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THE WEAVER

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*MANUSCRIPTS
WANTED*

The Weaver invites its readers to send in articles on weaving, with or without illustration, for possible publication in The Weaver magazine.

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THE WEAVER

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THE WEAVER

VOLUME V NUMBER 1

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"WEAVING" ON THE TYPEWRITER

by JOHN GLENDINNING

The scale on the typewriter will give the size of the cross sectional paper that is necessary to use on that particular typewriter. Any typewriter that will write the few necessary characters can be used. The one that made the following examples is a 1920 Corona and is scaled for ten spaces to the inch.

Place the paper in the typewriter so that the vertical lines of the paper will be in the middle of the scale lines on the typewriter. If the lines were set together, the writing would come at the line instead of the center of the square. At the same time make the horizontal lines of the paper parallel with the scale on the typewriter. The edge of this scale shows the line of writing. To adjust paper, release paper, release lever.

Release roller so that it can be moved to any position required. When roller is released, it has a tendency to turn when writing so it is necessary to watch the line of writing and adjust it or the pattern will be crooked. The bottom line of the space to be written in should always be even with the scale showing the line of writing on the typewriter.

In using a typewriter to block out or "weave" a draft you work from right to left instead of left to right. The size of the pattern will be limited to the width of the typewriter.

Select the characters on the key-board that will best represent warp, weft and the draft. Both warp and weft can be filled in but it is quite confusing to the eye unless a two

colored ribbon is used. In most cases one or the other is usually sufficient unless the mesh is to be analyzed.

Starting at the left of the paper, copy draft by turning the knob of the roller back and forth to the desired lines which will be the bottom line of the space to be written in. When a key is struck, it automatically spaces to the next square so watching the bottom line of the space is all that is necessary.

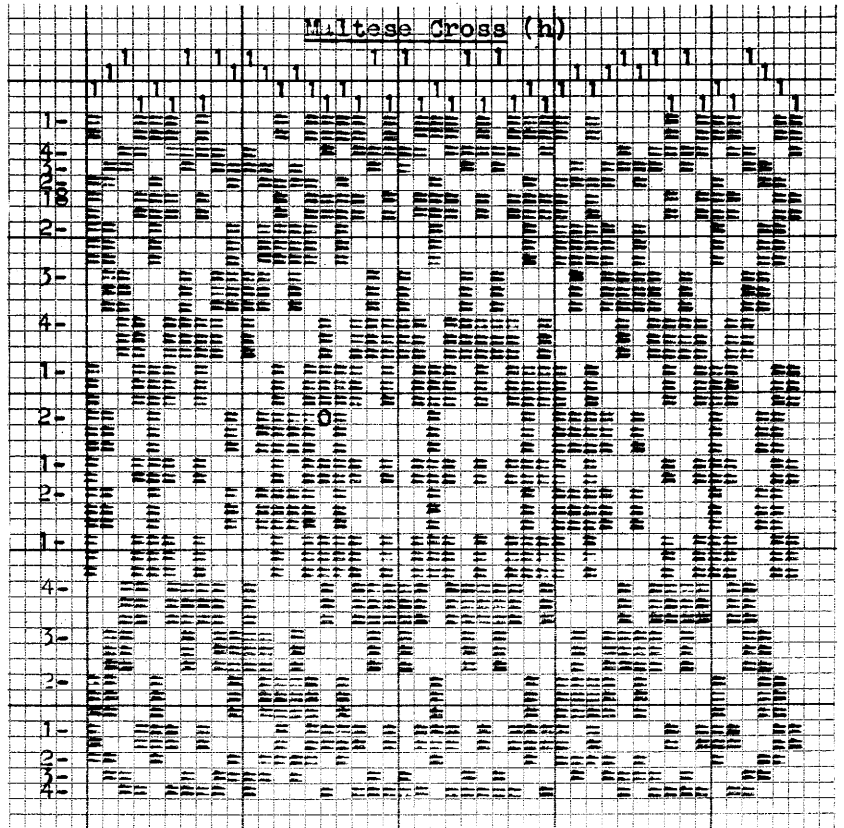
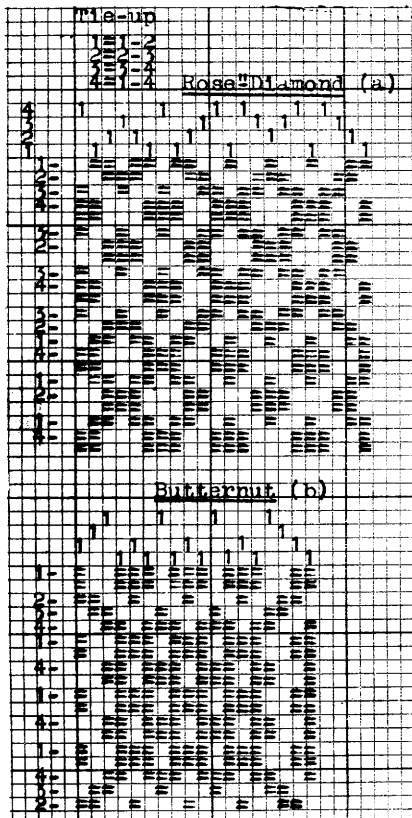
Write tie-up at the top of the paper so that it can be easily seen. Starting at the first space below draft, write the number of the first treadle to be used. The tie-up will give the harnesses that are to be filled in or "woven" with this treadle. For example—

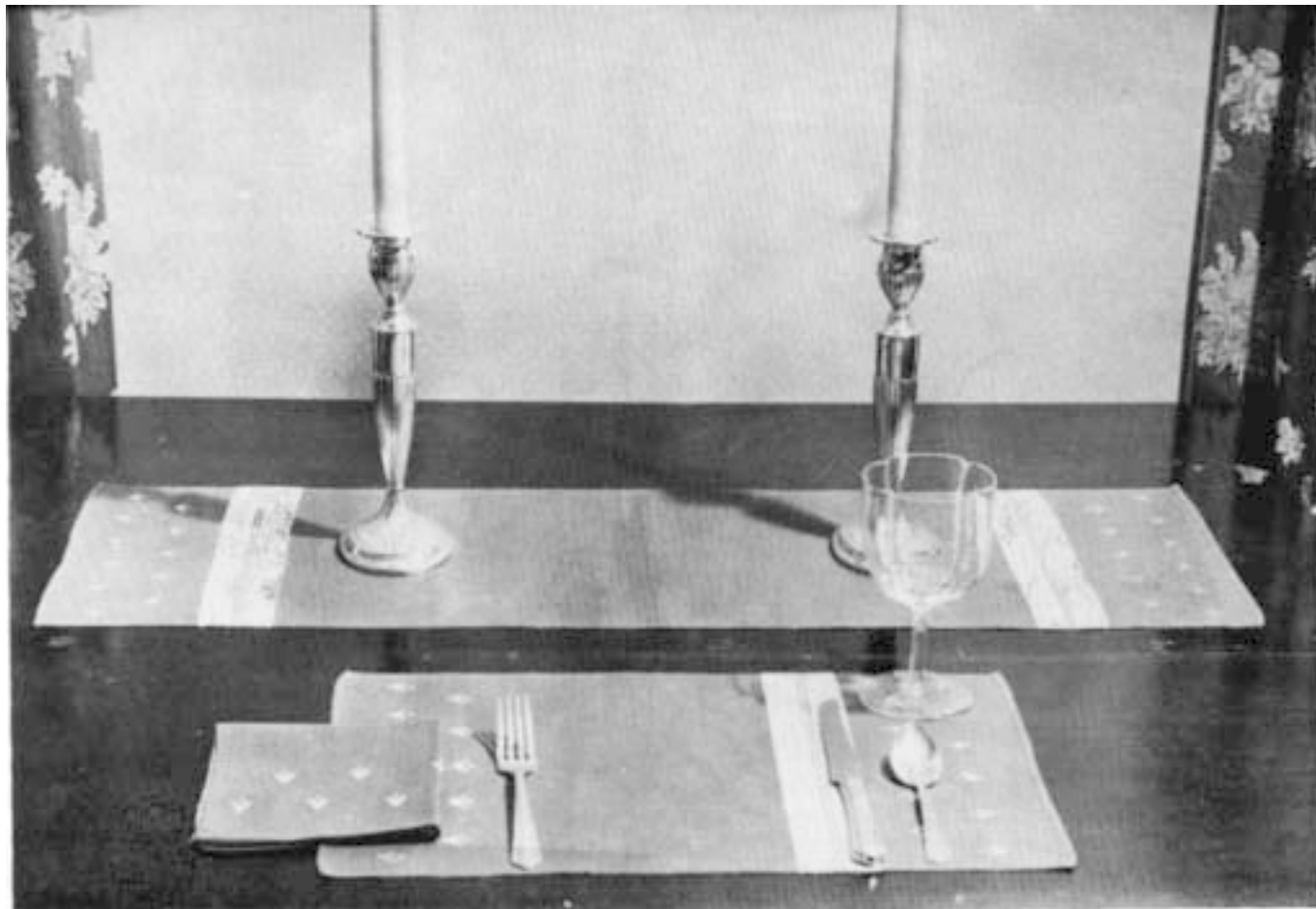
Tie-up
1=1-2
2=2-3
3=3-4
4=4-1

On first space below draft, write 1-, watching draft, strike key (either warp or weft) every time that the first two harnesses call for a mark. Use space bar in between. Fill in the other three treadles according to draft. After all treadles have been filled in, to repeat the treadle, it is easier to watch the line already written than the draft.

Mistakes in blocking out or treadling can sometimes be corrected without spoiling the whole pattern.

Special characters and sometimes a longer carriage can be put on typewriter.





FASCINATING LINENS FOR LUNCHEONS

by DOROTHY S. ROBERTS

PATTERN NO. 1 "THE MODERN PINE"

Modern trends have developed a taste for greater simplicity in linens as in all other forms of decorative arts. More serene and unbroken backgrounds are demanded today, as contrasted to the artfully woven realistic forms and gaudy conventional designs which were so blatantly a part of the dining table in the gay nineties. Fortunately, for us, weaving is as modern as it is ancient. The creation of lovely new fabrics, from the vast palette of yarns available today, is a delight to every weaver.

A few tubes of a smart strong color and a simple asymmetrical design such as the one illustrated, "The Modern Pine", serve as the basis for a very effective luncheon set. This set includes one runner 12 by 36 inches, four place mats 12 by 18 inches, and four napkins 12 by 12 inches. The materials are Umbrian Warp 20-2 color No. 40 for the background, and Vittora Strand (6-strands) color No. 27 for the pattern.

The weaving technique is plain throughout with the pattern done in inlay and in twill. Sley the warp two threads to a dent, in a fifteen dent reed, doubling the threads for the selvage on each side. After one inch of plain weaving, including an extra inch for the hem, inlay six tree motifs two inches apart, and one inch from either side. It is advisable to use a small shuttle, preferably the Swedish or tapestry type, for each motif. The pattern is inlayed on 1-2 and 3-4 alternately, with three shots to each section of the design. The second row of motifs, five in number, are spaced between those of the first row. About an inch of plain

weaving separates them, and another inch before the band of twill is inserted. The twill treading is 2,3,4; 1,3,4; 1,2,4; 1,2,3. Three treadles down at a time give a more solid band of color.

The design is applied to both ends of the runner. The mats have it complete on one end and only the tree motif on the other end. The napkins have only the tree design at one end.

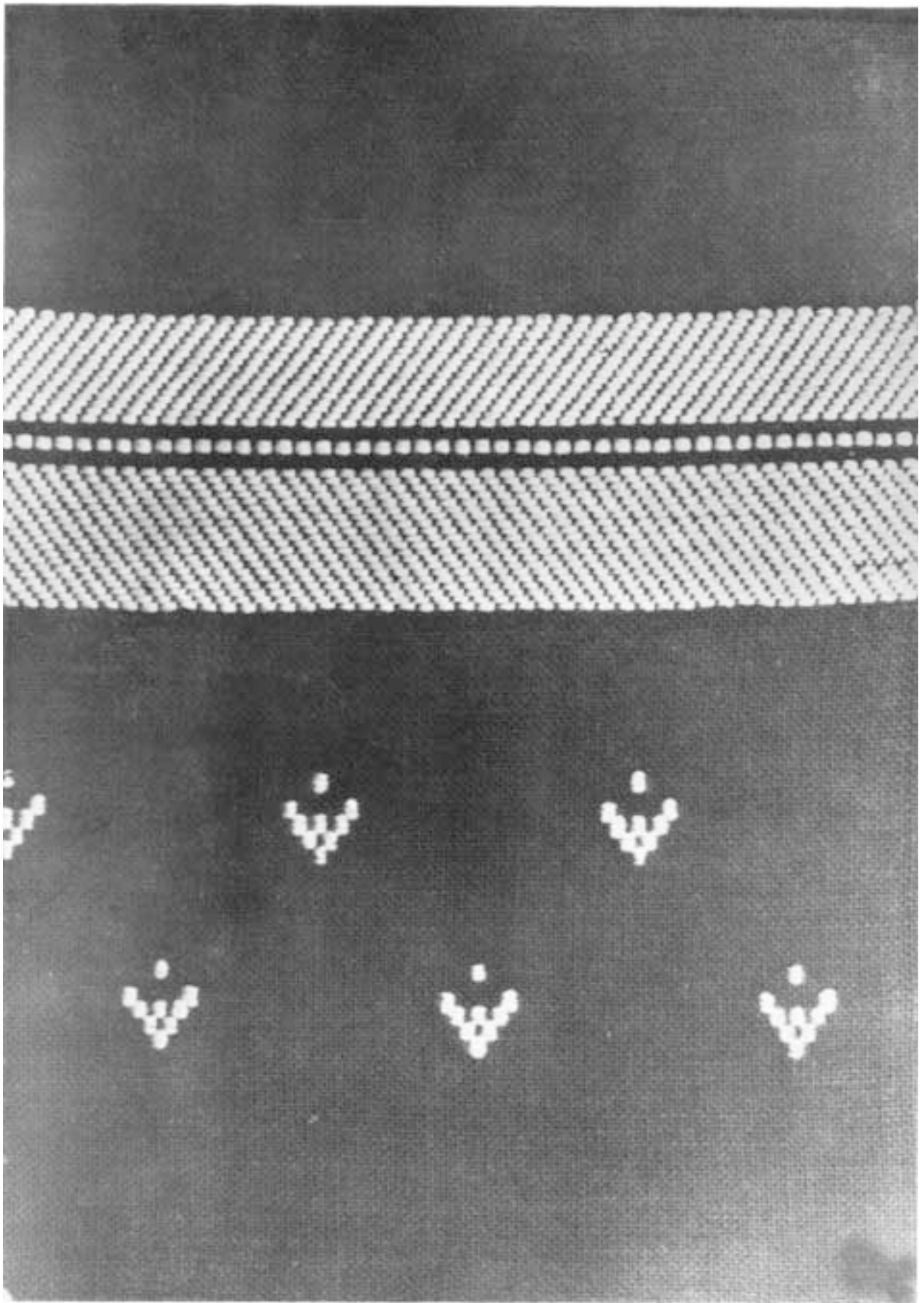
It is suggested that a dark rich color be used for the background such as green, wine, brown, or black, contrasted with a white pattern for the most decorative result. In order to keep the continuity of the entire design the ends should be hemmed.

PATTERN NO. 2 "THE GAY PLAID"

For the less formal luncheon set plaids are always interesting and festive. They will blend particularly well with the gay pottery or cruder glassware which is so much in vogue today. This type is unusually popular for outdoor luncheons, at the bar, or in the game room.

The materials required are Linen Special, Brown 251, Yellow 220, Red 247, Green 218, and Orange 239. The slewing is the same as in the previous set. The plaid arrangement for the warp is as follows:

Brown	44 threads
Red	4 threads
Brown	22 threads
Orange	16 threads



PATTERN NO. 1

PATTERN NO. 2 "STRIPES FOR FUN"

Green	8 threads	
Yellow	4 threads	
Green	8 threads	
Red	4 threads	
Yellow	42 threads	
Brown	4 threads	
Orange	8 threads	
Red	26 threads	
Green	8 threads	center stripe.

Reverse this arrangement beginning at the bottom for the other half of the warp.

To weave, begin according to your color sequence in the warp, starting at the right hand side. Square off each color in the same ratio as in the warp. Frequently the weft will require a few more or less threads than in the warp. The napkins will be a true square. The mats will require a slight variation in the center to lengthen it to the 18 inches. Make the center stripe one inch wide, adding a narrow yellow band on either side of it. For the runner the mat sequence merely has to be repeated.

This set is fringed, as the loose colors knotted at each end seem to be in keeping with the aspect of gayety it reflects.

PATTERN NO. 3 "STRIPES FOR FUN"

The title of this set signifies the casualness in which it was woven. And to add to the fun it was also woven from odds and ends of linens. However, one must keep in mind that harmony of colors and space arrangements of the stripes are the most important essentials to enhance the decorative quality of this type of weaving.

The materials for the warp include Tow Bleach No. 20, and for the weft, Tow Natural No. 20, Linen Special, Yellow L 220, Brown L 251, Linen Weaver, Wine 203, White L 235. The loom is threaded to a simple repeat pattern which works in effectively, if not over done, with the stripes.

Design for striping as follows:

Tow Natural	one inch
White	2 shots separated by 1 shot Tow N
Yellow	4 shots
Wine	one inch pattern using Yellow as tabby
Yellow	4 shots
White	same as above
Tow N	4 shots



PATTERN NO. 2

Brown 4 shots
 White 4 shots separated by 1 shot
 Brown each time

 Brown 4 shots
 Yellow 4 shots
 Tow N 10 shots
 White 7 shots separated by 1 shot
 Tow N each time

 Wine one-half inch pattern using
 Tow N as tabby

 White 7 same as above
 Tow N 10 shots
 Yellow 14 shots
 White 2 shots separated by Yellow
 shot each time

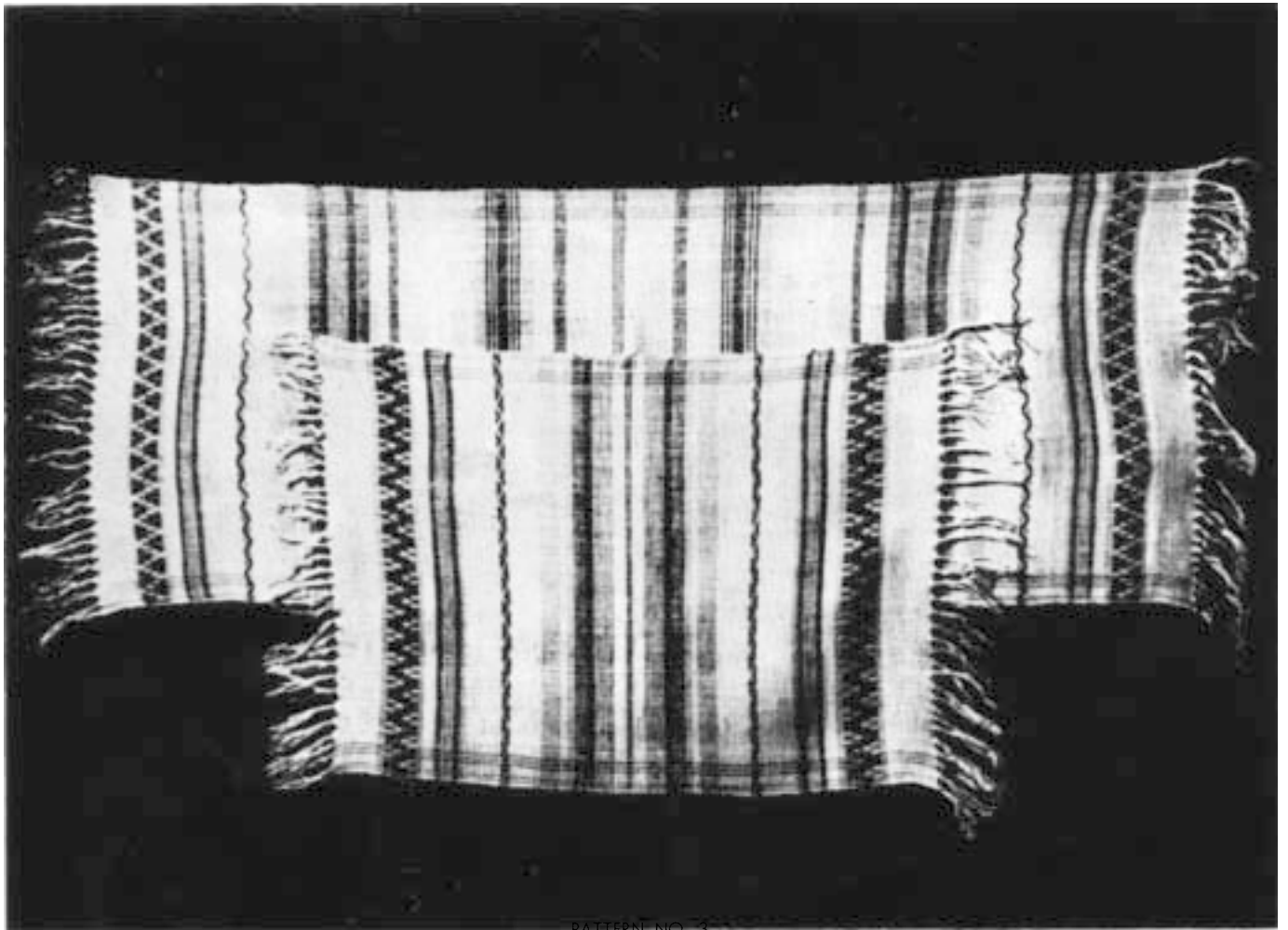
Yellow 6 shots
 Brown 4 shots separated by Yellow
 shot each time

 Brown 4 shots
 White 7 shots separated by
 Brown shot each time

 Tow N 8 shots
 Wine 2 shots separated by Tow N
 shot

This is the center. Repeat back for the other half of the design.

Only the runner and four place mats need be woven as plain white napkins or napkins in a plain light color blend in very well with this set.



PATTERN NO. 3

A MODERN VERSION OF AN ANCIENT WEAVE

by BERTA FREY

While on her way to my Studio a friend of mine saw, in a shop window, a pair of Peruvian dolls. Being tremendously interested in anything Peruvian, and having a passion for dolls in native costume, my friend's interest in the miniature lady and gentleman proved to be extravagantly irresistible. When she reached my place, her enthusiasm was boiling over, her story was as exciting to me as the dolls had been to her.

The discussion of things Peruvian inevitably led to Peruvian weaving and especially to the leno or gauze type of weaving. Hanging on a wall of my studio is a loom from Guatemala,—a very primitive affair, and yet the Guatemalian women do beautiful leno on it, and without benefit of doups. Why couldn't we? And so the experiments began.

The mixture as we eventually worked it out is neither fish, flesh, nor fowl, for we have used a mixture of methods.

But it is fun to do and it is "fool-proof"; it can be done on any loom, on any threading; it will work equally well on a two-harness loom.

The loom on which we were working that afternoon was threaded with a 10/2 cotton warp in a simple twill (1-2-3-4); one thread per heddle and two threads per dent. For weft we used a No. 5 Perle, but subsequent experiments have shown that the warp thread, if used double, is better.

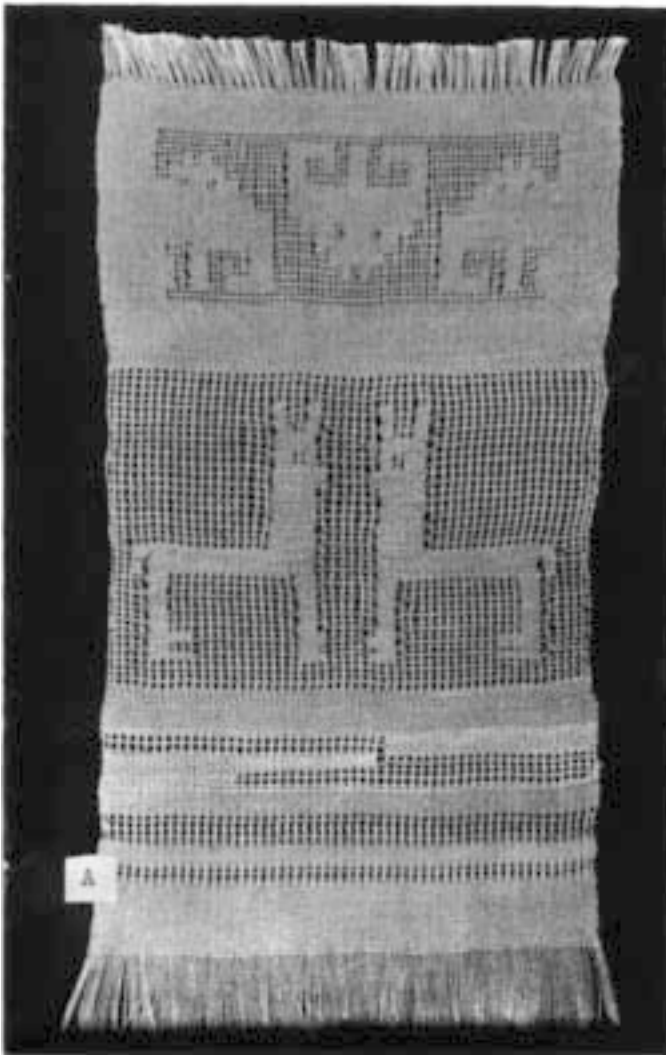


ILLUSTRATION 1

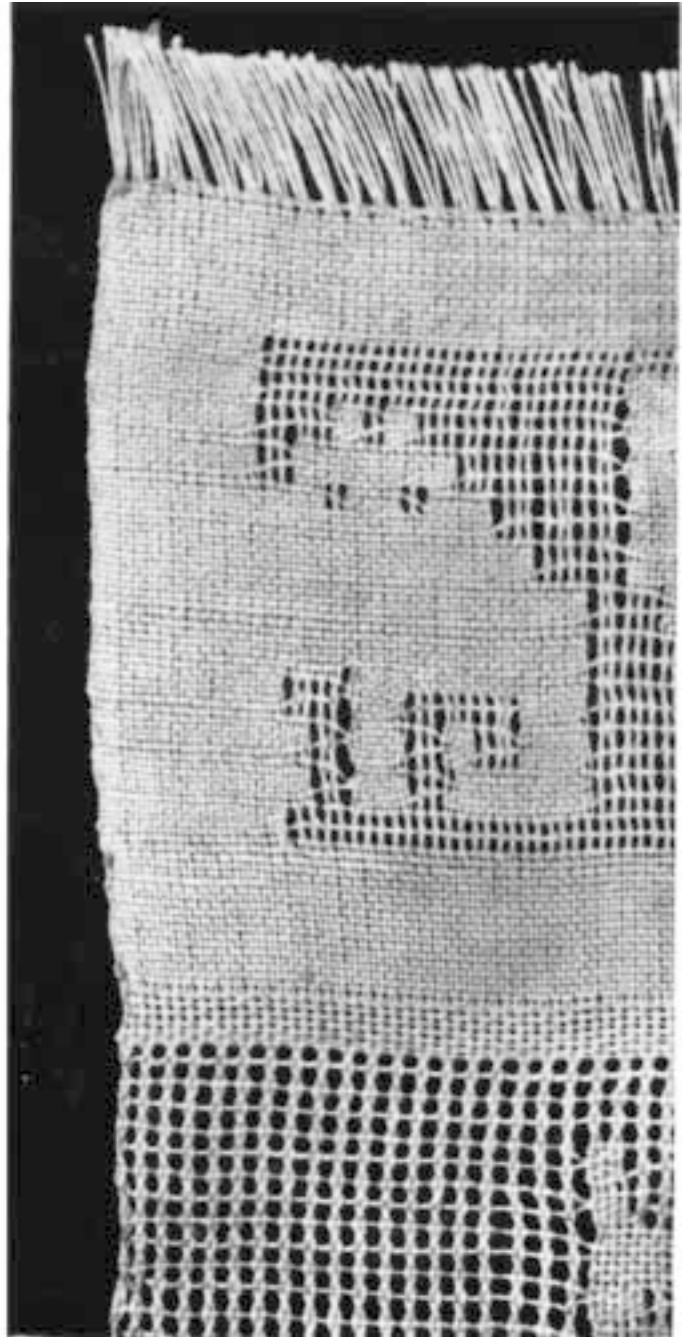


ILLUSTRATION 2

On the twill threading, we have used for the plain weave, 1-2 against 3-4. With the double weft, this gives a two-and-two basket effect.

There is nothing new about this way of weaving Leno. Many weavers are familiar with the technique and use a single row of twists as a finish for hems. But I hope that I am not the only weaver that had never before realized its many possibilities.

To weave the plain gauze, raise harnesses 1 and 2. It is not essential that these two harnesses be raised if there is a different threading on the loom; the essential thing is that the *first* thread (or pair of threads on a twill threading) through the reed be the one that is *up*. With the left forefinger, pull the threads of the upper shed slightly to the left, and pick up the first thread from the under shed. On our twill threading, a pair of threads was considered as a single thread. Release the first upper thread (or pair) and pass the shuttle *over* it. Pick up the second under thread and pass the shuttle over the second upper thread. Continue across the loom in this way.

A flat stick shuttle will prove to be most convenient; or a smooth stick may be used to pick up, then turned on edge to make a shed. The tension should be looser than usual to prevent undue wear on the warp threads. If the work is kept close to the breast beam, the angle of the shed opening is more acute and it is a simple matter to pick up the under threads and pass over the top ones. A little practice will result in very good speed.

When all the threads have been crossed, and the shuttle drawn through, change to the 3-4 (or opposite) shed and weave from left to right in the ordinary way. Because of the warp twist, the weft does not pack closely; only alternate rows have to be "hand done" so that this is not too

slow a method of weaving, and putting in a pattern does not slow up the process. As a matter of fact, if a design is so arranged that more than half of the surface is pattern rather than background, the weaving is speeded up considerably.

The thread starts at the right and passes to the left, twisting the warp threads as it goes, then returns to the right side of the weaving on a plain shed, thus making two rows of mesh squares. This is shown at A on the photograph of illustration I. The weaving of two rows of squares at a time makes the only "catch" in this technique. The design must be so arranged that there are always two squares, or a multiple of two, in the unit of design as it progresses in the warp direction. It is not necessary to have an even number of squares in the width of the design. See fig. 1.

After the first row of the pattern has been counted out properly, and the pattern set correctly, most of the hard work is done. Until the technique is mastered, it is easier to work with heavier warp threads or with pairs of warp threads.

Fig. 2 will explain the weave easily. There are sixteen warp threads in the diagram—eight pairs. The 1-2 harnesses are raised; the weft thread begins at A and passes over alternate pairs of threads. Then the 3-4 harnesses are raised and the weft thread returns to the right side, passing over alternate pairs of threads. The diagram shows four plain weft shots before the twisting begins. The 1-2 threads are raised and held to the left while the 3-4 are picked up, then the 1-2 are dropped below the shuttle and the same procedure repeated on the next four threads. To make the solid part of the design, the shuttle carries the thread through the shed as it stands open, without twisting the warp threads—in the diagram, this is over two pairs of threads and under two

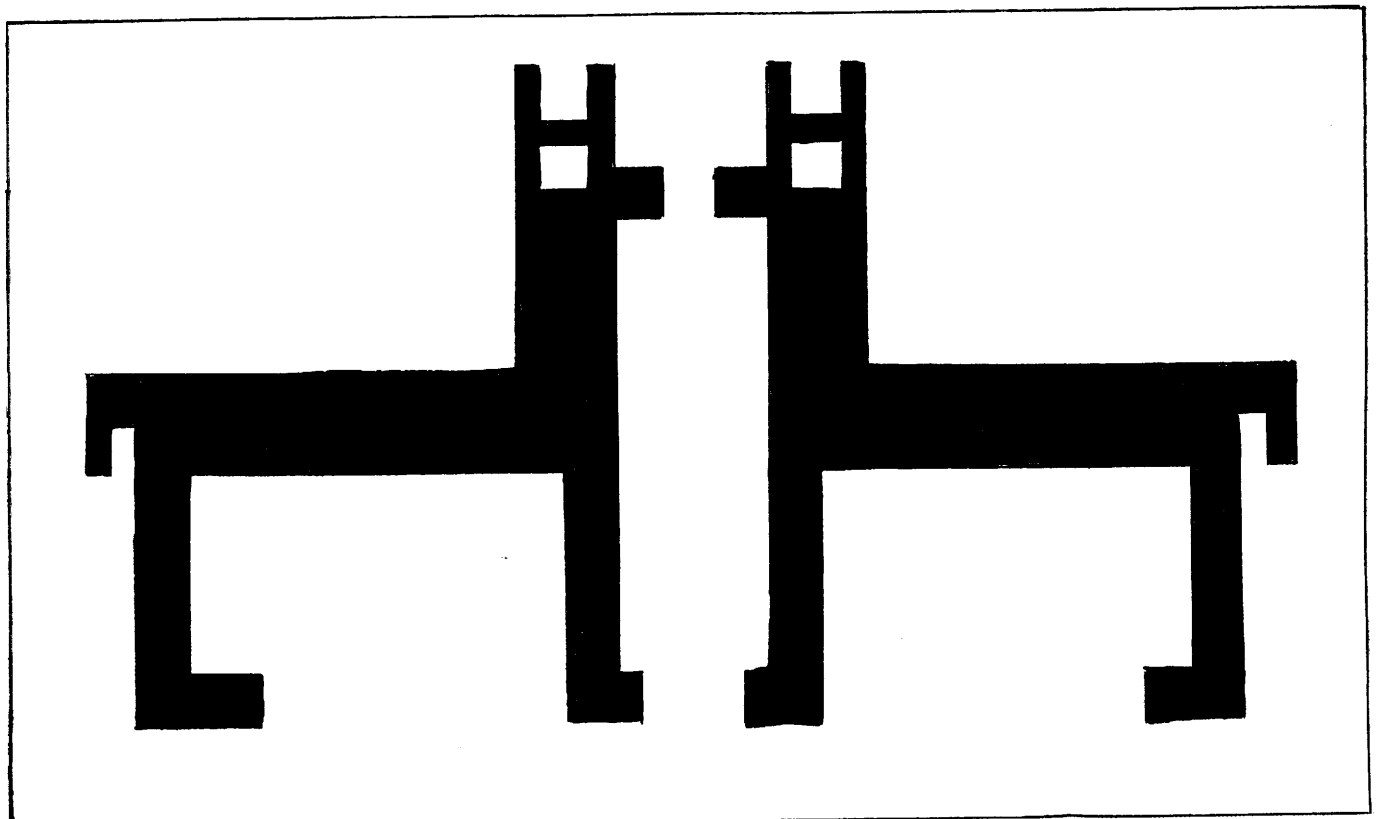


FIGURE 4

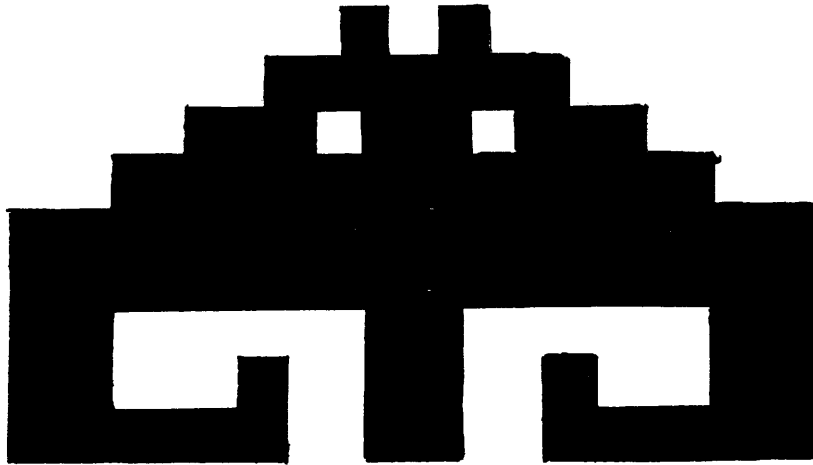


FIGURE 1

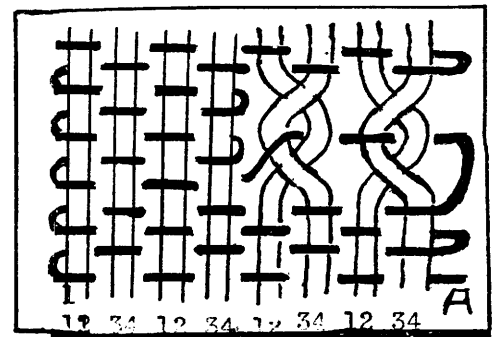


FIGURE 2

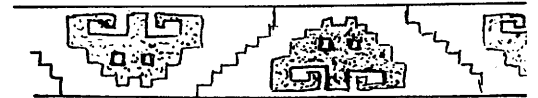


FIGURE 3

pairs—to the edge of the solid block of pattern. The shed is changed, bringing up the 3-4, and the weft is returned over two pairs of threads to the last twist. Again the shed is changed and the weft is taken back to the left. Because the twist does not allow close packing, it takes three tabby shots to fill in the space on the warp equal to that caused by the twist.

It will be seen that the pattern is laid in by a method not so different from the old Spanish “Red-de-Telar” or loom-net. I wonder if the ancient Peruvians would approve of a Spanish adulteration of their art. From the vantage point of the twentieth century, it seems rather logical. It is the addition of the Spanish that distinguishes this technique from the “Woven Lace” as described in *The Weaver* for July, 1938.

The return of the weft thread over the twists will take as much space on the warp as did the weft thread that caused the twist. That distance must be compensated for by adding two more short weft threads to the space, first over 1-2 then over the 3-4, bringing the weft to the left of the plain weaving. With the 3-4 harnesses raised, the weft is taken to the right of the work, to be ready to start on the second group of squares.

If one were weaving the Llamas of fig. 4, the pattern would be laid in as follows: make five twists; weave three shots of tabby back and forth over five threads and under five threads; make twelve twists; weave over three and under three for three weft shots; make three twists; weave plain for the fore foot of the second Llama; make twelve twists; weave the hind foot; make five twists.

Fig. 3 is copied from a Natural History Museum Leaflet by Charles W. Mead. It shows a fish design as woven in a tapestry belt. It served as a design source for the top part of the sampler shown in illustration I. The weft used there was No. 9 Perle cotton, but if the same yarn as the warp (10/2) had been used, it would have been better, for the weaving would have been more nearly square. The method employed in weaving the fish design is exactly the same as that used for the Llamas below it, but it was woven on the regular tabby of 1-3 against 2-4, and single warp threads were crossed instead of pairs. Weaving this part of the sampler showed that it is much better to have plain tabby along the selvages. It is easier to keep a good edge, and too, there is not the tendency to pull in.

Fig. 4 is a pattern for Llamas arranged after D’Harcourt. It is not the one used on the sampler, but a corrected one. The attempt at toes on the woven piece was a bit of cheating on the weave and was not too successful. Illustration II is an enlarged view of the woven cloth and shows more clearly the construction.

We almost felt that we should apologize to that master-weaver of centuries past for the liberties that we took with her invention of gauze weave; but we consoled ourselves with the thought that she would appreciate the pleasure that we derived from doing something different, and that she would accept as sincerest flattery our efforts to imitate her art.

CONTEMPORARY AMERICAN HAND WOVEN TEXTILES

An Exhibition Assembled for Museum Showing

by LOU TATE

An exhibition hanging in a museum will seem perfect. Yet, to the ones assembling the exhibition, there will be many imperfections. Just as in viewing the front of a tapestry a visitor sees the finished surface as a whole, whereas the maker knows each minute imperfection and the ragged ends in the back.

In assembling this coming exhibition, I know many imperfections and have many, many ragged ends on the back. I hope you received an announcement and are participating in the exhibition. If you are not, I want you to know a few of the details and to help me remedy some of the imperfections for future exhibitions by helping with those exhibitions.

For several years at the loomhouse in Louisville, loan exhibitions for various outstanding weavers have been shown to stimulate local weaving growth. We noticed that we had a large number of lay visitors who were sincere in their desire to learn about the best contemporary American handweaving. In the little exhibition in the fall of 1938, over five hundred visitors came to the loomhouse. That is a high number for a small gallery. Most of these visitors were interested in studying the small mimeographed catalogue.

The interest in this exhibition, led to its being repeated on a larger scale at the J. B. Speed Memorial Museum where a full showing of contemporary handwoven textiles could be made and where the number of visitors could be well accommodated. As before, we worked spare time, with a limited knowledge of the total number of weavers in the United States doing good weaving, and the limited funds. Yet the response to the 1939 exhibition was such that five museums asked to have a similar exhibition.

It must be remembered that again we are working in spare time, with a limited list of weavers, and with partially limited resources. Both the local group and the out-of-town jury are giving their services and expenses so that the funds may go to the catalogue and the awards.

I wish to outline the basis of this exhibition and of any future exhibition:

First, a weaving exhibition should usually be open competition with the final selection made on the quality of the handwoven textiles. This exhibition is open to any handweaver in the United States. Our invitations were limited, because our knowledge was limited. If your name was not on the list, will you excuse our ignorance and remedy our error by indicating that you would like to work with us in any future exhibition.

Second, the date for entries to reach Louisville in this exhibition closed Feb. 9, 1940. Each exhibitor was asked to pay transportation to and from the exhibition. If it is too late for you to participate in this exhibition, make your suggestions now for a future one. By eliminating mistakes now, we will have the details of the next one prepared sufficiently in advance so as not to miss any good weavers.

Third, both the weavers and the laymen can well benefit thru the interchange of ideas. In order to put the best of the exhibition in a form for many people to use, we are devoting most of the funds to the catalogue. Instead of each museum having its own catalogue, the combined one can

be larger and can have ten photographs. The contents will be determined by the weavers.

A catalogue committee of fifteen from as many different groups in as many sections of the U. S., will outline the form. The jury will decide the photographs and items to go into the exhibition.

In addition to the printed catalogue, handmade ones with all the photographs and biographical details of the weavers will go to the museums in advance so that the museum will have full information and so that any inquiries concerning the individual textiles or weavers may be answered adequately. Either catalogue will be available to those interested in American folk art growths in handwoven textiles at cost.

Fourth, a truly national exhibition should show the composite opinion of the whole number rather than one group or one school. Hence, we ask the individual weavers to express their opinions on the awards and catalogue; the catalogue committee represents fifteen distant groups; the jury is composed of six different viewpoints with the members being: (From nearby groups.)

Artist—John Bauscher, Director, Louisville Art Academy, Louisville.

Museum—Carleton V. Earle, Cincinnati Art Museum, Cincinnati.

Amateur Weaver—Stella Holly Stocking, Detroit.

Textile Authority—Cornelia Stone, Coverlet Guild of America, Kankakee, Ill.

Professional Weaver—Lou Tate, Louisville (to do the actual work of putting composite opinions into catalogue form for printer).

Weaving Teacher—(acceptance has not arrived from nationally known teacher who indicated he planned to accept).

Fifth, the awards were first planned as a friendly gesture by the Louisville group and were of minor value. However, several other groups offered awards and several funds indicate a surplus so that the total value is estimated at about \$200.00 or over. The basis—whether cash or cash and medals, whether a few large, or several smaller in each main type of weave—will be decided by the participating weavers.

Sixth, inasmuch as several groups have offered their support in the awards, the participation of their weavers, and the showing of the exhibitions, it looks as if those of us interested in our American folk art development have the basis for a good annual exhibition of value both in stimulating interest and in a material way.

The exhibition will have a preview in Louisville, Feb. 10 thru Feb. 25, 1940.

It will first be shown fully at the Cincinnati Art Museum, Eden Park, Cincinnati, Ohio, March 2 thru March 25.

In April from the 7th thru the 28th, it will be at the beautiful gallery of the Rundel Memorial Building at the Public Library, Rochester, New York.

As many will be interested in seeing the exhibition at the nearest point of showing, the complete schedule will be given in the next issue of *The WEAVER*.

FORETHOUGHT IN FIGURING

by OSMA COUCH GALLINGER

Forethought in figuring a fabric ahead of time, planning the warp and weft, knowing just how much of each you will need, how many yards of this particular thread is contained in a pound and therefore what part of a pound you will need to buy — is both a time saver and a money saver. To guess at amounts and either run short or have a surplus is not economy. Being ahead of the game and conscious of the adequacy of one's raw materials gives great satisfaction and enjoyment. Possibly you have our thread chart which contains the material for this information, but in addition it is wise for the weaver to make yarn calculations himself. After all, units of measure have been established as guides to go by.

A short history of our measurements, as adopted in the

United States from England, may afford gratifying amusement to the weaver undergoing his first experience in figuring yardage, the points mentioned being taken from a folio on the subject published by Henry Ford.

In 1324 Edward II decreed that three barley corns taken from the center of the ear, placed end to end, equalled an Inch—a Foot ranged from $9\frac{3}{4}$ inches to 19 inches. A "Cubit" was the first known measurement, and this was about 20 inches, the length of the forearm from point of elbow to end of middle finger. The "Digit" was the breadth of a finger, from .72 to .75 inch. The "Palm" was the width across an open hand at base of fingers, about 3 inches. In the 16th century the lawful "Rod" was the length of

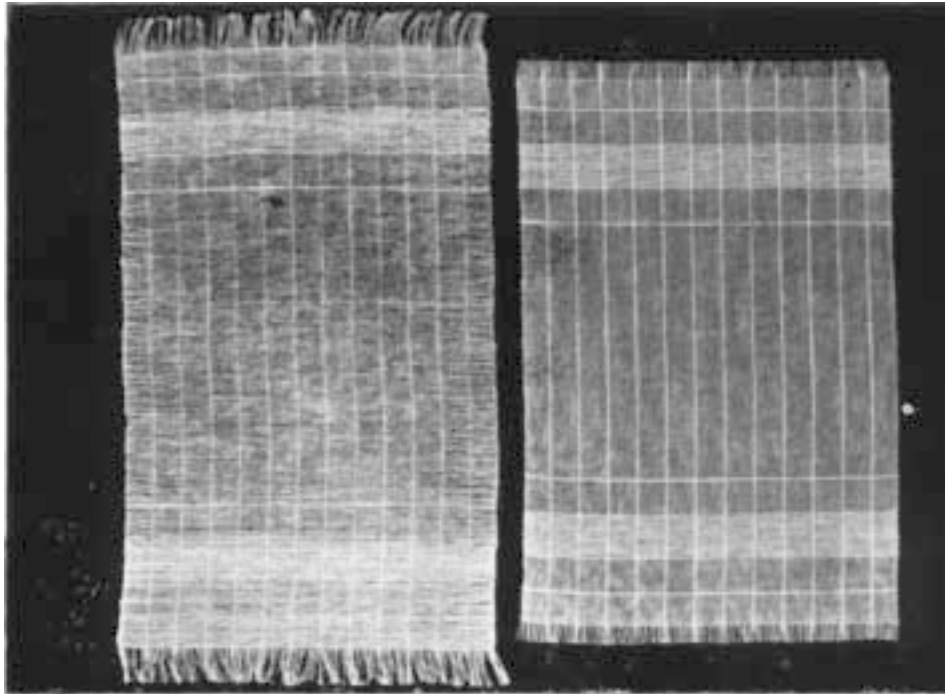


Figure III. This photo shows two doilies made with exactly the same kind of thread and the same design. In the lower one, the warp was set too far apart and resulted in a texture that slipped apart; in the upper one the warp is perfectly set and the texture resulting adds beauty and strength to the design.

FIGURE I. THREAD PLAN FOR HONEYSUCKLE PATTERN •

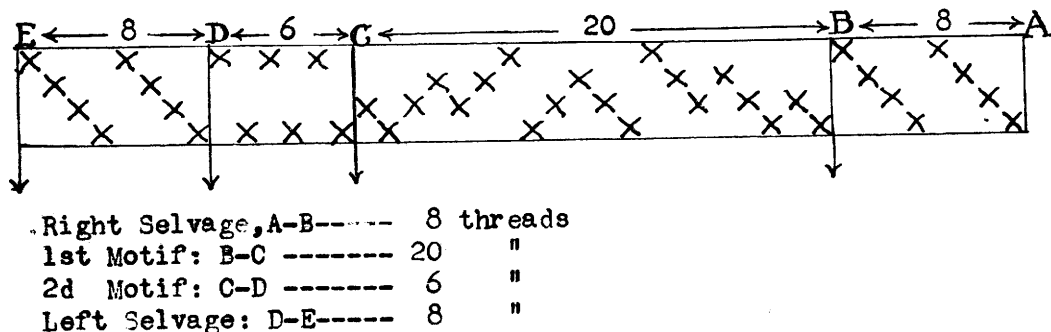
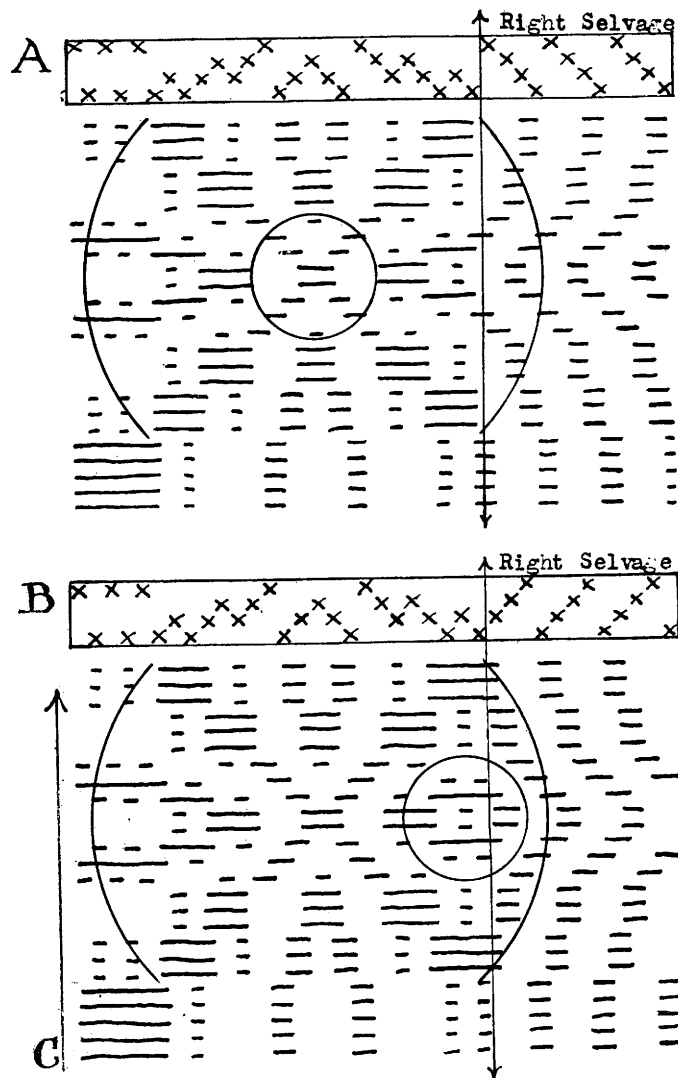


FIGURE II. ILLUSTRATING SELVAGES RUNNING IN SAME DIRECTION AS PATTERN, A, AND IN OPPOSITE DIRECTION, B.



Planning Selvage

With selvage planned at the sides of a draft the woven edge will have the pleasing effect shown at A and B. The selvage at A travels in the same direction as the first figure of the pattern, and blends into it nicely, as shown. Here the center of the first motif is enclosed in small circle, and the edge of the motif in the large circle. The selvage serves to set it off. At B, the direction of the selvage opposes that of the first motif and the result is rather confusing, for the opposition of the selvage with the first motif makes a little diamond, shown by small circle at B, which interferes with the first motif and rather destroys its effect. In planning selvages, therefore, make the selvage travel in the same direction as the first figure. One can readily see what would happen if the draft ended at the finish of a repeat, as shown at C. The woven edge would be rough and unattractive. One therefore plans one's draft to make a perfect balance at right and left, with a bit of selvage for smoothness at the edge.

the left foot of 16 men lined up as they left church on Sunday morning. In Britain the Roman Foot became merged with the Anglo-Saxon measures which also contained the Fathom or length across the two arms outstretched, equal to 4 cubits or 6 feet. Under the Norman kings, half-a-fathom or one arm outstretched from the middle of the body was found to be a more convenient length, particularly for measuring cloth, the most important trade. Thus, the "Yard" of 3 feet arose, and a bronze yard bar was kept as the standard of Reference in the King's Exchequer. Henry I decreed the distance from the point of his nose to the end of his thumb was the lawful yard.

Very few of these measures have survived in exactly the same amounts as they were at the start, but the new standards have been guided more or less by them. The interesting point is that practically all of our units of measure started by distances taken from parts of the human body, often of a royal personage. Our thread units go back to the same origin. The size of a "Skein" was 54 inches, a measure figured from the length of the forearm of one of the English kings, this probably being double the length, or twice around as we wind yarn about our forearms today.

How To FIGURE YARDAGE AND SIZES OF THREADS
Cottons

Yarn Size. The sizes of cotton range from the lower numbers for the coarse yarns, such as Nos. 3, 5, 10, etc. to the higher numbers for the fine yarns, such as Nos. 20, 30, 40, etc. A "Unit" or "Hank" of cotton consists of 840 yards. This is purely an arbitrary ruling and originates from the ancient English system. The unit of measure was a "Knot" or 60 yards, and there were 14 knots in one skein or 840 yards. The size of the "Skein" was 54 inches. If this 840 yards is reduced to inches we find that there are 560 rounds in a 54" skein to make 840 yards of thread.

The size of yarn, such as yarn size No. 20, was figured according to the number of hanks of it necessary to make a pound. For instance, in the case of Size No. 20, it takes 20 of the 840-yd. hanks to make a pound, or 16,800 yards. This particular number or size yarn has a certain diameter of thickness, and a variation to a less or greater thickness would produce more or less yardage per pound. So we grow accustomed to this size as representing a certain definite diameter, and can usually tell the size by sight or feeling between thumb and forefinger. In the mills they test size by taking from 8 to 12 strands of the yarn about 3 inches long, twisting them hard together between the thumb and finger, and comparing them to a bunch of threads of the next size yarn treated in the same way. They do this because they know that in some spun threads there is a variation in size and one cannot be sure by taking a single yard. The variation along the length is greater in silks, wools and linens than in cottons, however. Size, then, refers to the diameter or thickness of the strand of thread, and the number of yards of it necessary to make a pound.

The "PLY" of a Yarn. "Singles" yarn refers to thread which is composed of only a single continuous length of fibers, and constituting only one strand in cross section. There is very little twist to "singles", just enough to hold the fibers together. This type of yarn is generally best suited for use as weft, because the fibers tend to pull apart when subjected to any strain. However, when two of these strands are twisted together, we have what we call a two-strand or two-ply yarn. Likewise three strands may be twisted together to form a three-ply; four to form a four-ply yarn, etc. Yarns may have any number of strands and the thread companies go as high as 12 to 16 strands in making multiple

yarns such as candle-wicking. Our everyday sewing thread is a "6-cord", a strong tightly twisted sewing thread composed of six strands. The "ply" of a yarn, therefore, refers to the number of strands found in a cross-section of a piece of that yarn.

Yards per Pound. We are now ready to determine the number of yards per pound in any given size yarn. It was stated above that it took 16,800 yards of Size No. 20, "singles" to make a pound, or 20 units of 840 yards each. In the case of 20/2 ply yarn, where two No. 20 "singles" strands are twisted together, we find a yarn double the size of 20/1 or "singles". Obviously then, there would be half as many yards per pound to this yarn. We therefore divide 16,800 yards by 2, and find that 20/2 ply cotton has 8,400 yards per pound. In the same way, 20/3 ply yarn would be three times the size of 20/1, and we divide 16,800 by 3 to find that 20/3 ply cotton has 5,600 yards per pound. The rule we have discovered is this: to find the number of yards per pound for any size cotton yarn, multiply the number of yards in one unit, or 840 yards, by the count or size of the yarn in question, then divide by the ply. Here are a few examples:

For 20/2 ply: 840 times 20 equals 16,800; divided by 2 equals 8,400 yards per lb.
 For 30/2 ply: 840 times 30 equals 25,200; divided by 2 equals12,600 yards per lb.
 For 30/3 ply: 840 times 30 equals 25,200; divided by 3 equals 8,400 yards per lb.
 For 24/3 ply: 840 times 24 equals 20,160; divided by 3 equals 6,720 yards per lb.

Although we figure on the count of 840 yards per unit, they say at the mills that this yardage is lessened when it comes to the actual yardage count in pounds of thread purchased. The exact amount of 840 yards does apply to 20 "singles", but when any twisted yarn whatever is figured, the twist takes up some of the yardage. About 40 of the 840 yards in a skein are taken up by the twisting of the strands of the yarns as 20/2, 30/2, etc. Therefore in figuring yardage always allow a margin.

Wools

For wools and worsteds the length of skein and count of yarn is the same as for cotton, but the count is very seldom used in retailing the yarns in small lots. The diameter of the skein varies but should be 54 inches. European worsteds are generally put up on a 72 inch reel. But wool of any kind is so subject to shrinkage in treatment, that it is almost impossible to rely upon the length of a set skein and the consequent standard count of the yarn.

Linens

A "unit" or hank of linen consists of 300 yards. Again this is an arbitrary ruling but we must accept it, and figure on quite a different basis from that used for cotton. However, the rule is the same. For obtaining the number of

yards per pound, multiply the number of yards in one unit or 300 yards, by the count or size of the yarn in question, then divide by the ply. For instance:

For 40/2 ply linen: 300 times 40 equals 12,000; divided by 2 equals6,000 yds. per lb.
 For 20/3 ply linen: 300 times 20 equals 6,000; divided by 3 equals2,000 yds. per lb.

HOW TO FIGURE A WARP

Planning the Warp. The following questions are important to decide upon when purchasing your warp.

1. What size and ply thread is needed? (No. 20/2 cotton, means size No. 20, 2-ply)
2. How many threads per inch, and what dent reed will you use?
3. How wide do you plan to set your warp? (Always allow at least 1 inch per foot for shrinkage)
4. What length warp do you wish?

Estimating Amount of Warp to Buy. With the above information we can easily find out how much warp in pounds to buy. For instance; taking a sample warp,—

1. Size thread: 12/3 toweling warp.
2. Threads per inch: 20.
3. Width in reed: 20 inches.
4. Length of warp: 25 yds.

To get the total number of threads across the warp, multiply the number per inch, or 20, by the total width, 20 inches, giving 400 threads across warp. If these threads of the warp are to be 25 yds. long, multiply 400 by 25, to get total number of yards in warp, or 10,000 yards. Now since there are 6,720 yds. in a pound of 12/3 ply, find out how many pounds it will take to furnish 10,000 yds. of warp by dividing 10,000 by 6,720. The result is 1.48 times, or nearly 1½ lbs. necessary. The cost of the warp will therefore be 1½ lbs. at \$.75 or \$1.13. To get the cost of the warp per yard, divide \$1.13 by 25 which gives \$.04½ per yd. To figure the cost of the weft per yard, if the weft is the same material as the warp, the amount used will be about the same if an even tabby is to be woven, so double \$.04½ to get total cost of warp and weft, i.e., \$.09 per yard, or about \$.03 per running foot. If you plan to use a weft of another material, or if you have more threads of weft per inch than of warp, figure as follows:

1. How many threads of weft do you weave with the material along 1 inch of warp?—For instance, 22.
2. How far is it across the warp, i.e., once across with one strand of weft?—20 inches.
3. To get the amount of thread used for 1 inch of weaving, multiply 20 inches for each time across by 22 threads in 1 inch of weft, i.e., 440 inches, or 12 2/9 yards.
4. To get the amount of thread used for 1 yard of weaving along warp, multiply this amount, 12 2/9 yds. in 1 inch, by 36 inches, which gives 440 yards.

- To get the fraction of a pound that this will be, see how many yards per pound come in this material. Suppose we are weaving with 10/1 linen weft, 3,000 yards per pound. This amount divided by 440 yards, the amount of weft needed for 1 yard of material, gives 6.8, or 1/6.8 of a pound. Since 10/1 linen costs \$1.10 per lb. we will multiply \$1.10 by 1/6.8 to get this portion of a lb. or \$.16. Add this amount to the cost of the warp to get the total cost of material used in 1 yard:

Cost of Warp per yard:	\$.09
Cost of Weft per yard:	\$.16
Total cost of 1 yard:	
	\$.25

The rule to follow for obtaining amount of weft necessary for 1 yard is: Multiply distance in inches across warp, (such as 20") by number of rows necessary for one woven inch such as 22 rows; then multiply this result by 36 to get total number of yards of weft in 36 inches of woven material.

MAKING A THREADING PLAN

The warp plan is now complete as follows:

- Size thread: 12/3 ply.
- No. of threads per inch: 20.
- Width in reed: 20.
- Total No. of thds. 400, (Item 2 multiplied by item 3).
- Length of Warp: 25 yds.
- Amt. of warp to buy for 25 yards: 1½ lbs.
- Amt. of weft to buy to weave up this amount: about the same.
- Cost of material per woven yard, including warp and weft, if weft is the same: \$.09.

Our next step is to choose a threading pattern and make a plan by which the pattern will be placed at the center of the warp, with an even number of selvage threads at each side. To figure the number of times a given pattern will go into a certain number of warp threads, divide the total number of warp threads by the number of threads in one repeat of pattern, and if any threads remain use these for selvage, or plan to add more warp threads for selvage if needed. For instance, in the Honeysuckle pattern given in draft of Figure 1, there are 26 threads in one repeat of the pattern without the selvage, i.e., from B to D. If the warp has 400 threads, we divide 400 by 26, and find that it will go 15 times with 10 threads left over. In other words we can thread 15 repeats of the honeysuckle across this warp, and have 10 threads left over for 5 selvage threads at each side.

We find, however, that we often need to plan more carefully than this in order to make our pattern the same

at both right and left sides. For instance, in a regular threading plan like the above, the lay-out consists of a selvage, A-B; the first motif of the pattern, B-C; the second motif, C-D; and the left selvage, D-E. If we thread our warp with 15 complete pattern repeats, we will begin with motif B-C, but end up with motif C-D. In weaving the pattern this shows up as an unsymmetrical arrangement. Therefore we plan to add motif B-C after the total number of repeats to make the left side of our threaded warp similar to the right, and if there are not enough threads left to cover this added motif, we must take out one repeat to give enough. Figuring this out step by step:

- To get the number of repeats, divide total number of warp threads, 400, by number of threads in one repeat of pattern, or 26. The result is 15, with 10 threads left for selvage.
- This 10 threads will not cover motif B-C. If we wish to add this motif to make pattern symmetrical, we must take out one repeat to provide enough threads. This gives 14 complete repeats of pattern, with the added motif B-C of 20 threads to finish left side; as follows:

14 repeats of 26 threads	364 threads
Added motif, B-C only	20 threads
Total	
	384 threads

Subtracting 384 from total number of threads, 400, leaves 16 threads for selvage, 8 at right and 8 at left. The complete threading plan therefore becomes:

Right Selvage, A-B	8 threads
Pattern, B-D, 26 threads, re-	
peated 14 times	364 threads
Added motif, B-C only, to	
make pattern even	20 threads
Left Selvage, D-E	8 threads
Total	
	400 threads

Direction of the Selvage. In general the selvage should be written in the same direction as the pattern. Note in the above draft, that the threading of the pattern proper starts at the lower right, on 1, 2, 1, 2, and ascends left from 2, 3, to 3, 4; and note that the selvage rises in the same direction, 1, 2, 3, 4. This makes a softer line between selvage and pattern-proper in the weaving of the fabric than if it were written in the opposite direction. For instance, if the selvage were written, 4, 3, 2, 1, a sharp angle would be formed between selvage and pattern. Some folks may prefer this, but in general the selvage should blend off to the edge and not be emphasized. In Figure II, both types of selvage have been developed, and one can see at a glance the interposed triangle made by writing selvage in opposite direction from draft, shown at Figure 2, B, small circle.



Photograph of the Second Session of the National Conference of American Handweavers, held at Waldenwoods, Hartland, Michigan, the last two weeks of June each year. Delegates from sixteen states are represented. The conference is managed by the Creative Crafts School of Weaving, Howell, Michigan and supervised by Mary Meigs Atwater.

New Features in National Conference of American Hand Weavers

by OSMA COUCH GALLINGER

Conferences for handweavers are growing increasingly popular and possible. Dotted here and there throughout the country are centers where such constructive affairs are endorsed. In one place a museum of art is glad to sponsor the conference; in another, a group of weaving enthusiasts; in another, a college. Directly following our conference at Hartland, Michigan, Mrs. Atwater left by plane for three others following in close succession—at Edmonton, Canada; Vancouver, B. C. and at Victoria, B. C. Our own equipment was requested at the summer session of the Progressive School of the University of Michigan where we conducted a four weeks' weaving school, giving a brief survey of the craft to professors and their wives, students and teachers. Every weaver knows of the Penland Conference in North Carolina with its delightful atmosphere. Conferences may differ in atmosphere and activity, but they are all related by one common factor—the sincerity and earnestness of those attending in a desire to know better methods of weaving. Folks from all walks of life attend—home weavers, grade teachers, home economics teachers, art teachers, social workers, decorators, psychologists, business people, house-

wives. Weaving, like music, offers a common language to all, and weavers at conferences become a gay constructive family.

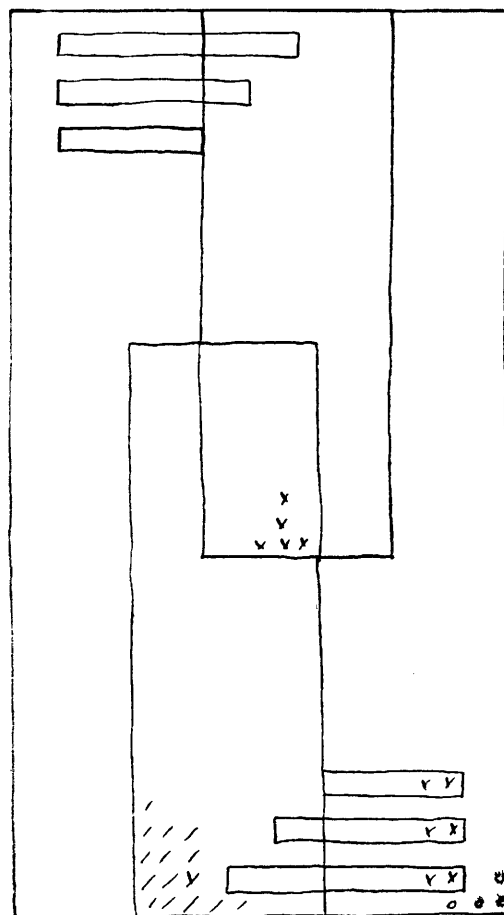
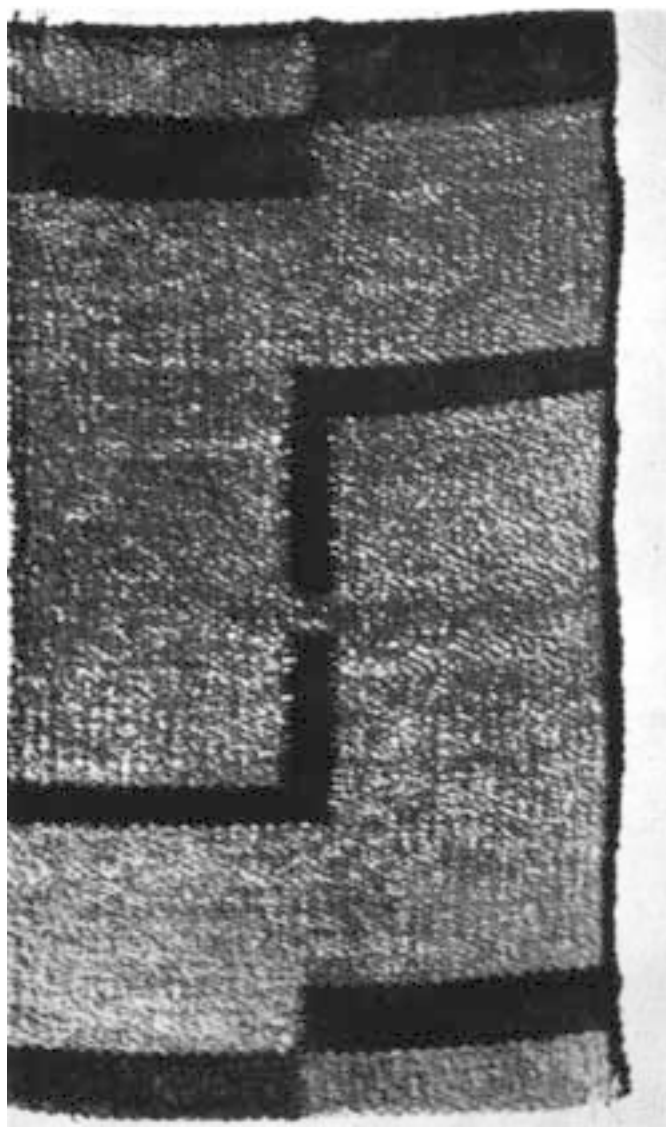
So great was the eagerness to know more and better weaving at our conference, that it was an easy matter to arrange daily schedules. No work was permitted evenings, so that there might be plenty of chance to rest and gather strength for the projects of each coming day. Too, the call to investigate the wild life sanctuary of Waldenwoods (named for Thoreau's Walden) resulted in both physical and spiritual reinforcement.

As for weaving equipment, there were as many looms as people, and each day students signed up for the desired pattern on a chart. Sessions began fifteen minutes after breakfast, and thereafter there was a steady buzz of activity—looms singing away, the whir of bobbins, occasionally an exclamation of delight over a new-found discovery, sometimes a bit of a whine over an error that had to come out—but once again the "song of the loom and the music of the shuttle that doth not change."

(Continued on page 30)

THE MODERN RUG

by DOROTHY S. ROBERTS



Gold o
Green x
Rust /

D. Stone

The small scatter rug is indispensable in the modern home. Frequently a special design or color harmony is desired to express one's individuality, and the hand loom provides the solution most adequately.

The rug and the design illustrated are both woven with chenille. Sley one thread to the dent in a fifteen dent reed, doubling the two threads on each end for the selvage. Thread a four harness loom for plain weaving, as the treadling is done on 1-2, 3-4 alternately.

The size of the rug is 21 by 38 inches. The materials are as follows:

Natural
Carpet Warp
Cotton Chenille
Gold No. 2111
Green No. 2753
Rust No. 2014

The technique is that of the tapestry weave, only interlocking the design where the two colors meet around a neutral thread of the warp (this will include two threads). An important feature in weaving with chenille is to remember to leave the weft slack enough after it is put through the shed, so that it may be firmly packed with the beater completely covering the warp.

When following a rug design, it is very convenient to work with a cartoon. Draw the design actual size on a sheet of light paper in black crayon and pin under the warp, so it can be followed exactly. This is illustrated with the accompanying sketch. Sometimes a thumb nail sketch painted in water colors is helpful as a color guide.

About three inches of weaving with the carpet warp should precede the chenille. Then, when finishing the rug, this can be folded back and hemmed down firmly on the wrong side. Rugs of this type are more satisfactorily woven* from the wrong side, like all tapestries.

"DORNIK" AND SOME "FANCY" TWILLS

by MARY M. ATWATER

In two recent articles an attempt has been made to give a slight idea of the variety and interest to be found in that simplest and most useful weave, plain twill. Before leaving the subject I wish to give a few notes on some of the twill variations.

Foremost among these variations is the familiar "Herringbone-Goose-eye" threading shown at (a) on diagram No. 1. It is unnecessary to enlarge upon this pattern as it is known to practically all weavers, and the draft is included simply for purposes of comparison. When the four treadles are woven in 1, 2, 3, 4 order and repeat the herringbone figure is woven, and when one weaves: 1, 2, 3, 4,—repeated four times and then 4, 3, 2, 1, repeated four times, the little diamond figure we know as "goose-eye" is the result.

Students of draft-writing will realize on reflection that this simple pattern is the framework of all the varied patterns we have for the four-harness overshot weave. But there is no space at this writing to go into this fascinating phase of the subject.

Though the herringbone weave in this simple form is used a good deal for such things as linens, blankets and tweeds, it has one draw-back: on the 1-2 and the 3-4 sheds there is a skip of three threads where the twill changes direction. For many fabrics this does not matter, but it gives an unpleasant effect in tweeds or other fabrics for clothing. It was probably to overcome this defect in the weave that the "Dornik" version of the herringbone was devised.

According to Webster's "Unabridged" the name Dornik is derived from Doornik, a town in Belgium, where apparently the weave originated. But be that as it may, this is one of the most useful weaves we have for such fabrics as sports suitings, top-coats and the like. It is also an excellent weave for blankets.

The dornik draft may be written in a number of ways, a few of which are shown at (b), (c), (d) and (e), Diagram No. 1. The smallest four-harness form, shown at (b), provides a number of interesting texture effects. At (b-1) is illustrated the effect of weaving in the simple twill manner: treadles 1, 2, 3, 4 and repeat. The manner in which the opposing lines of twill meet along a straight line without overlapping is the characteristic of the weave that makes it differ from ordinary herringbone.

The figure illustrated at (b-2) is produced by treadling: 1, 2, 3, 4, 1, 2, 4, 3, 2, 1, 4, 3, and repeat.

The figures at (b-3) and (b-4) are the reverse of each other. That is, if you weave (b-3) on top you will have (b-4) on the other side of the fabric, or the reverse. Treadled: 1, A, 2, B, 3, A, 4, B, and repeat; or 1, B, 2, A, 3, B, 4, A, and repeat. It will be recognized that these are among the special treadlings for plain twill given in a previous article. Any of the other special twill treadlings may be used with the dornik threading and give effects that differ a good deal from the same weavings on either the plain twill or the ordinary herringbone threading.

Draft (c), Diagram No. 1, is for a weave much used for top-coats. This is illustrated by a woven sample. The effect is of large squares in opposite twill, meeting on a straight line. The squares may be made as large as desired by increasing the number of runs of twill in each square.

The draft at (d) Diagram No. 1 is for a small six-harness dornik. The effect, of course, is similar to that of the four-harness version but is bolder. This makes an excellent weave for couch-blankets or light automobile blankets. An interesting effect may be produced by using several colors in the warp, nine threads of each color. The weaving may be done in a single color or in the same colors as the warp in groups of nine shots of a color. For the herringbone effect weave the treadles in succession from 1 to 6 and repeat. (Tabby treadles have been indicated but these are merely a convenience for weaving headings; they are not used in weaving the fabric itself and can be omitted if desired.) For the little diamond figure treadle: 1, 2, 3, 4, 5, 6, 1, 2, 3, 6, 5, 4, 3, 2, 1, 6, 5, 4, and repeat.

Draft (e) is the eight-harness version, which is still bolder in effect than the six-harness weave. The treadelings, of course, follow the same plan and it seems unnecessary to set them down.

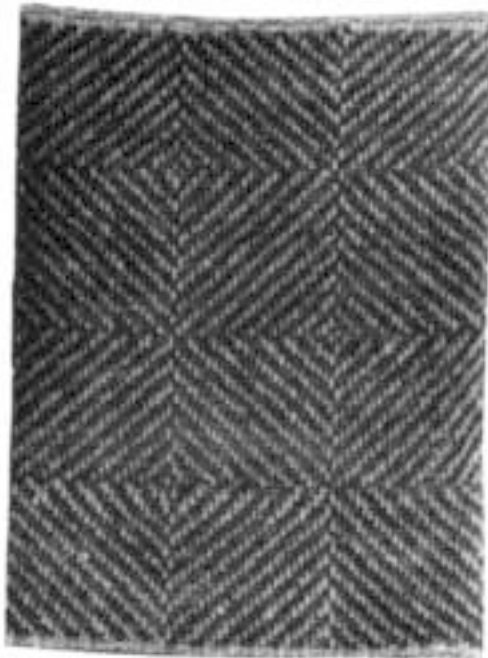
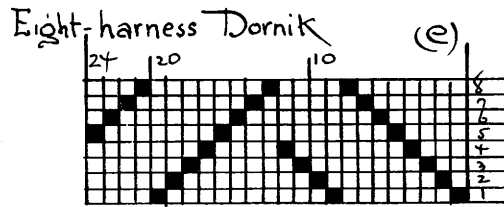
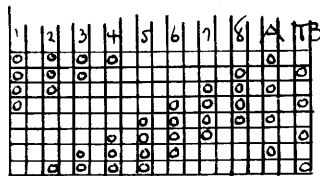
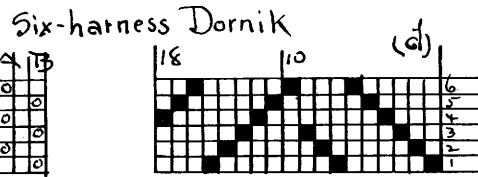
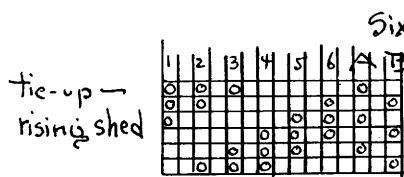
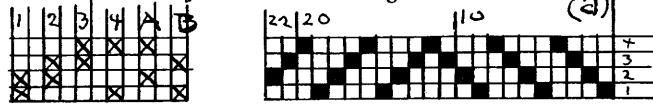
Of course the six-harness and eight-harness forms of dornik may also be woven in the special treadelings as given previously for six-harness and eight-harness twill, providing additional interesting and unusual textures.

Draft (f), Diagram No. 2, is a "fancy" four-harness twill specially designed for this article. It is similar in effect to the eight-harness fancy twill, draft (g), taken from my Shuttle-Craft Book of American Hand Weaving. Several ways of treadeling draft (f) are illustrated. At (f-1) is shown the plain twill treadeling, 1, 2, 3, 4, and repeat; (f-2) was woven as follows: 1, 2, 3, 4, 1, 2, 4, 3, 2, 1, 4, 3, and repeat; (f-3) was woven this way: 1, 2, 3, 4, 3, 2, 3, 4, 1, 4, 3, 4, 1, 2, 1, 4, 1, 2, 3, 2, and repeat. This method of weaving produces a very interesting effect that does not show in the photograph as clearly as it might. It would make an excellent coat-fabric and if done in coarse silks would be handsome for hangings. Moreover, the other special treadelings as given for plain four-harness twill when woven on this "fancy" threading produce a great variety of interesting effects.

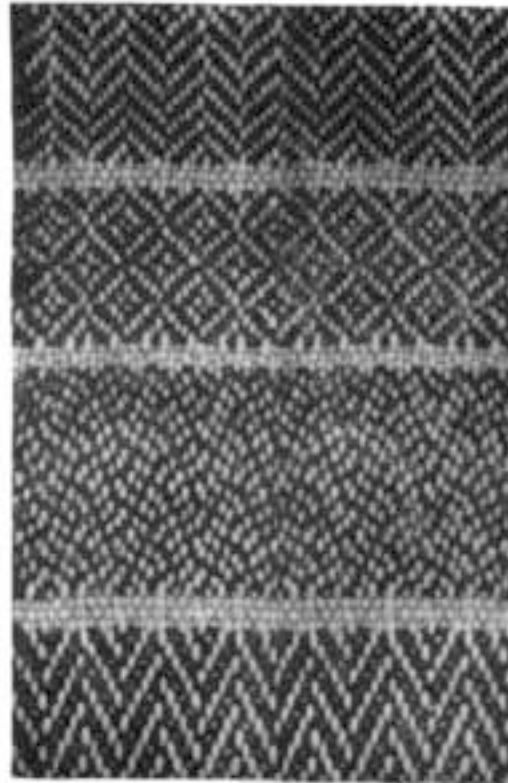
The draft at (h), Diagram No. 2, can be used for the double-faced twill weave as explained in a previous article, but by changing the tie-up many other interesting effects can be produced. Tie-up (h-1) weaves the effect illustrated. Treadle as follows: 1, 2, 3, 4, repeated five times; 5, 6, 7, 8, repeated five times. Tie-up (h-2) when treadled in the same order, weaves alternate squares of twill and tabby. Many other variations of tie-up will suggest themselves to the enterprising weaver. Any of the twill variations, for instance, may be made to weave on the alternate blocks, as the two textures shown at (b-3) and (b-4), Diagram No. 1.

Diagram No. 1

Goose-Eye and Herringbone



(c)



(b-1)

(b-2)

(b-3)

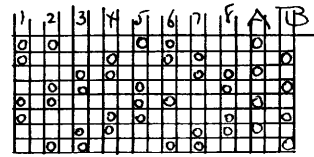
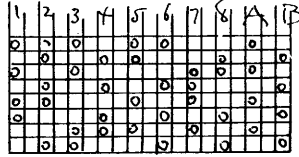
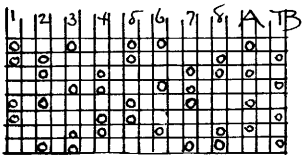
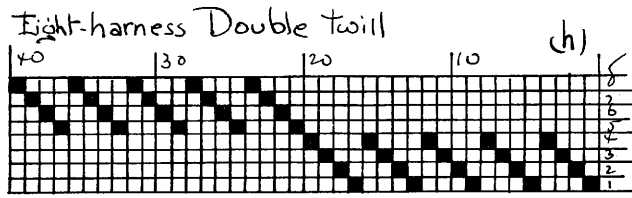
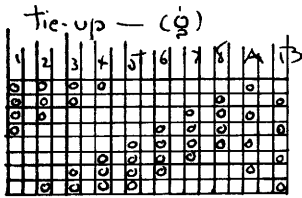
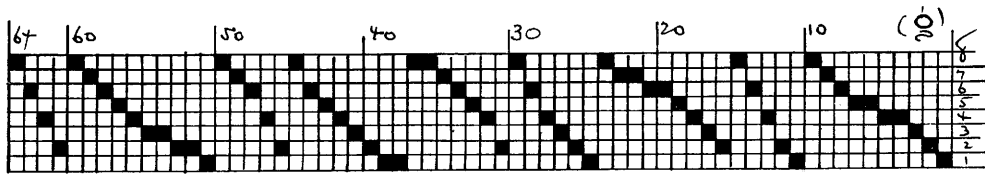
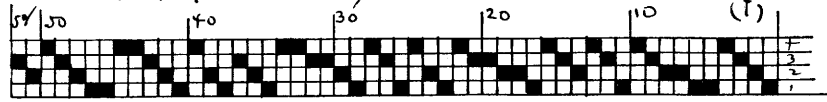
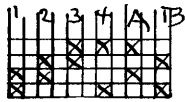
(b-4)

Another interesting aspect of the twill weaves is their use in greatly enlarged form as patterns—in such weaves as the summer and winter weave, crackle weave and so on—for various decorative uses. Patterns of this order are typi-

cal of the present style in decoration and are extremely handsome and desirable for hangings, upholstery, bags and so on. This can merely be mentioned in passing as space is lacking to enlarge on the subject.

Diagram No. 2

Four-harness Fancy Twill



tie-up (h-3)

tie-up (h-2)

tie-up (h-1)



(h-1)



(f-1)

(f-2)

(f-3)

As pointed out elsewhere, to cover the subject of the twill weaves at all exhaustively would require a very large book, and I wish to repeat that no effort has been made in

these articles to give *all* the twills, but it is hoped that the notes will bring to weavers an enlarged idea of what can be done with twill—undoubtedly the most useful of all weaves.

COVERLET SAMPLERS

by MARGUERITE P. DAVIDSON

Every weaver knows how difficult it is to form new patterns for over-shot weaving, just as it is almost impossible for a musician to compose new melodies. This comparison is an apt one, because both have a limited base upon which to work, weaving drafts appear similar to a music score and the pattern of each is arrived at in much the same way. It might be interesting to try the sampler idea in music. It has produced some unique results in weaving.

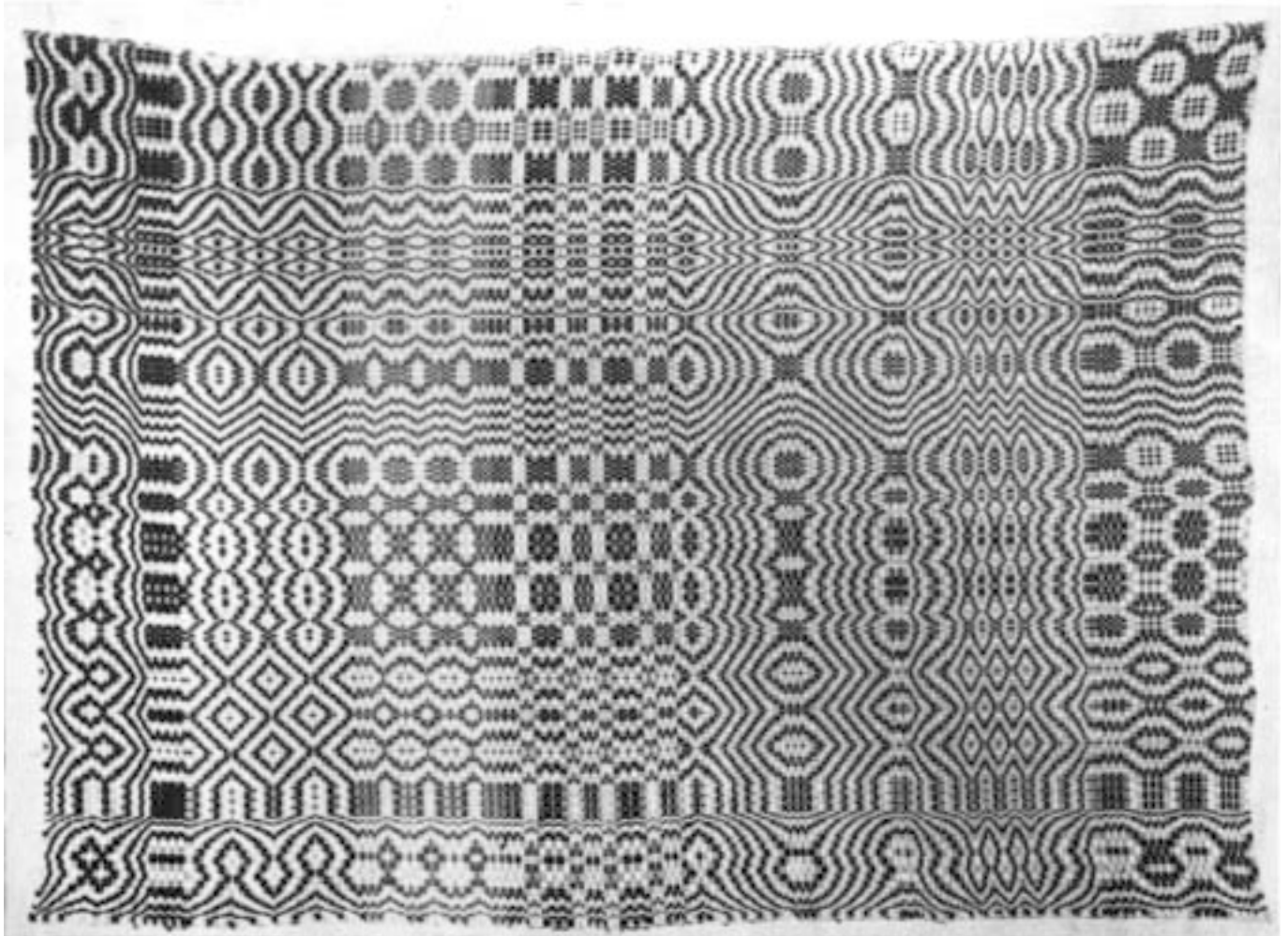
The suggestion for making these samplers came from a friend who is studying weaving in Switzerland. I have not seen her work, and when she wrote that she was setting in a number of designs and weaving them at the same time I did not see how it was possible, nor of what use it could be.

About this same time I received Lou Tate's Kentucky Coverlet Book, with its sixty beautiful old patterns. Coverlets have always fascinated me. I love to weave them and record the drafts; I like to study the combinations of borders and field and to work out irregular ones. I wonder that so many interesting combinations can be made with a few squares, and four combinations of treadles, aside from the personal story and romance in each one. They are a

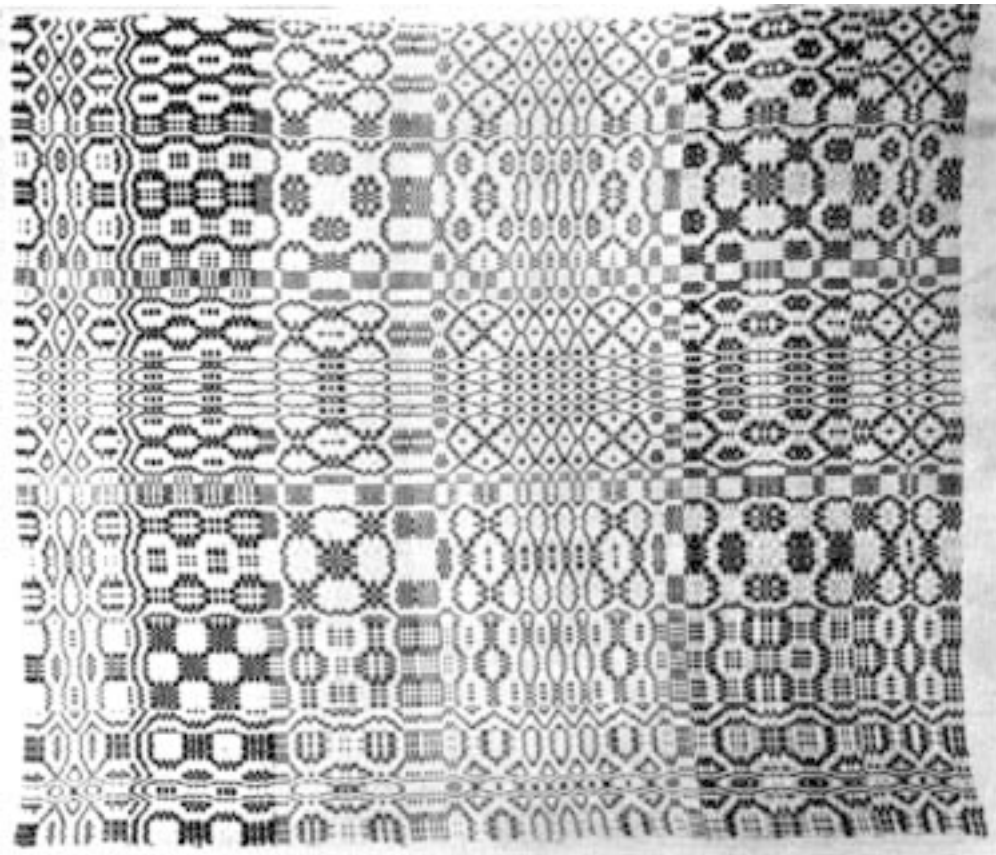
record of the innate beauty in the souls of those old weavers, whose lives held so much that was drudgery and sadness.

There never seems to be time to do all the coverlet weaving I wish and Lou Tate's book made me long to do them all and to see them before me in color. Then my friend's method came to mind, and I suddenly saw how I could do a number of them at once, using her sampler idea at the same time.

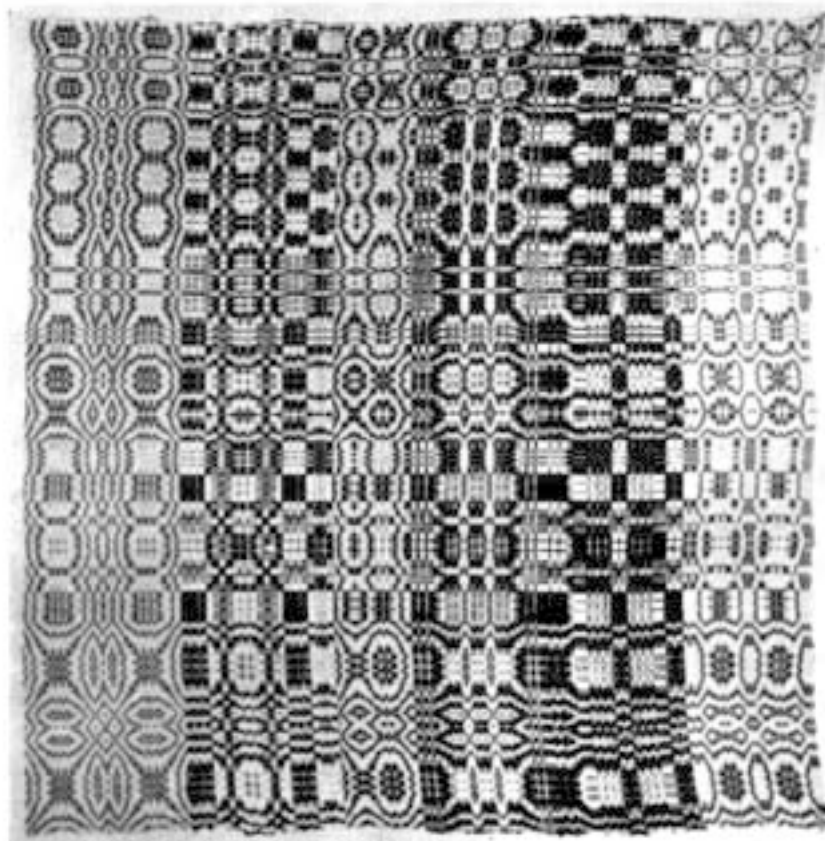
In looking over my "Weaver" and "Handicrafter" magazines, I now find the sampler idea is not a new one. Fred L. Copp, in the December-January number of 1932-33, gives some interesting variations of well known patterns developed "by drawing in three or four patterns, and then weaving them in order." He, however, developed whole blocks; weaving none of them as drawn in, but giving an original variation to each in turn, as I understand his article. In weaving my samplers, I did each as drawn in, and let the hybrid turn out as it would, starting with only the true draft of each, and having no idea what the result would be. Mr. Copp developed some very interesting squares and complete patterns. In my work, I seem to have more accidentals; so I am presenting the accompanying samplers for what they may be worth.



FIRST SAMPLER



SECOND SAMPLER



THIRD SAMPLER

I had on my loom a coverlet warp of a thousand and sixty odd threads. I divided this into six parts and it gave a hundred and seventy-six threads for each pattern, with some for selvages.

Selecting six typical patterns that would be complete in this number of threads, was a tantalizing task in itself. I finally took, first a quarter of the "Flourishing Wave" design, as I have woven many "Blooming Leaf" variations, and this was an addition to that collection. Then I used a section of the "Double Diamonds", as it does not appear among coverlet patterns, as often as one would expect from its simplicity. Next, I took a detail from the many "Snowball" patterns, using the two weavings of this draft. I selected "Wheel of Fortune" because I wanted a record of this draft, yet I doubt if I shall ever weave a coverlet of that "wheely" pattern. It seems too much of a good thing, except in a collection of many coverlets: I had just finished a "Governor's Garden"; because I admire this pattern, though I already had a record of it, I put it in my sampler, because the one illustrated had a different leaf corner design. Last I wanted a small block design, so I selected the unnamed simple pattern on page eighteen.

With these six designs threaded, and a selvege on the left and right, I wove first the "Flourishing Wave" according to its draft. The other five patterns had to follow this treadling, of course, and the illustration shows the outcome of this. Next I wove the "Double Diamonds" pattern according to its draft, and the remaining patterns assumed that treadling—and so forth with all the drafts in turn, giving two weavings to the "Snowball" pattern.

Before weaving this cross section of Lou Tate's collection, I had no idea I would get more than a weird jumble with a streak of sanity where each draft received its own treadling. The proving of these drafts was to be my reward for labor done. But as I proceeded, combinations kept popping out at me so fast, and were so fascinating that I could hardly work fast enough, and I forgot the world and family and duties, until I had finished all the designs and cut the sampler off and hung it where I could gaze upon it, and wonder at the outcome. I can see combinations there I am sure do not appear in any coverlets. The "Flourishing Wave" adapted itself to every treadling and will make a beautiful border. The "Double Diamonds" make interesting patterns to be used in stripes and borders.

I had used a different colored yarn for each pattern, so as to distinguish them from one another, yet I made selections that would harmonize;—brown at the top and bottom, soft green, rust, grayblue, and a dark oatmeal tan, with a combination of brown, rust and green in one of the "Snowball" treadlings, so the sampler is also pleasing as a panel on my weaving room wall, besides being a study in treadling.

The success of this experiment made me immediately turn to my book of unproven drafts, which I have collected for years in my wanderings, some of which I have forgotten what the weavings were like. From this sampler I did not get as many usable patterns, but it did put into tangible shape these doubtful ideas in my file, and it was a satisfaction to be able to work out six at once.

The first pattern was the "Queen Ann's Lace", which is unique and may be used for small all-over work. Next

was a block design from an old coverlet which my mother got in Berea, and proves to be almost the same as the small pattern from Lou Tate's book. The Berea coverlet had a variation of the twill border. Next was an extract from another coverlet of my mother's, which proves to be something of a "Single Chariot Wheel". It had a "Blooming Leaf" border, and was very well balanced, yet different from any of the wheel series that I can find in my books. I had recorded the draft of a coverlet, owned by the Hancock family of Hancock County, Kentucky:—a very good one that has been in their possession for over a hundred years. I find a similar one among Lou Tate's collection. It is unnamed by her but belongs to the "Governor's Garden" "Double Muscadine Hulls" family. While in Oklahoma, I saw a coverlet eighty-one inches wide without a seam, made from wool grown by a wealthy Indian living near Eufala, and sent to Ohio to be spun, dyed and woven. It was in two shades of brown and I was unable to name it at the time, but recorded the draft. It has the "Chariot Wheels" and roses of "Whig Rose" and a joining field. It is just the pattern I need for a two color coverlet, exceedingly good in seal brown and rust. Last, I put in a section of "Sun, Moon and Stars" to get the cross joining.

The colors of this panel are the same as the first, to separate the patterns, but in different sequence, and the same method of weaving was employed as in the first sampler.

The little "Queen Ann's Lace" makes most interesting variations, but I am sorry I did not include a border design to see how it would adapt itself to the different treadlings. This I would do another time.

Living as I do near Philadelphia, where the fine collection of coverlets and the John Landes and Speck designs are in the Museum of Art, it is only natural that I should put extracts from these coverlets into my next sampler. These coverlets are merely numbered, no attempt being made to name the patterns. Many have no counterparts in books, "Star of the Sea" is one of the exceptions, so I am merely calling them by numbers. Number Five is one of the designs in the John Landes book, and Number Six is the "Star of the Sea". The rest are self explanatory and each has a story of its own. I wished that my warp was wider so that I could show all of each of them, but will develop more than one as time passes and I have opportunity to do so.

The first sampler, which had the same number of threads for each pattern, was most successful, but in the other two I had patterns in each one which were difficult to divide.

At least I have proven to my own satisfaction the worth of this way of recording a number of drafts as painlessly as possible, and in addition have received a number of hints of new patterns for upholstery and borders both wide and small. Also from these proofs the drafts for coverlet weaving can be enlarged, being sure that the combinations are right.

I offer them as a suggestion to other weavers who may not have used this method and who have the same problems of accumulated ideas, and lack the time to prove their practicability.

QUESTIONS AND ANSWERS

by MARY M. ATWATER


Question: "What are "Miniature Patterns?" What are they used for? and where do you get them?"

Answer: By "miniature patterns" people mean drafts of familiar patterns in overshot weaving, written on as few threads as possible. They were introduced, I fancy, to meet the present search for textures rather than for designs. They are used for upholstery and hangings, and for other decorative fabrics. Many of these little patterns have appeared in the WEAVER and others in the Shuttle-Craft Guild Bulletins and the Shuttle-Craft Guild Recipe Book.

I confess that I do not, myself, care for these patterns.

I think there are many weaves better fitted than the overshot weave for producing interesting textures. The ancient patterns, like "Whig Rose" for instance, have a character of their own that largely goes lost when they are written down to cover only a few threads. It seems almost like sacrilege to so distort them from their old historic form. I confess I have written many "miniatures" because people have asked me for them, but I do not like to do it, and I should like to suggest that we keep our beautiful old traditional patterns "as is" and find something else when we want to be "modern."


AMERICAN HAND WEAVING — A BOOK REVIEW



A completely revised and rewritten edition of American Hand-weaving by Helen Louise Allen is now available. Eighty-nine illustrations have been added. The first edition included many ways of rendering original designs in plain weave, such as laid-in or soumak, various open work weaves, and four heddle textures, as "dukagoin" and dougle weave. In the pattern weave division, the use of the basic principals of the weaves such as M's & O's and Summer and Winter, as well as overshot enables the weaver to construct her own pattern.

In the new edition a section on tapestry weaves and on primitive technique as formed in the Indian weaving of Central and South America as adapted to four heddle looms has been added. The bibliography has been brought up to date. The book now comes in two bindings—paper covering \$2.00 and stiff bindings \$3.00.

This book can be ordered from Emile Bernat & Sons Company.



HAND WEAVING AT THE NEW YORK WORLD'S FAIR

Being a Review of Some of the Weavings Exhibited There

by ESTHER HOAGLAND GALLUP

Do you need inspiration for a fresh start on your loom?

Do you long to achieve different textures and color effects and do you yearn to study examples of that culmination of the weaver's art—tapestry?

A wealth of interesting material for study and of immediate practical value was displayed at the World of Tomorrow, New York City's great fair. Unfortunately, not all of the exhibitors plan to return—notably Sweden, one of the nuclei of the hand weaving craft and the source of inspiration of some of our finest work. It is, therefore, especially to those who, for some reason, were unable to see the 1939 edition of the fair that this report is submitted.

Since Sweden, as mentioned above, probably will not be present at the fair in 1940, we shall review her contribution thoroughly.

Most of the weavings exhibited here were from the studio of Elsa Gullberg, perhaps the most noted of Swedish hand weavers and designers.

One's first impression of the work is that it glows with life and light in spite of an, at times, almost stark simplicity of design. Accompanying this vitality, one senses a tremendous *usability* in Swedish weaving (as is, indeed, apparent in all Sweden's arts and crafts). There seems no doubt that this sincere merging of function with grace and charm accounts for the importance of "Swedish Modern" in furnishings today.

There were a few pieces, more in the nature of samplers, featuring traditional stitches: one of double weaving (Finnweave) in luscious dark brown and cream, entirely composed of decorative bands combining the lovely and well known design motifs. Another wall hanging on a cream linen ground employed one of the stick-weaving techniques (Dukagang) [see article in "The Weaver," January, 1938, by Elmer Wallace Hickman] to portray two little doll-like figures flanking a highly stylized fruit tree, and bearing the inscription,

"ADAM EWA I PARADIS!"

The colors were delft blue and rose, the whole effect very delicate and attractive, but seeming, somehow, a little precious in juxtaposition to the more modern work.

Two other samplers, scenes exquisitely wrought by hand in damask linen, were indicative of the high degree of technical excellence that Sweden's weavers have attained.

And yet, in spite of the respect one feels for such skill, one sees that the principal, vital strength of the Swedish hand weaving lies not in the creation of tapestries and intricate damask linens but in the harnessing of this exquisite craftsmanship to the needs and uses of modern life.

Yards and yards of beautiful material for draperies and for upholstery, and knotted pile rugs are the main features of the display. Textiles for curtains and draperies

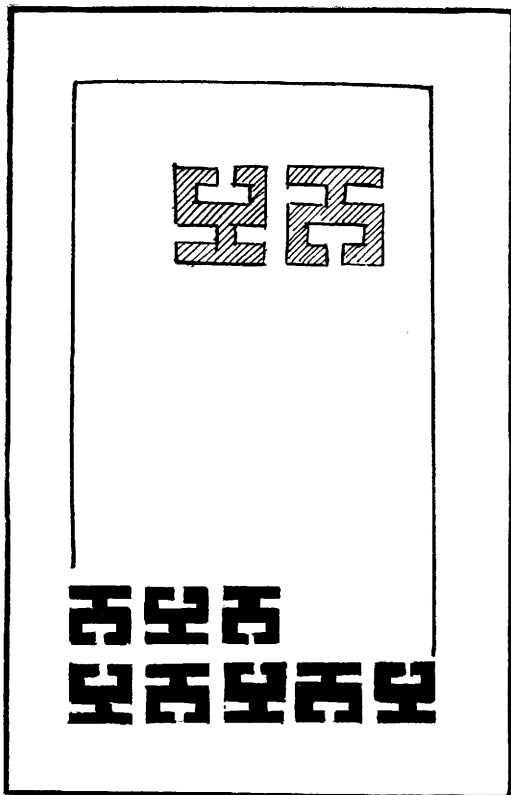
are usually in simple all-over satin-faced weaves, (see the chapter on Swedish weaving in Edward F. Worst's book, "Foot Power Loom Weaving"), occasionally in stripes—usually horizontal—and depending on interesting texture and glowing or subtle color rather than on complicated pattern for their effectiveness.

A kind of pale gold, as though distilled from northern sunlight, is used a great deal in the Swedish textiles, against a ground color of soft oyster white. Rich blue and a delicate green are also popular shades.

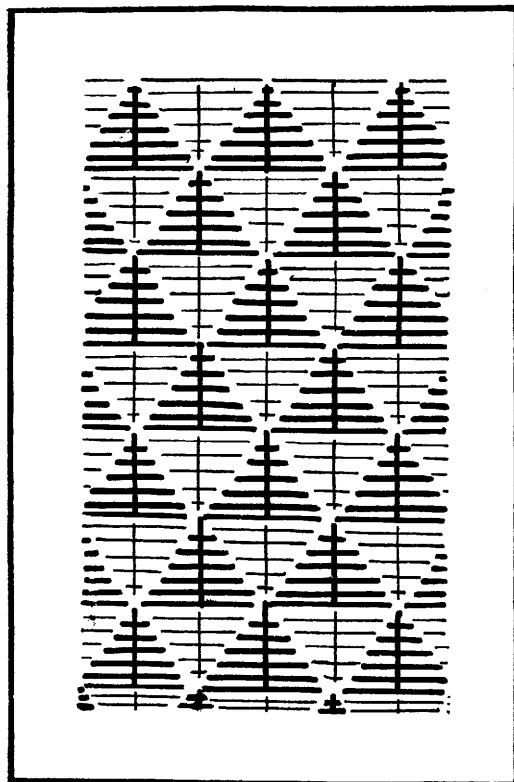
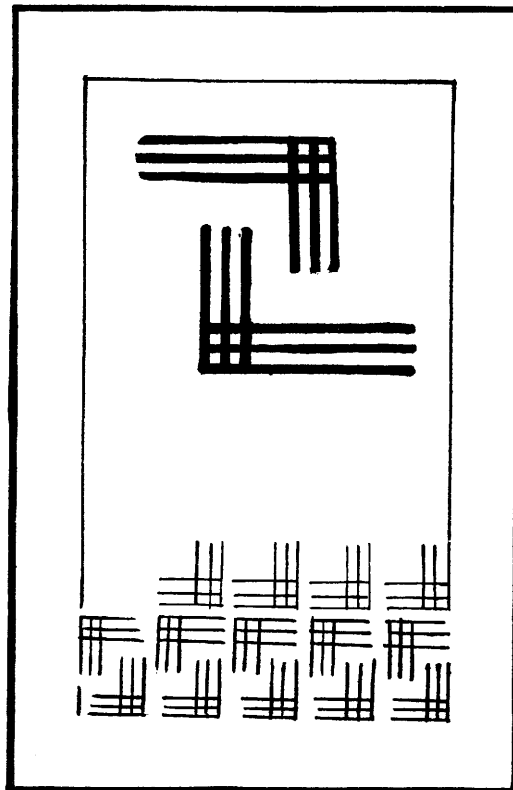
Texture is everywhere stressed. We noticed one chair upholstered in plain, rich blue of middle intensity, its only pattern consisting of a thin line of the same color of a rough slub material. This line recurred at regular intervals, solely to give texture and depth. The fabric on another chair, upholstered in much the same shade of blue (incidentally a very popular color, perhaps because it is complimentary to the blond wood used so extensively) was woven in the familiar honeycomb pattern. The threads outlining the depressions in the pattern were of oyster white nubby material, apparently laid-in in small bits (or else in loops and the loops afterwards clipped) to give a slightly shaggy appearance, once again to create a feeling of texture in the work.

Magnify this tendency to texture about fifty times and you have the all-over fringed or looped rugs and draperies that seem so popular. This effect is achieved by tying-in (using the Oriental rug knot) bands and design areas of threads, in exactly the way one knots a rug; but instead of clipping to make a fine, close pile, the ends are left long—as much as *one to one-and-one-half inches!* This technique is similar to that of "Rya," mentioned by Mr. Hickman in "The Weaver," January, 1937, but the ends are much longer. These droop in a graceful and rather Victorian fringe, in the case of the draperies, and in the rugs lie in a soft snarl, most inviting to the feet. This long fringing (so termed because it looks like fringe, although strictly speaking, I suppose it is a *pile*) is usually of linen or some hard twisted material. The reason for using such thread is, of course, self explanatory. It precludes the possibility of the fringe-ends becoming too quickly frayed.

Two draperies were especially attractive. One, on an oyster white ground of heavy, slub material, striped regularly with pale gold, soft blue, red, and green, carried bands of oyster grey linen fringing. The areas between the fringing revealed the delicate pencil striping of the aforementioned colors, while the fringed areas contained no color. The other, on an oyster white ground intermittently shot with delft blue, bore fringes of a rosy, coral color linen. In this material the opposite effect was achieved by fringing the entire background of the fabric and leaving the design areas, of traditional motif and stripe, unfringed.



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• THREE •
 RUG MOTIFS
 SKETCHED FROM
 MEMORY AFTER
 DESIGNS AT THE
 WORLDS FAIR

CHS.

The long piled rugs were interesting also. In this case, the pile must have been fully *two inches* long. One was entirely of plain oyster linen; another was woven on a sturdy linen warp with a heavy blue wool filler. Two warp threads were used for each heddle, threaded and woven to a straight twill. The fringing was of blue and white, in a slubby rayon yarn, and the knotting was done in a pattern, the details of which, however, were all but lost in the wealth of loose ends. These rugs, while very delightful to look at, would in all probability, be used *more* as hangings and couch covers since their durability as floor coverings might be questioned.

There were also several pile rugs done in the now thoroughly known techniques of "Flossa" or "Rya," the designs for two of which are suggested herewith in our sketches from memory. (No sketching or photographing was allowed, at least in the Swedish building.) We thought these rugs outstanding in design and color and more typical of the Swedish-Modern than one or two others displayed. These others were, nevertheless, very delicate and lovely in their use of formal flower motifs.

At this point, we shall pass on to the Norwegian exhibit. In the foyer of that building one of the first things to be seen was a delightful circular rug, on a raised dais, showing floral motifs in delicate tones, the whole effect very similar to those rugs last described in the Swedish building. It was a real gem in color, design, and craftsmanship, and should certainly be seen by student and master weavers in case it is again displayed next year.

Generally speaking, in the Norwegian weavings, the design was not quite so free and functional, the colors not quite so light and gay as in those of her sister country, Sweden. One felt a closer adherence to the traditional, although in a broad way the same general techniques were used. The tendency toward fringing and long tufting was not so common but several hangings combined an interlocked tapestry (Aklæ) with intermittent areas of knotting in an interesting way. The most outstanding tapestry there used this combination of techniques. Weft threads were left loose on the edges of the web to form a fringe, and along the sides borders had been knotted-in in the "Rya" technique. As the picture was woven sideways these "fringes" served as top and bottom to the scene and the pile gave an amazing feeling of depth to the finished work. The scene proper combined plain and twilled surfaces most freely to create a very interesting texture. This tapestry, depending as it did on the use of textured surface rather than wholly on color and design, seemed to us a possible indication of a new movement in tapestry weaving.

It is only fair to say here that the Norwegian exhibit was much smaller in number of pieces shown than was the Swedish, hence the relatively small space allotted to an account of Norway's work.

One other piece, however, seems worthy of mention. This was a rug done in "Flossa" technique, of the loveliest somber colors imaginable. The ground was a dull green-gold, the design done in a soft, rich green and woods brown. This color scheme immediately suggested the green of northern pines and the dark brown of their trunks, interlaced against a cold, twilight sky. A sketch showing the general design of this rug is included.

Both the Swedish and Norwegian displays included a few beautiful examples of straight-forward tapestry but for

the thorough student of this art, both ancient and modern, perhaps the two best displays were to be found at the French and Belgian buildings.

It is, of course, more or less contingent on world affairs as to whether or not these treasures will be on display again in 1940. At the times we attended the Fair, officials of both buildings assured us that their countries hoped to return next summer. At least, one can know what to look for if the opportunity does come again.

The Gothic room in the fine arts gallery of the French building contained three tapestries of the era before over-elaboration had degraded the art of tapestry weaving.

These hangings are fine specimens of the work of that golden age. They are named respectively, "Lady with a Hennion," "The Last Judgment," and "L'Honneur." The last mentioned is especially lovely. It is adorned with a flowered ground, suggesting the "Mille Fleur" tapestries, and is further embellished with mottoes in archaic French which even the guide was unable to translate for us!

The remaining tapestries in the galleries are good examples of the work of various well known houses, i.e., a pair of chairs upholstered in Aubusson; a pair in Beauvais; several large Beauvais hangings, and two tapestries of the house of Savonnerie with a texture like silk velvet.

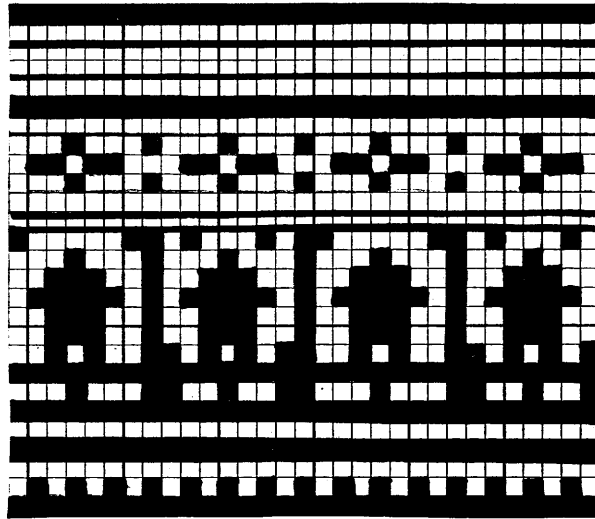
Of course all these textiles are distinctly antique treasures and may not be examined closely. One fact, nevertheless, was readily apparent. The earlier tapestries (of the Gothic period) are much finer artistically than those produced later by the Aubusson and other schools which represent the 18th century period. The golden age of tapestry was from around 1435 to 1500. In its best period, only about twenty tints of yarn were used; the shadings and half tones were achieved through the skillful use of hatching. As the proficiency of the weavers increased (and they did become marvellously adept) the number of shades was also increased, until at the height (or depth) of the art, as many as fourteen thousand shades might be employed in one hanging! Many famous artists contributed cartoons from which the weavers created their gargantuan works. However, because the tapestries were actually mere copies of paintings, designed without consideration for the requirements and limitations of the loom, they were artistically of little value.

A modern revival in England, carried on in a small scale, but showing much of the merit of the fine old pieces, was directed by Mr. William Morris during the 19th century, and some work of great beauty was produced.

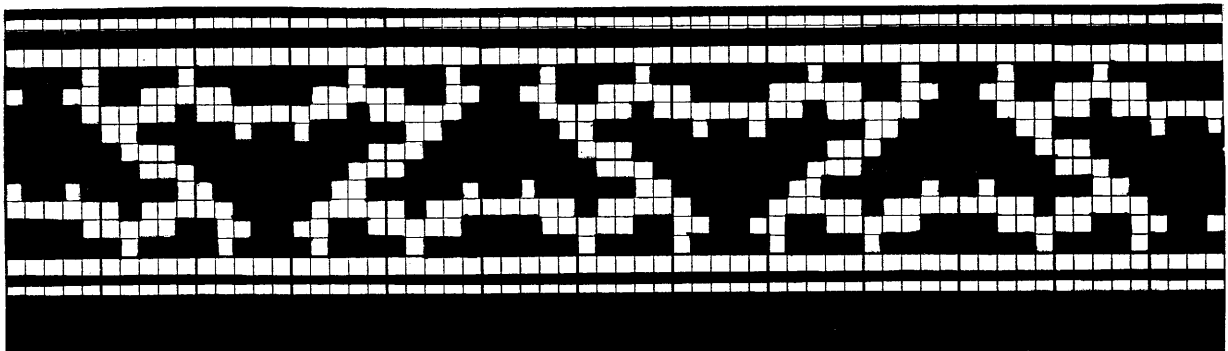
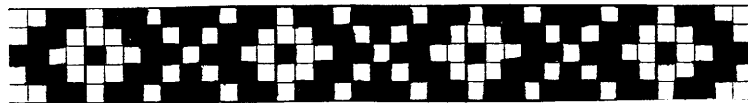
Comparatively little modern tapestry, however, is worthy of the name so it was with great interest and keen pleasure that we found examples of such a brilliant revival of the art in the Belgian pavilion. Here, two types of weaving were represented. The small, intimate tapestry, which resembled a crayon sketch by some modernist, and the heroic, brilliant ones hanging in the entrance hall.

One finds the small tapestries, a set of three, in the arts and crafts gallery of the Belgian building. They were designed by Edward Tytgat and Marie Alg, and executed, entirely by hand, in the ateliers of De Saedeler and Bracquenie. Their colors were rather subdued, and, as mentioned before, they closely resembled a delicate crayon sketch. The second panel especially, bearing the inscription, "La Souplesse des Femmes Est Comme Celle des Flots," showed several nude figures, the drawing reminiscent of the style

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DESIGNS SUITABLE FOR DUKAGANG OR OTHER LAID-IN TECHNIQUE



of the late A. B. Davies. The workmanship of these panels was remarkable; and the sketchy character of the drawing, the quiet color scheme, seemed to make them ideally adapted for representation on the loom.

Whereas you might have to hunt for the small tapestries, the five huge ones, each three hundred and twenty-five square feet in area, really clamor for attention from their places on the walls of the entrance hall. They are large in size, in concept, and brilliant, if rather primitive in color. The work of the houses of Bracquenie, Chaudoir, and De Wit, they are executed from the cartoons of the painter Floris Jaspers. Each one, rather quaintly, bears the inscription, "Jaspers pinxit, Bracquenie textit," or "Jaspers pinxit, Chaudoir excudit," etc.

Three of these five hangings represent some of Belgium's relations with the United States, from the landing of the Belgian settlers, Walloons and Flemings, on Manhattan Island in 1623, to the part the United States played in aiding Belgium during the World War of 1914-1918. The

other two tapestries depict antique and modern Belgium.

The style of these tapestries is more or less one of impressionism. The many factors of incident and scene are somewhat superimposed on each other. However, due to skillful designing and ingenious color arrangement, these complex scenes are not cluttered or confused, but are very coherent. The figures are truly heroic, the portraiture is remarkably good; and in spite of such thorough delineation, there is not the feeling of *interminable detail* which wearies us so when we study some of the tapestries of the 17th and 18th centuries.

But the outstanding feature of these tapestries must be, for many of us, their glorious, almost medieval splendor. They sound, like a trumpet call, their plea for understanding and courage to use the brilliant palette our modern world urges upon us, and perhaps they awake in the weaver a small nostalgia for the great days of the past when the loom played so important a part in recording the life and legends of the people.

New Features in National Conference of American Hand Weavers

by OSMA COUCH GALLINGER

(Continued from Page 17)

Our daily schedule really boiled down to the following: eating breakfast, weaving; eating dinner, weaving; eating supper and talking about weaving. Students could at choice leave their morning's weaving and join a class in draft writing and pattern creation.

The one chief variation in the above schedule, which seemed a matter of preference with everyone at the conference, and brought many outside visitors at this particular hour, was the fireside chat after dinner on some phase of weaving. It was always a much anticipated time. On a bulletin board in front of the fireplace were pinned samples of the technique to be discussed, with published articles and leaflets on the same—from Mrs. Atwater's Recipe Book or issues of *The Weaver*. At the sound of the gong, from all corners of the huge hall conferees assembled and formed a three-tiered half-moon of chairs around our leader. But before we could have the pleasure of "just a-sittin' and a-listenin'", we had to do a thread stunt. Each day there was a sample braid to make or knot to tie, and there was no easing up on anybody. Under the guidance of several assistant teachers we were taught how to manipulate threads and coarse strands to make such useful products as: four-to-eight strand braids, weaving knots, square braids, Egyptian and Indian braids, attractive finishes for bag handles, pillow loops, etc., and while fingers twisted and turned, there were always stories about the origin of the knots or suggestions of new ways in which to use them.

When each one had a good sample for his or her notebook, Mrs. Atwater took her place "in our midst", and gave a talk on the phase of weaving selected, and this always ramified into a world of fascinating discovery for her listen-

ers. Questions were in order and many moot points were settled. After the conference all these lectures were printed and are now available in folio form at the Creative Crafts Publication Studio, Hartland, Michigan. There has also been made available for those who could not attend a folio of ten techniques taught at the conference with accompanying drafts. Each year the same policy will be followed, giving distant weavers valuable records for their files. The conference will have its third session from June 16 to 30, 1940.

One of the unusual privileges enjoyed at the Hartland conference is the proximity to the Edison Institute, Dearborn. This industrial museum is without parallel in the country, and displays implements of all industries of Colonial days. One entire section of the museum is devoted to a display of implements of spinning and weaving. Each year, members of the conference spend a day at this Institute and in the weaving workshops of the Village, under the guidance of Mr. Sydney Holloway who is in charge of the research work involved in putting hundreds of old wheels and looms into traditional shape. Practically every process incident to the hand method of thread preparation and weaving is most beautifully demonstrated.

The lecture subjects constituting the "Talks on Weaving Techniques" given by Mrs. Atwater at our conference in 1939 were the following: The Tabby Weave; The Twill Weave; Four-Harness Overshot; The Crackle Weave; The Three-Harness Weave; Color in Weaving; Linen and Linen Weaves; Summer and Winter Weave; Braids and Plaits; Inkle Loom Belts; Egyptian Card Weaving; Double Weaving and the Finnweave; Warping, Looms and Loom Adjustments.

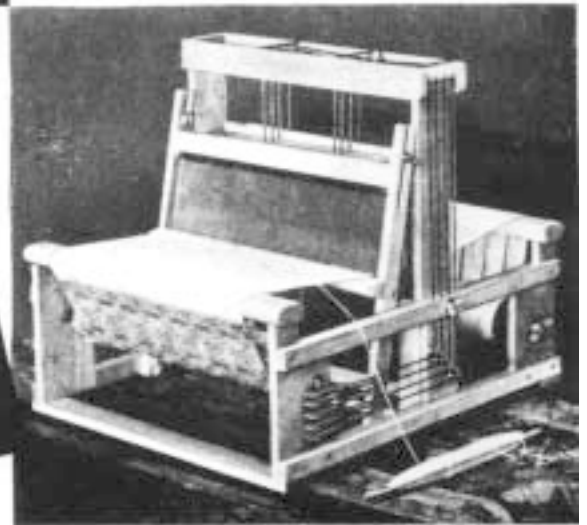
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