 7 medium yellow, 3 orange).

Illustration No. 2.

Warp: 4-ply Knitting Wool, white and different values of rose.

Weft: 4-ply Knitting Wool of lightest color in warp.

Reed: 8 dents to the inch.

Pattern Draft: "B"

Reel 208 warp ends as follows:

8 dark rose; 8 light rose;—"A"—4 times (1 dark rose, 1 white); "B"—4 times (1 med. rose, 1 light rose); "C"—4 times (1 dark rose, 1 white); "D"—4 times (3 medium rose, 1 white). Repeat "A", "B", "C", "D" four times. Then repeat once each "B" and "A"; then the other sel-vage with 8 light rose and 8 dark rose.

Illustration No. 4.

Warp: White Glorine (Bernat's).

Weft: White Glorine.

Reed: 8 dents to the inch.

Draft: "B".

Reel repeats of Draft "B" to suit your needs.

The shawls should measure about 60 inches long after taken from the loom. This does not include the fringe which should be about 5 inches in length.

After removing the textile from the loom washing and pressing will greatly improve the softness of the material.

Should one wish to use the thinner yarn, such as Barnat's Miro or Pompadour, set the warp at 12 to the inch, using the draft and threading in the same manner as described for the shawls done in the heavier wools.



# The Effectiveness of Handwoven Wall Hangings

by VEVA N. CARR

Tavares, Florida



Illustration No. 1

Wall hangings are a most fascinating subject for the hand weaver and much time and thought might be put into that subject for the home, a studio or a gift.

What could be more charming for a gift from the person who has some friend who "has everything" and for whom it is always hard to find, perhaps not too expensive a gift, but one of outstanding originality or appropriateness.

Such a wall hanging to fit some particular space has much in its favor in the way of something "different," and I am beginning to find that people are becoming to like them more and more as the layman grows familiar with their charm.

My rooms are filled with them, anything from samplers to odd bits of weaving here and there, and while I have set out to have only hand made textiles about me, it becomes increasingly hard to keep "this and that" which has been made to fit some corner or wall of my apartment.

Illustration No. 1 shows a piece made from Mrs. Mary M. Atwater's "Botanical Garden" which was described in one of her articles in the WEAVER (Vol. VI, No. II, Part II) entitled NEW TECHNIQUES IN SUMMER AND WINTER WEAVE. Draft No. 2 for this runner was taken from her Recipes, and my piece was threaded as follows:

*Warp:* A golden brown 20/2s cotton set at 30 to the inch

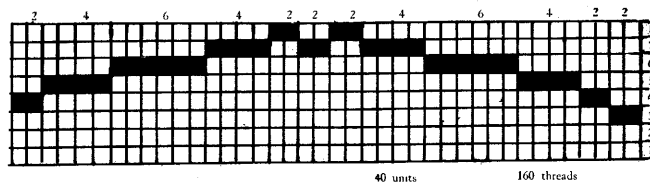
*Pattern:* Navy strand silk doubled

*Tabby:* A gold spun silk.

Endless variety may be woven on this stringing, both as to color and borders, and nothing could be more fun



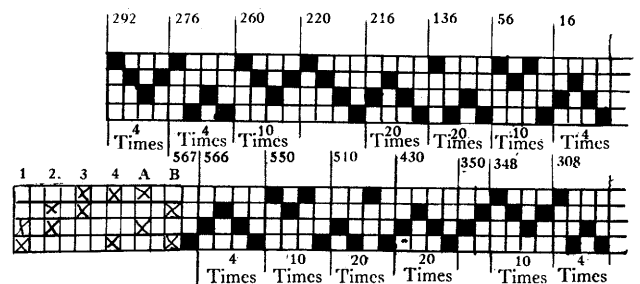
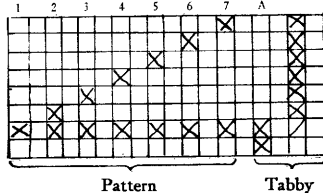
Illustration No. 2



Eight Harness  
Summer and Winter Weave

Draft No. 2

Veva N. Carr



Draft No. 1

Veva N. Carr

than doing all the things possible with these step patterns which have been passed on to us by our "fact-finder."

What would we weavers do without Mrs. Atwater and the marvelous research work she has done and continues to do for our craft? You will see that each of these pieces described in this article was taken, though modified in some cases, of course, but nevertheless still from her designs.

Illustration No. 2 was made on a warp of 20/2s cotton of dull blue, the lower part a yellow green Shetland wool (Bernat's #1184) and the tabby the same as the warp. The large flower at the top of the panel instead of being woven across the piece was laid in of a dark reddish orange Shetland (Bernat's #1158). An experienced weaver should have no difficulty in following the weaving strung as per Draft No. 1 and shown in the picture.

The third illustration is a Shuttle Craft Recipe for Church Weavings and was done on a black rayon warp and tabby, with a gold pattern thread as follows:

|                                     |           |
|-------------------------------------|-----------|
| Selvage 1, 2, 3, 4, 1, 2, 3, 4....  | 8 threads |
| Pattern 10 repeats.....             | 1116 "    |
| Pattern 1 to (x).....               | 57 "      |
| Selvage 4, 3, 2, 1, 4, 3, 2, 1..... | 8 "       |

1189 "

(This width is governed by the number of repeats of the pattern used). (Draft No. 3).

Weave as follows

|                        |                         |
|------------------------|-------------------------|
| Treadle 2..... 9 shots | Treadle 2..... 55 shots |
| " 4..... 11 "          | " 3..... 55 "           |
| " 2..... 13 "          | " 4..... 19 "           |
| " 3..... 9 "           | " 3..... 3 "            |
| " 2..... 3 "           | " 4..... 6 "            |
| " 3..... 9 "           | " 1..... 9 "            |
| " 2..... 13 "          | " 2..... 5 "            |
| " 4..... 11 "          | " 3..... 5 "            |
| Treadle 4..... 5 shots |                         |

The fourth piece shown in illustration No. 4, of interest to weavers only, is a piece of Finn Weave, detailed instructions of which were given in the Handcrafter Vol. VI, Number 1, Part II, and a very interesting sampler in this weave is shown by Mr. Clyde Dunbar in the July, 1938, Weaver.

This weave has wonderful possibilities for working out designs to fit individuals or their hobbies, and while it is a little slow to catch on to it works up faster than one might suppose after getting the technique of the various sticks fixed in the mind.



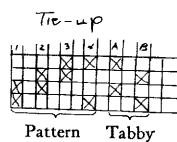
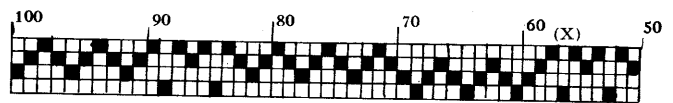
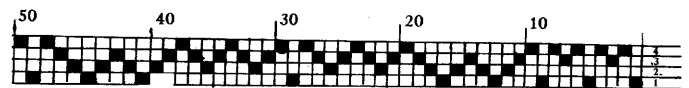
Illustration No. 3



Illustration No. 4

The pitfalls in this weave for the person unfamiliar with it, seem to me to be, first in the designing to remember if an even number of pairs of dark threads are picked up, it is certain an uneven number of light threads result (and vice versa), which is apt to prove confusing until one is thoroughly versed in the trick of picking up the correct number of threads.

Samplers on any stringing that happens to be on the loom, too add interesting bits of color and can brighten up many a dull spot if properly placed. They have such wonderful possibilities for the use of color and variety in their making. I often think if there had to be a choice of but one thing I could weave for the rest of my life, I would certainly make that choice samplers.



Draft No. 3  
Church Weaving



# “*Know Thy Threads*”, *A Motto of the National Conference of American Handweavers*

by OSMA COUCH GALLINGER, *Director of Cromaïne Crafts*

When one experiences the interest in weaving shown by people coming a great many miles from a great many places, bringing valuable talents and contributions of enthusiasm and faith to share sincerely in a weaving conference,—it becomes not only an inspiration but an honor to have a part in planning the course of the National Conference of American Handweavers, a conference conducted annually in the beautiful estate and wild life sanctuary of Waldenwoods by Cromaïne Crafts, Hartland, Michigan, and supervised by Mary M. Atwater, author of *Shuttlecraft Book of American Handweaving*. The course is planned with a vein toward meeting the varied needs of the student. It aims to analyze the activities of the weaver in 1. Shop; 2. School; 3. Home; and to add to the efficiency of each student in his or her particular sphere.

For instance, a weaver operating a shop wants to master not only the art of weaving, but the planning of patterns which may be incorporated into saleable woven articles; he or she must learn the pitfalls of the weaver who loses customers by putting on the counter shoddy and carelessly planned material, must learn how to give the handwoven object that smart distinctive look that will sell it for its own usefulness and beauty. The problem of the school teacher is quite different. He or she must learn the simple logical sequence of the steps in the rudiments of weaving in attractive enough form to relay them to students of weaving, young or old; must sell the idea of the pleasure of weaving rather than the finished goods. Lastly, the home weaver has an entirely different approach to the craft, which becomes more or less a sphere of creative joy, a hobby or a means of beautifying one's own surroundings. The weaver for fun wants a great many varied techniques to work out, but in learning them must be guided to the mastery of a standard of perfection, so that each creation may be a matter of pride and enjoyment to the user. The motto of the Cromaïne Crafters themselves is much to the point; “Our ideal and aim is to create useful things, conceived in the spirit of their essential truth, goodness and beauty, and to fashion them by earnest skillful effort in which the worker progresses through his work in the service of the user.” This thought may be applied to those who weave either for pleasure or profit.

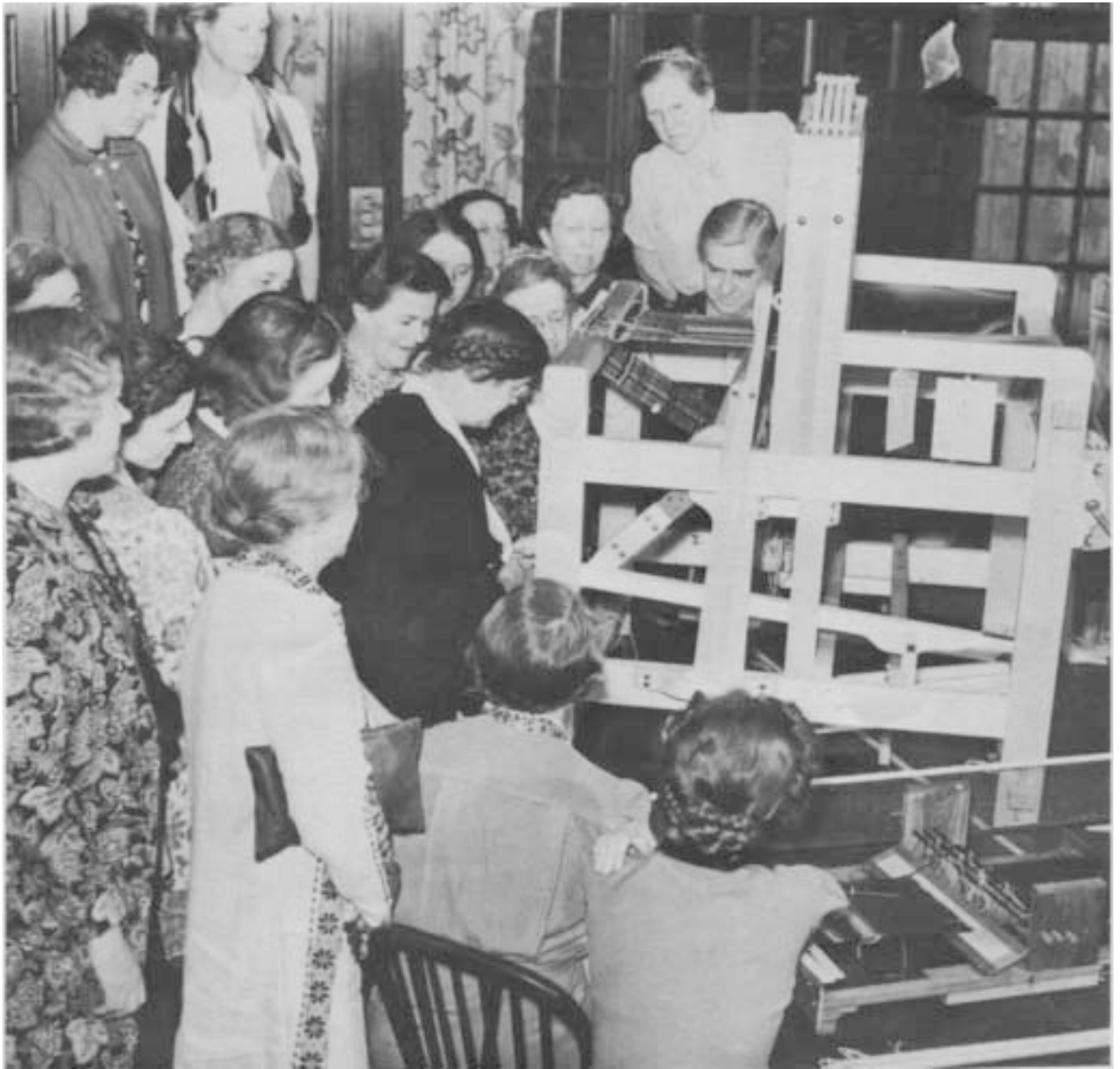
We carefully organized our conference to meet these three needs of Shop, School, and Home. Out of fifty or more looms set up with different techniques, the shop operator found much to convert into the gift idea, and there was also a chance to see the “why and wherefore” of methods in the Hartland shops where both direct roadside sales and mail orders are filled. From the many

articles made by conferees, the home weaver could likewise choose according to fancy or need. The sharing of ideas together is one of the great advantages of attending a summer weaving conference. The very same course taken alone would yield possibly one-tenth the benefit, because one sees only one's own weaving in small quantity, and loses the benefit of comparing his creations with those of many other fertile minds and clever fingers. Then too, one gains a great impetus by being with others enthusiastic over the same craft. For the weaving teacher, we organized a simple course taking the steps in the weaving process as they follow each other in logical sequence, from the origin of fibers to their spinning and weaving, with simple techniques and simple draft writing. This was followed by an advanced course in draft writing given by Mrs. Atwater, with delightful results in the writing of original drafts, even a pattern dedicated to the conference.

Briefly enumerated, other valuable contributions of the Hartland Conference were the fireside chats discussing the finishing of fabrics, the characteristics of wool, cotton, silk, and linen, numerable weaving problems, contributions of addresses for equipment by many, talks and exhibits by trained weavers, creative folk games with the rhythmic idea of weaving back of them, and even the writing of a weaving song and its interpretation into motion. But to me the two most outstanding developments of our conference were: 1,—The teaching of the principle of “weaving as drawn in”; and 2,—The analysis of threads and their best setting to make reliable fabrics.

In “weaving as drawn in”, one follows the sequence of treadling indicated by the trend of a diagonal line which proceeds upward through the pattern. Each next treadling combination is indicated by the slight overlapping of the space for the overshot with that of the last treadling. After learning this method with its evident simplicity, weaving by note or by rote seemed as insipid a substitute as eating paper, goat-like, instead of food. The second important achievement was the planning of the proper setting of threads for the weaving of perfect textures. Months before the conference, it was planned to set up a different material and pattern on each of thirty large looms, in addition to twenty-four small table and belt looms and set-ups of weaving cards on which a dozen or more narrow band techniques were taught. Not only were textures carefully worked out and each kind of thread carefully planned for its perfect setting, but a chart was prepared and given each student as a guide, showing name of article, proper warp, setting in sley, tabby weft and pattern weft best to use, and the recom-





*A lesson in the tying of doupes for Leno-Weaving at the National Conference of American Handweavers, Hartland, Michigan. Center, Mary Atwater demonstrating the tying of a doupe. In this picture there are students from New York, California, Ohio, Minnesota, Rhode Island, Colorado, Michigan, Canada, Illinois, and Oklahoma.*

mended threadings resulting from successful practice among weavers. This thread chart, welcomed as time-and-mistake saver, was an evolution of cooperation between Mrs. Mary Atwater and Cromaine Crafts and is submitted below for *The Weaver*. The conferees agreed that weavers fail most frequently in the proper setting of threads,—a regrettable fact when most of us use such lovely threads, of fine quality and beautiful coloring, and spend our valuable time weaving them. The successful weaver today must master this art, as well as that of choosing the right weft for the warp.

This chart is given below. In using it, read across each line horizontally. Where a paragraph of explanation is given, it applies to all the setting included in the span of space which it covers. Where several settings are given for the same thread, both may be used, one for a finer, the other for a slightly coarser weave. In cases where a thread of low yardage is set in a fine reed, and a thread of high yardage seems inconsistently to be set in a coarser reed, it is because of the close twist of the former and its resulting fineness. “Know thy threads” does indeed become the “Know thyself” motto of the weaver.

# CHART OF THREAD SIZES AND TEXTURES AND THEIR PROPER SETTING

Prepared by Mary N. Atwater and Osma Gallinger

| Name of Article   | Name of Warp  | Yards Per Lb.      | Setting in Sley      | Tabby Weft   | Pattern Weft  | Recommended Threading to Use  |                   |
|---|---|--------------------|----------------------|--|---|---|-------------------|
| <b>A. DRESS FABRICS</b><br><b>I. WOOLEN FABRICS</b><br>a. Light weight woolens, such as neckties, scarves, berets, light-weight dresses, etc. | Choice of:<br>1. Bernat's Fabri                     | 4800               | 24-loose<br>30-close | Same as warp with nubbed threads at intervals if desired.  |   | a. Weave with tabby weft only. For best effects in woolen dress materials, do not use overshot patterns, but thread the warp in all-over surface patterns such as: Tabby in stripes or plaids; Twills in stripes or plaids; Herringbone; Goose-eye; Bird-eye; Shepherd's Check; Crepe Weave; Basket Weave; Log Cabin; Broken Twill; Bronson Weave; etc. |                   |
|   |   | 4200               | 15 or 16 loose       | "  |   |   |                   |
|   | b. Fine, firm weaves for dress and jacket material. | 1. Bernat's Fabri  | 4800                 | 30, 32   | Same as warp or very fine homespun of same grist.         |   | b. Same as above. |
|   |   | 2. Bernat's Afghan | 7000                 | 36, 40   |   |   |                   |
| c. Open-weave, lighter weight dress goods.<br><br>Slightly coarser . . . . .  | 1. Iceland Yarn                                     | 4200               | 20, 24               | Same as warp.  |   | c. Same as above, with stress put upon an even textured balance of warp and weft. Select patterns such as Bronson which will give an openwork effect, or tabby set far apart, with nubbed threads at intervals.   |                   |
|   | 2. Bernat's Fabri                                   | 4800               | 20                   | Same as warp.  |   |   |                   |
|   | 3. B's Afghan                                       | 7000               | 26, 30               | Same as warp or fine imported homespun.                    |   |   |                   |
|   | 4. B's Fabricspun                                   | 3200               | 18, 20               |  |   |   |                   |
| d. Heavy Suitings, Sport coats, etc.  | 5. B's Weaving Sp.                                  | 4000               | 20, 24               |  |   |   |                   |
|   | 1. Imported Sports Tweed                            | 2000 to 2300—      | 15, 16               | Same as warp.  |   | d. Tabby, Twill or Mottled patterns, as under a, above. Scandinavian or Colonial Suiting patterns.  |                   |
|   | 2. B's Shetland                                     | 2000               | 15, 16               |  |   |   |                   |
|   | 3. B's Homespun                                     | 2200               | 15, 16               |  |   |   |                   |
| <b>II. LINEN DRESS GOODS</b><br>a. Fine smocks, aprons, blouse material.  | 1. B's 50/2 Linen                                   | 7500               | 36, 40               | Same as warp, or 20 single.                                | Perle 10 used dbl. or 6-strand in small overshot borders. | Tabby, Twills, Small Dot Figures, Granite, Crepe, M's and O's, Broken Twills. For a large all-over figure, choose a Crackle Weave, such as Drifting Shadows.  |                   |
|   | 2. B's 40/2 Linen                                   | 6000               | 30, 32, 34           |  |   |   |                   |
| b. Coarse, heavy, for coats, etc.   | 3. B's 40/3 Linen                                   | 4000               | 24, 26               | Same as warp, or 14 single.                                |   |   |                   |
|   | 1. Linen 18/2<br>2. Linen Floss                     | 2700<br>1500       | 15, 16—<br>15, 16—   | 10/1 weft or B's Linen Floss                               |   | b. For textured coat materials, choose one of the patterns under a, Woolen Fabrics, above.  |                   |
| <b>III. COTTON DRESS GOODS</b><br>a. Fine   | 1. Cotton, 30/2                                     | 12600              | 35, 36               | Same as warp, or umbrian, or perle 20 in colors.           | Perle 10 or Peruvian Filler for small overshot            | Tabby backgrounds with borders in small overshot patterns,—Rose-Path, Honeysuckle, Monk's Belt, Lincoln's Rail Fence, etc.  |                   |
|   | 2. Perle, 20/2                                      | 8400               | 32, 34               |  |   |   |                   |
| b. Heavier materials for jackets, coats, etc., all-cotton, or part linen.   | 3. Cotton, 20/2                                     | 8400               | 30, 32               |  |   |   |                   |
|   | 4. Egyptian Cotton                                  | 6720               | 28, 30               |  |   |   |                   |
|   | 1. Egyptian 16/3                                    | 4500               | 24, 26               | Same as warp, or linen of same grist. Same or Linen Floss. |   | b. For heavy textured cotton materials, choose one of the patterns under a, Woolen Fabrics, above.  |                   |
|   | 2. Cotton 14/2                                      | 5880               | 20, 24               |  |   |   |                   |
|   | 3. Perle 10/2                                       | 4200               | 24, 26               |  |   |   |                   |
|   | 4. Perle 5/2  | 2700               | 15, 16               |  |   |   |                   |

| Name of Article  | Name of Warp  | Yards Per Lb.        | Setting in Sley  | Tabby Weft                                      | Pattern Weft                                    | Recommended Threading to Use   |
|--|---|----------------------|------------------|---|---|--|
| <b>B. WEARING APPAREL ACCESSORIES.</b><br><b>I. BELTS.</b><br>a. Heavy type.                             | 1. Carpet Warp used double.                           | 1200                 | 8, 10            | Same as warp.                                   | Thrifty-Knit Cotton or Candlewicking.           | 1. Card-weaving, Inkle Loom Weaving, Tabby, Twills, Small Overshot Patterns, such as Monk's Belt, Diamond, Rose-Path, Raindrops.<br>2. Same as above.  |
|  | 2. B's Perle 3  | 1350                 | 10, 12           | Same as warp.                                   | Heavy Cottons or Linen Floss.                   |  |
|  | 3. Germantown Wool                                    | 1200                 | 8, 10            | Same as warp.                                   |   | For very heavy warp it is best to use an all-over texture weave, such as the Twills, Bird-eye, Herringbone, Goose-eye, Shepherd's Check, Plaids, etc.<br>Same patterns as for Germantown.  |
|  | 4. B's Peasant Wool                                   | 945                  | 6, 8             | Same as warp.                                   |   |  |
| b. Fine type, soft and flexible texture.   | 1. Perle 10   | 4200                 | 26, 28           | Same as warp.                                   | Crochet Cotton or Perle 5.                      | Card-weaving, Inkle Loom Weaving, same as 1 above.<br>Same as 1 above.<br>Same as 1 above.   |
|  | 2. Perle 5  | 2700                 | 18, 20           | Same as warp.                                   | Perle 3, or Linen Floss.                        |  |
|  | 3. Crochet Cotton                                     | 2400                 | 16, 18           | Same as warp.                                   | Perle 3, or Linen Floss.                        |  |
| <b>II. HAND-BAGS, PURSES.</b><br>a. Fine texture.....  | 1. Cotton 20/2  | 8400                 | 16               | Bernat's Fabri packed down entirely over warp.  | None  | a. Tabby, with colorful horizontal stripes in many shades.<br>b. Tabby, Twills, Texture Weaves, Short Overshot Patterns, such as Diamond, Monk's Belt, Rose-path, Honeysuckle; for large bags, Whig Rose.<br>C,1. Tabby, weaving with the rags only, in colorful stripe designs.<br>C,2. Well-knit Overshot Patterns:- Cleveland Web, Butternut, Chariot Wheel, etc. Also Summer and Winter Crackle Weaves.<br>C,3. Finnweave, with designs planned to fit shape of bag. |
|  | 1. Linen 40/3<br>2. Egypt. Cot. 24/3<br>3. Perle 10/2 | 4000<br>6720<br>4200 | 24<br>30<br>24   | Same as warp.<br>Same as warp.<br>Same as warp. | Raytone, Perle 3<br>Bernat's Fabri.<br>Perle 5. |  |
|  | c. Heavy weight.....                                  | 1200                 | 8                | Fine silk rags or narrow loops of stockings.    | None  |  |
| <b>C. BED COVERINGS</b><br><b>I. HANDWOVEN COVERLETS</b><br><b>ALSO PILLOWS, RUNNERS</b><br>a. Fine..... | 1. Carpet Warp 8/4 ply                                | 1200                 | 8, 10, 12        | Same as warp.                                   | Candlewicking, or Germantown wool.              | Large Overshot Patterns, such as: Whig-Rose, Lover's Knot, Dbl. Bow-Knot, Sunrise, Lee's Surrender, Pine Bloom, Kentucky Gar-  |
|  | 2. Carpet Warp  | 1200                 | 8, 10, 12        | Same as warp.                                   |   |  |
|  | 3. Perle 5  | 2700                 | 20               | Same as warp.                                   | Same as warp.                                   |  |
|  | 1. Cotton Warp 30/2<br>2. Bernat's Perle 20           | 12600<br>8400        | 35, 36<br>32, 34 | Same as warp.<br>or perle 20 in colors.         | Bernat's Fabri or very fine Homespun.           |  |



| Name of Article                                      | Name of Warp   | Yards Per Lb.        | Setting in Sley            | Tabby Weft   | Pattern Weft  | Recommended Threading to Use   |
|--|--|----------------------|----------------------------|--|---|--|
| b. Medium weight.....                                | 1. Cotton, 20/2 ply<br>2. Egyptian Cotton,<br>24/3.....            | 8400<br>6720         | 30, 32<br>28, 30           | Same as warp.<br>or Umbrian in<br>colors.                | Weaving Special, or<br>Perle 5.   | den, Sun, Moon and Stars,<br>Missouri Trouble, Young Man's<br>Fancy, Queen's Delight, Chariot<br>Wheel, Governor's Garden, etc.<br>Also Summer and Winter pat-<br>terns and Crackle Weave pat-<br>terns.   |
| c. Heavier weight.....                               | 1. Egypt. Cot. 16/3<br>2. Cotton, 14/2....<br>3. Mercerized 10/2.. | 4500<br>5880<br>4200 | 20, 24<br>24, 26<br>20, 24 | Same as warp<br>or Perugian in<br>colors.                | Homespun, Shetland,<br>or Perle 3.  | All-over surface patterns, such as:<br>Tabby, and Twill Weaves, using<br>a warp of single color or stripes in<br>the warp and weft for plaids.<br>Small figures in the weaves are<br>good, such as, Crepe Weave,<br>Bird-eye, Goose-eye, Herring-<br>bone, Dornick. Also Bronson<br>Weaves, (using same tabby be-<br>tween shots.) M's and O's,<br>Honeycomb, Rain Drops.  |
| <b>II. BLANKETS, WOOLEN</b>                          |  |                      |                            |  |   |  |
| a. Fine.....   | 1. Bernat's Fabri....<br>2. Weaving Special.                       | 4800<br>4000         | 20, 24<br>18, 20           | Same as warp<br>or fine home-<br>spun.                   | None.   |  |
| b. Medium.....                                       | 1. Shetland Floss....  | 2000                 | 15, 16                     | Same in grist.   | None.   |  |
| c. Heavy.....  | 1. Germantown ....<br>2. Peasant Wool....                          | 1200<br>945          | 10, 12<br>6, 8             | Same in grist.<br>" " "<br>" " "                         | None.   |  |
| <b>D. UPHOLSTERY</b>                                 |  |                      |                            |  |   |  |
| a. Fine.....   | 1. Linen 40/2.....   | 6000                 | 32, 36                     | Same as warp.  | Twisted silk or Fabri<br>Yarn.  | All-over surface patterns, such as:<br>Goose-eye, Herringbone, Rose-<br>path, Wheat Stitch, Broken<br>Twill, Double-faced twills,<br>Damask, Finn-weave, Bronson<br>Weaves with tabby shots alter-<br>nating, Small overshoot patterns<br>such as Diamond, Lincoln's Rail<br>Fence, and for larger patterns<br>Summer or Winter, or Crackle<br>Weaves, such as Drifting<br>Shadows.  |
| b. Medium, (Soft and Flexible)                       | 2. Perle 10/2.....<br>3. Egyptian 24/3....                         | 4200<br>6720         | 28, 30<br>30, 32           | Same as warp.<br>Same as warp<br>or Perugian.            | Perle 5, Rayon.<br>Perle 5 or Scotch<br>Homespun.                                   |  |
| c. Heavy.....  | 1. Linen 40/3.....<br>2. Fabri Yarn.....                           | 4000<br>4800         | 24<br>30                   | Same as warp.<br>Same as warp.                           | Linen Floss.<br>Tightly-twisted silk<br>or homespun.                                |  |
|  | 1. Linen 18/2.....<br>2. Egypt. Cot. 16/3.                         | 2700<br>4500         | 16, 18<br>24, 26           | Same as warp.<br>Same as warp.                           | Hard-twisted knitting<br>yarns, French Tap-<br>estry wools, Linen<br>floss.         |  |
| <b>E. DRAPERY MATRIALS</b>                           |  |                      |                            |  |   |  |
| <b>I. SUN CURTAINS, LIGHT-<br/>WEIGHT DRAPERIES.</b> |  |                      |                            |  |   |  |
| a. Fine effects.....                                 | 1. Perle 20/2.....<br>2. Egypt. Cot. 24/3.<br>3. Umbrian Warp ..   | 8400<br>6720<br>8400 | 30<br>20, 24<br>30         | Same as warp.<br>Same as warp.<br>Same as warp.          | Perle 10, or 6-strand.<br>Perle 10, or 6-strand.<br>Perle 10, or 6-strand<br>floss. | Tabby with heavy threads at inter<br>vals; or tabby with small pattern<br>borders, such as Monk's Belt,<br>Honeysuckle, Solomon's delight,<br>etc. The warp may also be<br>threaded to tabby in color<br>stripes; or all one color with<br>designs finger-woven into tabby<br>with 6-strand floss. Also open-<br>work weaves, such as <b>Bronson</b> ,<br>or Tabby with spaces in sley.<br>Also Mock Leno or Swedish Lace<br>Weave, Leno, Bronson, Gauze<br>Weaves, textured dress fabric<br>weaves woven loosely. |
| b. Heavier effects.....                              | 1. Linen Floss.....<br>2. Perle 5.....<br>3. Perle 3.....          | 1500<br>2700<br>1350 | 7 1/2, 8<br>12<br>7 1/2, 8 | Same, or a<br>Textured weft<br>same grist.<br>" "<br>" " | None.<br>" "<br>" "   |  |

| Name of Article                         | Name of Warp   | Yards Per Lb.                 | Setting in Sley              | Tabby Weft   | Pattern Weft  | Recommended Threading to Use  |
|---|--|-------------------------------|------------------------------|--|---|---|
| <b>II. SIDE DRAPES, PORTIERES, etc.</b> | a. Medium weight.....  | 2700                          | 16, 18                       | Same as warp.  | Perle 3 or Linen Floss.   | Tabby or Twills with vertical stripes in warp, Log-Cabin threading, Shepherd's Check, Suiting Weaves woven closer than above. Short overshot patterns for all-over pattern effects.   |
|   | b. Heavy.....  | 2700                          | 18, 20                       | Same as warp or B's Zephyr Yarn or Linen Floss.  | None.   | Bronson Weaves.   |
| <b>F. RUGS</b>                          | 1. Crochet Cotton..  | 2400                          | 24                           | Same as warp   | None.   | Double Finnweave.   |
|   | 2. Perle 3.....  | 1350                          | 8                            | Same, or B's Peasant Yarn  |   | Three-Harness Weave.  |
|   | 3. Carpet Warp Perle 3.....  | 1200<br>1350                  | 12<br>12                     | Same as warp.<br>Same as warp.   | B's Peasant or home-spun wools.   | Patterns looking well on both sides; patterns woven on opposites; Summer and Winter Weaves, Crackle Weaves, Twill Weaves, 3-harness, M's and O's.   |
| <b>I. PATTERN RUGS.</b>                 | 1. Carpet Warp....   | 1200                          | 16                           | Same as warp.  | Rugro, rags, rug-yarn   | Whig Rose, Diamond, Block Work,   |
|   | 2. Linen 10/5.....   | 600                           | 7 1/2, 8                     | Same as warp.  | " " "   | Dog Tracks, Twice-woven rugs,   |
|   | 3. Perle 3.....  | 1350                          | 16                           | Same as warp.  | " " "   | Navajo Saddle Blanket Weaves  |
| <b>II. PLAIN RAG RUGS.</b>              | 1. Carpet Warp....   | 1200                          | 10, 12                       | Rags, rugro, Stockinette.  | None, Tabby or Twill weaves only.   | with warp at least as coarse as 12 Summer and Winter or Crackle Weaves with warp at 12 per inch.  |
|   | 1. DbL Carpet Warp<br>2. Linen 10/5  | 1200<br>600                   | 8<br>7 1/2, 8                | Same as warp.  | B's Rug wool, also Smyrna Rug Worsted.  | Special designs planned on check paper for surface effects, using rug knots such as Swedish Floss.  |
| <b>III. PILE RUGS</b>                   | 1. Carpet Warp....   | 1200                          | 10, 12                       | Chenille   | Tabby only.   |   |
|   | 2. Carpet Warp....   | 1200                          | 16                           | Same as warp.  | Candlewicking, Rugro, Chenille.   | Small overshot, such as: Diamond, Raindrops, Rosepath; also Twills, Birdeye, etc.   |
| <b>IV. BATH MATS.</b>                   | 1. Carpet Warp....   | 1200                          | 10, 12                       | Chenille   | Tabby only.   |   |
|   | 2. Carpet Warp....   | 1200                          | 16                           | Same as warp.  | Candlewicking, Rugro, Chenille.   |   |
|   | 1. Linen 40/2 round<br>2. Linen 50/2 round   | 6000<br>7500                  | 30, 32<br>36, 40             | Same as warp. or same in grist   | Weave these linens as all-over patterns; no tabby. (See suggested threadings.)                        |   |
|   | 1. Linen 40/3 round<br>2. Linen 30/2 round<br>3. Linen 18/2 round  | 4000<br>5000<br>2700          | 24, 26<br>26, 28<br>20       | Same as warp (or 14/1 or linen special linen weft.)                                    | If a small pattern is desired for borders at ends of pieces, thread in small over-shot patterns only. | Betsy Ross, Herringbone, Goose-Eye, Double Twill, Birdeye, Diamond Weave, Bronson, M's and O's, Rosepath, Wheat Stitch, Huck, Summer and Winter, Crackle. (The latter two patterns are especially good for coarse linens) Spanish Open-work Weaves. |
| <b>G. TABLE LINENS</b>                  | a. Fine: Tablecloths and napkins.  | 2000<br>2250<br>1500          | 16, 18<br>18, 20<br>16       | Same as warp or 10/1 or linen floss.   | Tabby same as warp; pattern thread heavier, such as Linen Floss, Perle 5.                             |   |
|   | b. Medium: Runners, tray cloths, dresser scarves.  | 8400<br>12600<br>6720<br>4500 | 32, 34<br>35, 36<br>30<br>30 | Linen 20/1; Linen special. Linen 30/2. Linen 20/1; Linen special. Linen special; 18/1. | Crochet Cotton. Linen Floss. Perle 10.  |   |
|   | c. Very Coarse: Runners, towels, etc.  |                               |                              |  |   |   |
|   | d. Half-Linen: Towels, table mats, (this material makes reasonable tabby texture. Borders may be added.) |                               |                              |  |   |   |

# *Adaptation of Dukagang to a Modern Work Bag*

by A. B. GARDNER

When I read the article on Dukagang by Elmer Wallace Hickman in Vol. III, No. 1 of *THE WEAVER*, I was immediately possessed with the desire to weave something in that technique and incorporate the lovely octagonal medallion illustrated on page 23. Later, when I saw a beautiful large bowl in transparent emerald glass, I wanted to do something in plastics in the same color. Then came the inspiration! A work bag woven in Dukagang in soft white wool with handles in the emerald plastics and the medallion used as an ornament in the center of one side and three initials of the recipient of the bag in the same color on the opposite side. Unlike most of my wonderful ideas, this one worked.

All of this Scandinavian Art Weaving being a sort of tapestry, Mr. Hickman has specified that it be done wrong side up as all tapestry is and which of course is necessary when using a large number of bobbins for the figures. But I found that in experimenting on my eight inch Structo loom, I could not weave wrong side up and also found that on a regular treadle loom and using only a small number of bobbins (seventeen as the most required at any one time for this bag) it is not necessary. I can make enough mistakes when I can see the work without doing it blind.

The warp was Bernat's 40/2 round linen set at 15:1, twenty inches in the reed. Tabby was some unidentified material that had been on hand for years and looks like about 16/2 white mercerized cotton. Pattern was a fine quality, soft but rather large knitting wool in white. There are two methods of finishing the ends of the work as will be described later but the method to be used must be decided before starting to weave.

"The threading is the usual twill, 4, 3, 2, 1, with the exception that the last thread in the reed should be omitted for this particular weaving. This will make the threading end in No. 2 harness and will give three warp threads for tabby to form a symmetrical selvage on both sides. This selvage forms a support for the loop of pattern yarn when it returns at the end of a shot." The heavy wool is wound on a large rug shuttle and is started through the shed formed by raising No. 1 harness. Here another diversion is made from Mr. Hickman's directions which are correct for some types of weaving but cause an unnecessary amount of work in this case. He specifies that the tabby should be carried out beyond the edges of the pattern shots and this makes it necessary to build up the tabby edges to compensate for the extra grist of the pattern. I found that the pattern can be carried right out to the edges and both threads woven in regular fashion without any building up of tabby.

The plain white wool is carried up four inches, before the medallion is started. The last white shot is made from right to left and the wool is then unwound from the shuttle sufficiently to make the first bobbin for the finger weaving. A number of green bobbins are now made up. To start the medallion, raise No. 1 harness and find the group of three down threads that are in center of reed. As there are seventeen groups of three in the first row of medallion, count off eight groups to the left of center and pass the white wool through the shed up to this point.

Here is where we use the little trick that enables us to

weave right side up. One reason for weaving wrong side up is that when the bobbins hang down they put a tension on the last warp thread that pulls it out of place so an even weave cannot be produced. Another is that if a large number of bobbins are used they will tangle themselves beautifully when beating is done. To overcome both of these, we cut a slat of thin wood ( $\frac{1}{4}$  inch three ply veneer is excellent) two inches wide and as long as the cloth beam. We then cut a small block of one inch stuff about an inch wide and two inches long. One end of the slat is nailed square against one edge of the block forming a short ell. The block is then fastened to the ratchet that turns the cloth beam with a ten cent C clamp, with the slat lying upright along the cloth beam. This forms a cute little bin for holding all our bobbins on top the cloth beam where they are entirely out of the way and are really easier to control than when lying on top.

The white wool is now dropped down into the left end of bin and the green wool started and carried across seventeen groups of three and dropped in the same way. Another feature that I found easier than Mr. Hickman's method is in starting and ending the pattern threads. He recommends the usual tapestry knot but I found it difficult to get just the right tension for smooth work when ending a thread and the knot makes a thick spot on the wrong side while smoother work is obtained and I find it easier to simply weave the ends into the work. To do this, pass the end down to the right of the raised warp thread, under the first lower warp thread to the right, over the center warp thread of the group, under the next two down threads, over the center thread of the second group and continue for as many groups as you like. Two or three are enough. These ends are entirely concealed by the pattern. Finish the end in the same way. Sometimes it is necessary for two ends to lie alongside each other but this is immaterial as they are all concealed.

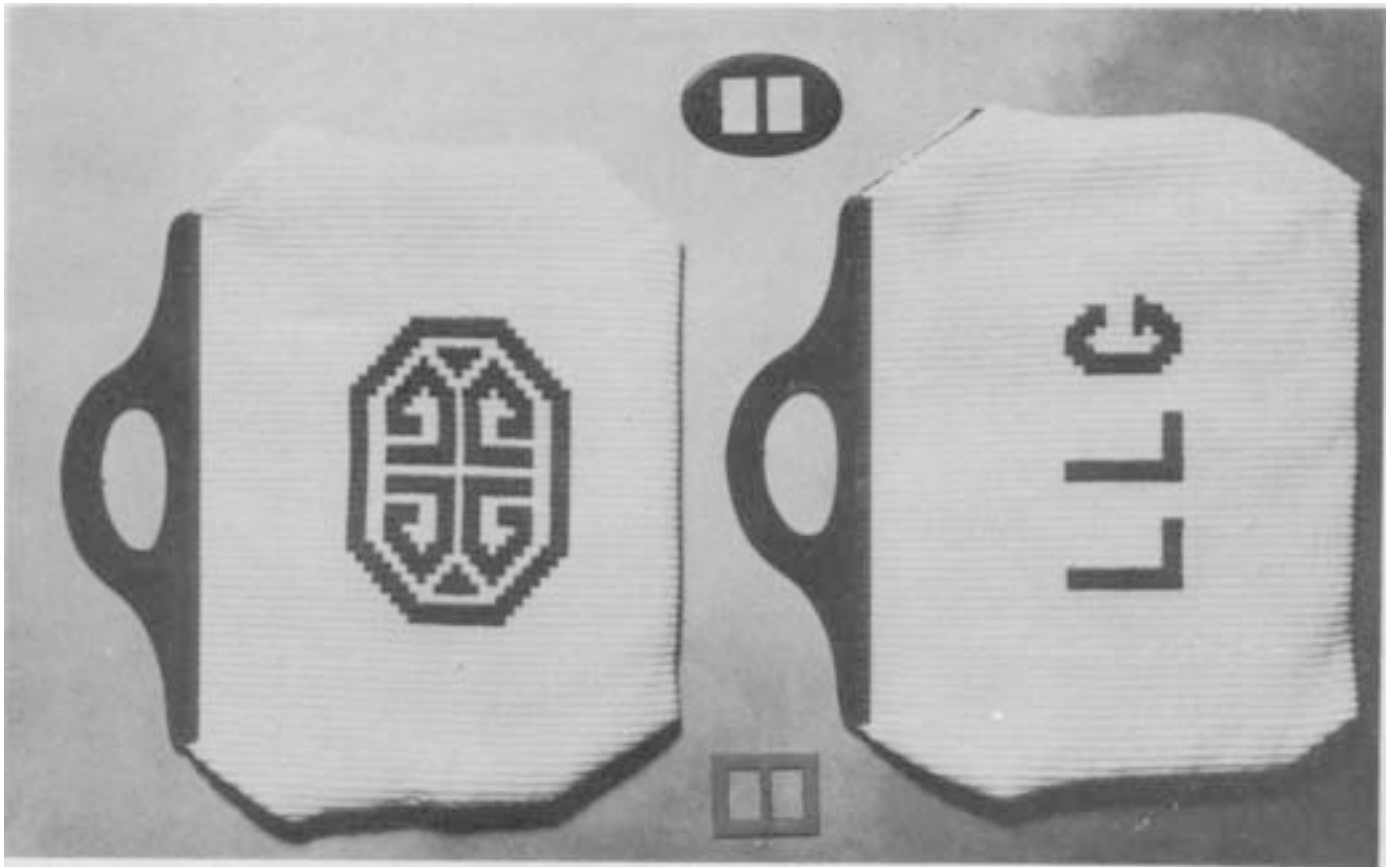
Beating is done in the regular way except that there is no beating, the beater is simply brought up and pressed until the yarn is in place.

The wool that I used was of such grist that four strands formed a square in a group of three so, after the first green is passed through, the white bobbin is started and carried out to the right edge, two tabby shots made and the weaving continued back toward the left for four complete shots. Then the diagonal steps were commenced and eight green shots formed the lower row of the medallion.

Mr. Hickman states that the pattern thread can be carried under one or two groups to avoid starting a new thread for each column but I found this made the work bunched on the back and had much better results by starting a new thread wherever indicated. There are only seventeen bobbins at most and these are not much trouble to handle. But one must use care where only one column is being built up to not make it too tight.

This medallion works about eight inches wide and with my yarn was  $5\frac{1}{2}$  inches high which makes a very good proportion. Then plain white was woven for seven and a quarter inches to go around the bottom of the bag and the initials then started. As each unit in the medallion is about a quarter inch square, the initials were laid out





on quarter inch cross ruled paper. This makes it very easy to follow the design when weaving and allows all the mistakes to be made on paper.

The initials worked out  $3\frac{1}{2}$  inches high and the plain white was carried up five and a quarter inches to the top and finish.

Incidentally, it is well on all delicate work of white wool to protect the finished work as it goes along with some kind of cover to avoid soiling, especially where it goes over the breast beam.

Now for the ends. That is one thing they don't tell you in the books. In all my studying over several years, I have never seen any directions for preventing ravelling of the work after it is cut off. In nearly all my work, unless I wanted it to be especially fine (as I did with these bags) I overcast the ends in the following manner. After the warp ends are woven up to where weaving can begin, I open the two four tabby shed and slip in a small lease rod about one eighth inch thick by three eighths inch wide and polished perfectly so it will slip out easily. The first tabby shot is from left to right in the one three shed but enough thread is pulled off the bobbin to go two and a half times across the warp. This long end is left lying on the warp while from seven to eleven tabby shots are made, leaving the shuttle on the right side. The long, loose end is then threaded into a tapestry needle and No. 1 harness raised to form equal spaces in the warp and so make the over cast stitches uniform. When the harness is raised a wide lease rod is slipped in and turned up on edge and clamped to the reed so it will not bother by falling down. The needle is carried under the warp up, over the work, and down in the little opening that is formed by the lease rod. The work goes faster by not turning the

needle end for end but putting the eye up and the point down each time. When the right edge is reached the thread is woven into the work (after lowering No. 1 harness) just like any end and the regular weaving continued.

In the case of these bags, rabbets three eighths inch wide were cut for the cloth ends to lie in and if desired, plain tabby of this width can be woven to sew to these rabbets.

But I wanted ends that were really finished so at the start and finish of the weaving the ends were overcast in a temporary manner as it was to be taken out later. Then the warp was cut about six inches up from the finished work and untied from the cloth apron. Each warp thread was then threaded into a No. 22 tapestry needle and woven back into the tabby on the back side so there was a selvage around all four sides of the work. The weaving back was done by picking up eight of the exposed tabby threads, each warp thread going back alongside itself. These bags were lined with emerald "jockey satin" which combines beauty with durability.

This, of course made some work but it also made beautiful ends and if one desires to make really superior work there is one adage he must always keep in mind—nothing is too much trouble.

The handles were made from a sheet of cast plastics 12 inches wide and worked up in the regular plastics technique but here again the above adage was carried out and adhered to. The plastics used was TRAFFORD, 360 Worthington St., Springfield, Mass. The belt buckles shown on photograph were made from waste after the handles were cut out.

A. B. GARDNER.

# Questions and Answers

by MARY M. ATWATER

*Question:* Is it possible to add four harnesses to an ordinary four-harness loom? And if so, how can this best be done?

*Answer:* Depends a good deal on the type of loom to be altered. If it is the usual counterbalanced loom and has a substantial frame with ample space from breast-beam to back-beam or "slab-stock" the thing can usually be done without much trouble or expense.

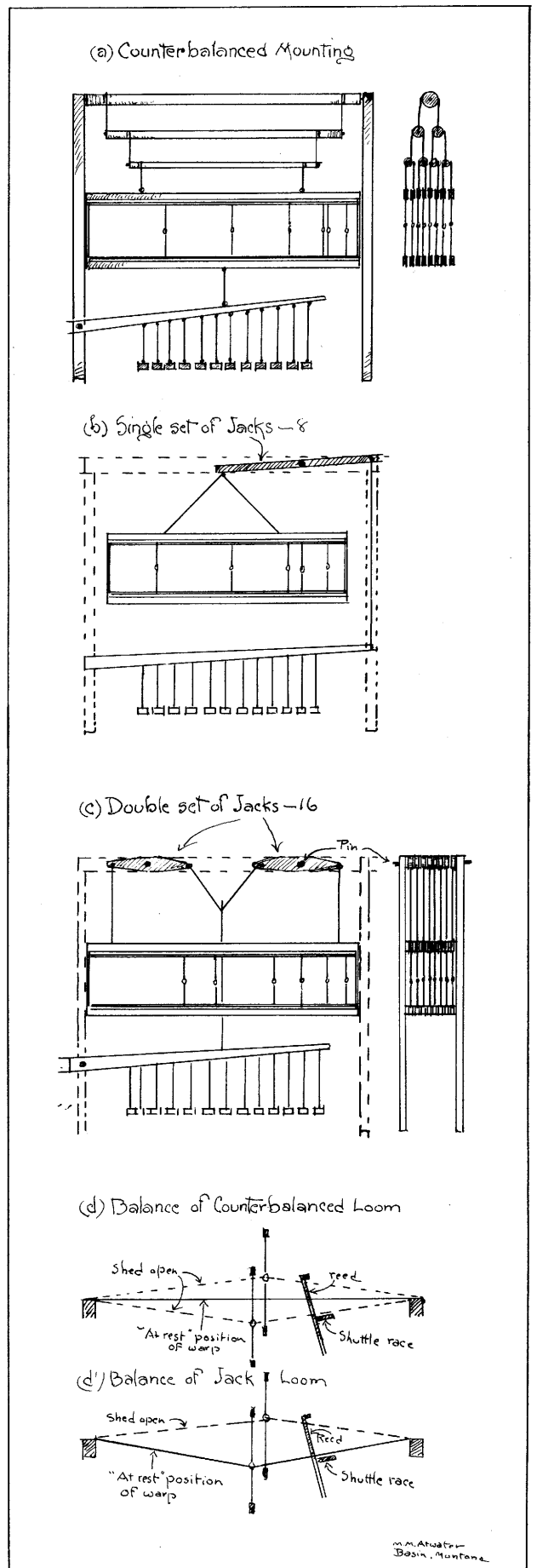
The simplest method is to extend the uprights or "capes" of the loom about a foot; then hang two rollers from the large roller at the top of the loom, from these hang four smaller rollers, and from the four small rollers hang the harnesses, as shown below in the diagram at (a). This method, however, is not entirely satisfactory. It works well for all balanced weaves—that is for all weaves in which half the harnesses sink on each shed—but it does not work well for weaves requiring unbalanced sheds—a shed, for instance, in which one harness is sunk and the other seven are expected to rise.

It is far better to construct a top-mounting with "jacks" or levers, as shown below at (b) and (c). The system shown at (b) is satisfactory for narrow looms, but for a wide loom the method shown at (c) is better. Looms with the jack mounting may be built with two sets of lamms,—a raising set and a sinking set—or to simplify the tie-up they may be built with the raising lamms only. The harnesses being sufficiently weighted to hold them down in position. Most modern looms are built in the latter manner.

It should be noted that the balance of a jack loom differs from that of a counterbalanced loom. On a counterbalanced loom the warp passes in a straight line from the back-beam, through the heddles, through the center of the reed, to the breast-beam, when the loom is at rest. In a jack loom the warp is deflected downward at an angle where it passes through the heddles, and lies flat on the shuttle-race when the loom is at rest. This is an important point, sometimes overlooked. The diagram at (d) will make the matter clear.

Of course additional lamms and treadles are required for eight-harness weaving. For the single tie-up, eight lamms are necessary, and for the double tie-up, sixteen lamms. There should be at least twelve treadles, and more if the width of the loom permits.

MARY M. ATWATER.





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