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# THE WEAVER

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# THE WEAVER

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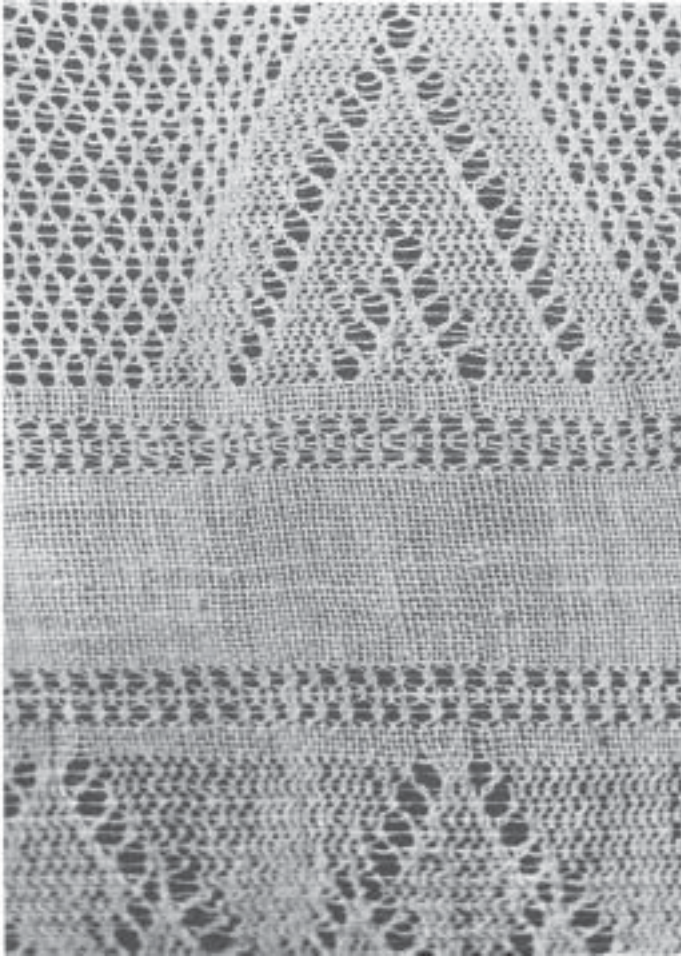
## *Mexican Lace Weaving*

**BY HELEN LOUISE ALLEN**

WHILE in the southwest of Mexico one summer, I found some interesting examples of lace weaving done by the Tarascan Indians in the little village of Aranza in the mountains of Michoacan. This form of handling the warp threads is derived from the old Peruvian lace techniques. However, the Tarascan Indians have developed more elaborate uses of the old "stitches" than had the Peruvians. The looms the Indians use are the simple waist looms that are used by many primitive peoples when making narrow articles or belts. String leases form one shed, and the shed stick the other. The warp stick at one end of the warp is fastened to a tree in the garden or to a nail in the beam of the house if used indoors. The cloth beam is fastened to the weaver's waist by a broad leather or hemp belt. The weaver keeps the tension with her body. I sat and watched a woman weave, trying to memorize every motion that she was making and trying to see what her flying fingers did with the warp. We could not stay very long at the village and, as my Spanish was too weak to ask very many questions, I did not find out how they made the lace. Back in town I took the pieces I had bought around to the shops to see if anyone there could

do this type of weaving and could show me how. I finally found a woman who knew how, but she did not have her loom set up. She was willing to teach me, and it would probably take about two weeks.

As that amount of time was entirely out of the question, I brought my lace and my recollections of the weaver back to the United States with me and set about teaching myself. With a magnifying glass and some No. 1 thread, I started. At first I used a waist loom as the Indians had. I soon found that a small two-heddled loom worked better, mainly because Wisconsin winters are too cold to tie one's loom to a tree in the garden, and hardwood finishes are not conducive to driving nails for using the loom in the house, and someone is always wanting to open the door one has the loom tied to. It is very hard to be primitive in a civilized house. I spent every evening for two weeks twisting and untwisting and trying to reconcile what I had seen the Indian women doing with what I seemed to be doing, and having very little to show for my evenings' work but an improved vocabulary. Finally one evening, everything fell into place. I realized what the Indian women had been doing and saw how much



extra work I had been making myself. After that it was plain sailing and I changed to a finer thread.

There are two stitches in lace weaving, the single stitch which is used mainly for pattern, and the double stitch which is usually used for the background, as it moves along more rapidly than the single stitch. It is possible to use plain weave in conjunction with the double stitch, either one acting as background for the other, with equally interesting effects. Single stitch and plain weave do not combine well together, as the difference in appearance is not contrasting enough to make a pleasing effect. Single stitch is better used to contrast with double stitch either being used as pattern or as background.

The twist of the single stitch of the Mexican lace is different from that of the gauze weave. In regular gauze weave two warp threads are twisted on each other. (Illustration I.) In lace weave the thread is twisted with a warp thread two threads away. In either of the stitches the main thing to remember is always to have the same shed down before starting to pick up the threads. It does not matter which shed is used for picking up the threads providing the same shed is used down each time. For convenience sake I shall call this the "A" shed and all the threads in it "A" threads. The opposite threads, or the ones that are up when one is beginning to pick up, are the "B" threads. If one is right-handed it is better to have the weft thread out at the right side of the loom when one begins the lace stitch and to start picking up from the right to the left. A blunt-pointed stick an inch wide and a little longer than the width of the warp on the loom is the best to do the picking up with. This stick is also used as a

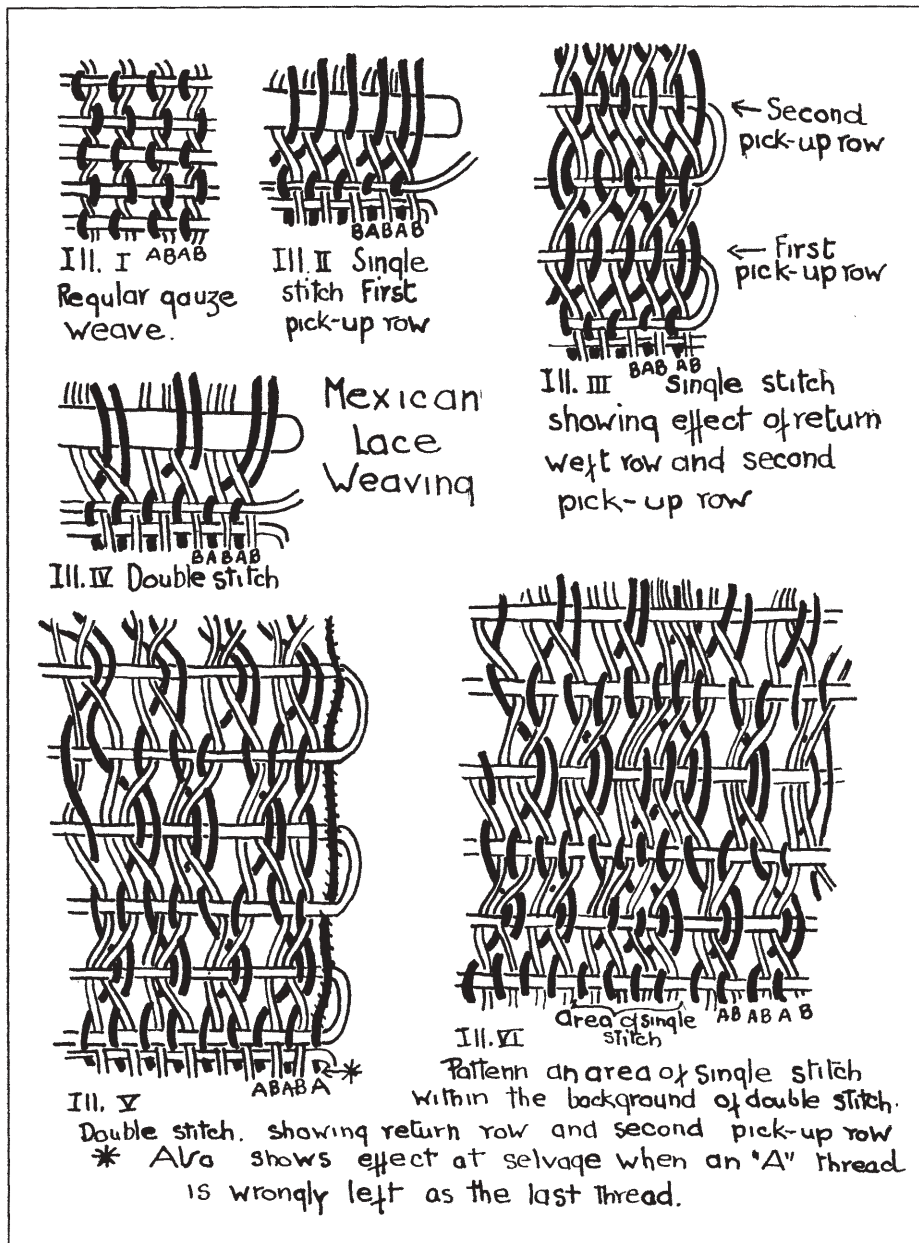
shed stick for opening the shed for the shuttle. It can be used as a beater or weaving sword for beating the weft up tighter.

In the following directions the last thread on the loom in the selvage at the right side is a "B" thread. That is, it is a thread that will be up when the twisting begins. What happens when an "A" thread is the last thread is shown in Illustration V.

A two-heddled loom may be used for doing the lace weave, or any loom that will weave plain weave. A four-harness loom may be set up in a plain twill. It is best to start with a coarse thread when learning the two stitches. After one has mastered the stitches a fine thread is no trouble at all. In the beginning it might even be well to have all the "A" threads one color and the "B" threads another.

#### *Single Stitch (Illustrations II and III)*

Put the "A" shed down. Pick up two "A" threads on the point of the stick, pull them slightly to the right and up. Press down a "B" thread in the opening. Pull up the next "A" thread and press down the next "B" thread. Each "A" thread should pass under two "B" threads before coming up. (Except the first "A" thread at the right, as can be seen in Illustration II.) When all the threads are picked up, turn the pick-up stick on edge and pass the shuttle through the shed. Change sheds and beat. Then pass the shuttle back through this shed. Change sheds and beat firmly. The threads are now in position to be picked up again. In either of the stitches the "A" threads always lie on top of weft thread.



Making the Pattern (Illustration VI)

The double stitch is the one usually used for the background. When one desires a pattern, bring two threads up but put only one down. Then "one up and one down," or single stitch, for the length that one wishes the design. When concluding the design area of single stitch, bring one thread up and put two down. The pattern should always be ended so that the alternation of the background groups will be correct.

On account of the alternation of the background it is necessary that the designs be based on diagonal and horizontal lines rather than the use of vertical lines. However, this is a limitation that is not hard to work under, as there are plenty of possibilities of designs, geometric, animal, and floral that are based on horizontal and diagonal line, or can be altered to do so.

There is one drawback to the true Tarascan lace weaving that I have been trying to overcome. If one uses bands of lace weave with bands of plain weave, the edge is always scalloped, as the lace draws in and the plain weave stays out the full width of the article in the beater. There are three ways to overcome this. One way is to plan not to have any plain weave bands but to have the article all lace weave, finishing the article by fringing the warp ends. Another way is not to use the reed as a beater, but only as a spacer, and to use the stick as a weaving sword and to draw in the weft in the plain weave areas to correspond to the same width as the lace weave bands.

The third and most successful way of handling this drawing-in is to incorporate plain weave areas into the

Double Stitch (Illustrations IV and V)

Push shed into position for picking up. Pull up and to the right two "A" threads and push down two "B" threads. Then two "A" threads are pulled up in this space and two "B" threads are pushed down. Repeat across the article. Put in the weft. Change sheds beat, and bring the shuttle back. Change to pick-up position and beat. For the second pick-up row, pick up one "A" thread and push down one "B" thread, then two "A" and two "B's" as before, in row one. Put in weft. Change sheds and beat. Bring back weft. Change shed and beat. For the third row, pick up as for the first row, and for the fourth pick-up row, pick up as for the second pick-up row. Every other pick-up row brings the same set of four threads together.

design, letting them come at the selvage edge of the article. In doing this it is necessary to have three rows of plain weave to one row of lace, as the plain weave beats down much more firmly than the lace weave. Pass the weft shuttle across the area of plain weave, then change sheds and pass it back to the beginning of the area, change to the first shed and bring it back again before going on with the lace pattern. A little practice in knowing how loose to make the tension of the weft will give an even plain weave. Areas of plain weave also make very effective contrasts with the two lace stitches.

The finer the thread one works with, the lacier the product. Fine, tightly twisted cotton is the best thread, but fine Fabri wool would make effective scarves.

# Patterns for Six-Harness Weavers

BY MARY M. ATWATER

THE WEAVER who has just invested in a six-harness loom is sometimes at a loss for suitable patterns, as most weaving patterns seem to be written for either four or eight harnesses.

Naturally the six-harness weaver wishes to do something that could not be done on the simpler four-harness loom, and is anxious to explore the new possibilities. Just what are the six-harness possibilities?

To answer this question fully would require the dimensions of a book rather than of a magazine article, but it may be useful to list a few of the more interesting six-harness weaves. First there are the "fabric" weaves — the small threadings designed to produce effects of texture rather than pattern figures. Such weaves are used for dress fabrics, coat fabrics, blankets, linen towelling, upholstery and drapery fabrics, and so on. These small weaves are of particular interest at present as so many hand-weavers are going in for "yardage."

Then there is the familiar overshot weave. What happens when one puts the overshot weave on six harnesses instead of on four? It becomes at once much more varied and interesting. For instance, people have frequently asked me how best to weave a plain tabby border all around a piece in pattern weaving. This is a difficult and somewhat troublesome thing to do on four harnesses, but with six? — nothing could be simpler. One merely threads the side borders on the extra harnesses, threading the pattern in the familiar way on the other four.

On four harnesses the overshot patterns are limited to four "blocks" or changes of pattern shed, but on six harnesses we make six-block patterns. These have an entirely different effect from four-block patterns and lend themselves to some novel arrangements. And there is the weave "on opposites" which is usually considered an eight-harness weave but can be woven exactly as well on six as on eight harnesses.

Then, too, there are the patterns in "Bronson weave" or "spot weaving." Of all the old weaves for linens this one appears to have been most popular with Colonial weavers, and it deserves more attention than it has been receiving from modern weavers. There are a few very simple patterns in this weave that can be made on a four-harness loom, but on six harnesses a far greater variety of patterns in this weave becomes possible. The same is true of the openwork or "mock leno" weave which is so closely related to the Bronson weave.

Perhaps the most interesting six-harness weave, however, is the beautiful "Summer-and-Winter" weave. On four harnesses only simple two-block patterns may be woven in this weave, but on six harnesses we can make patterns of four blocks, among which are many of the most beautiful classic patterns. The fabric produced by the Summer-and-Winter technique is very firm and handsome, and has wearing qualities far superior to the overshot weave with its loose "floats" or "skips" of pattern weft. It is an ideal weave

for upholstery and drapery and all the decorative fabrics that show a clear design.

There are also a number of minor weaves that are particularly handsome when done on six instead of on four harnesses. The Scandinavian three-harness weave, for instance, and the familiar "Ms and Os" used so much for linens.

It will be apparent from this list that the six-harness possibilities are practically unlimited.

As it is impossible within the limits of a magazine article to include all these weaves, I am confining myself to the patterns of the "fabric" type, for which there appears to be a special demand. A number of threadings of this order are given on the diagram, but of course these are only a few of the many, many patterns available.

The plain twill, on four harnesses, is just twill — and though it may be woven in a few variations it is not the most exciting weave in the world. On six harnesses the plain twill gives a great variety of effects. Most of the special tie-ups shown on the diagram may be used in weaving the simple threading at (a), and a great number of texture effects is possible. Of course there are many ways of making the tie-up for this weave in addition to those shown.

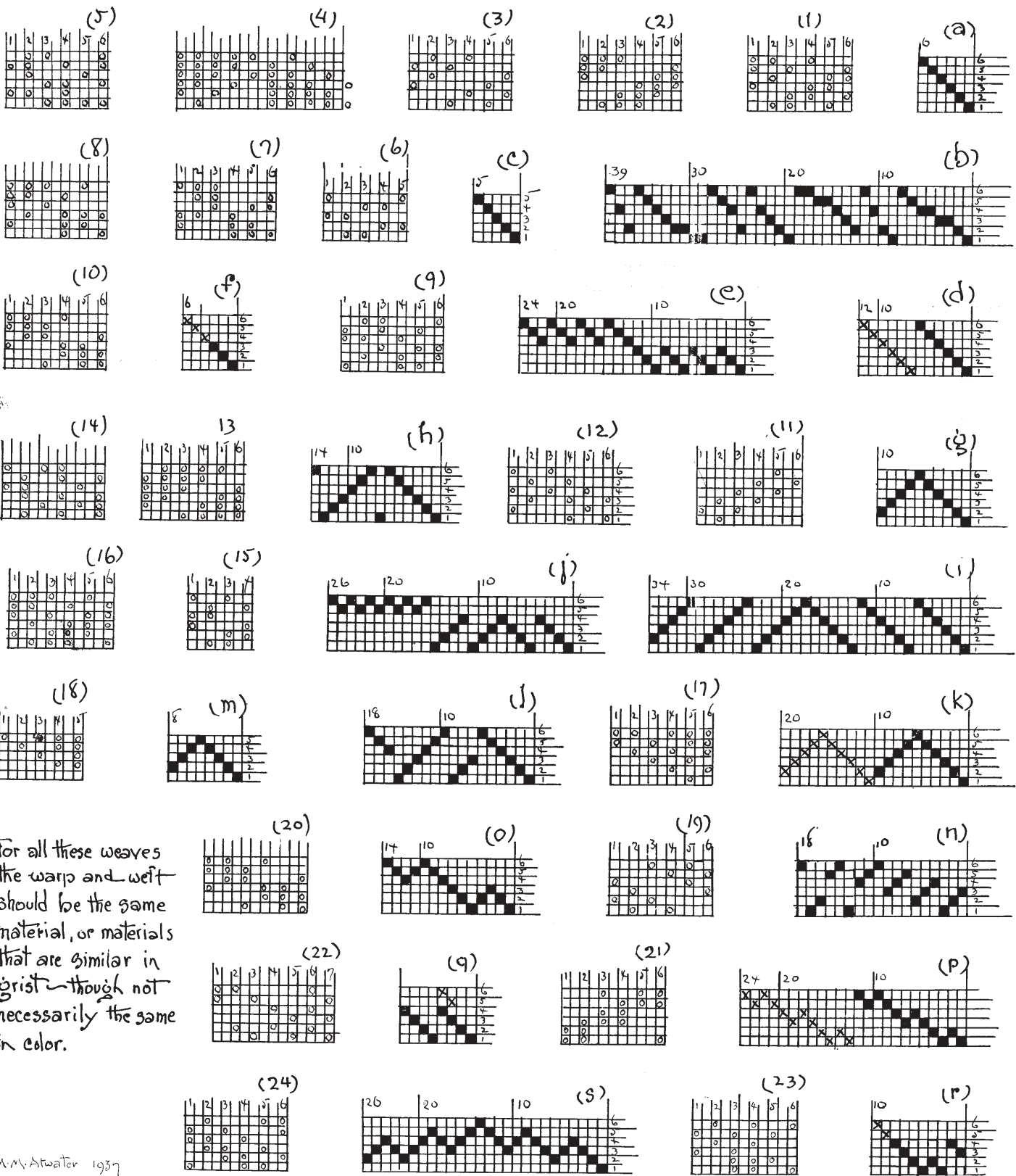
The twill weaves are most satisfactory when warp and weft are of the same material, or of materials similar in grist, though they need not be of the same color. Warp and weft play the same part in the result, and in weaving one should be careful to lay the same number of weft-shots to the inch as there are warp-ends to the inch in the warp-setting. No tabby is used.

The twill and its variations are particularly useful for tweeds, coat fabrics, sweater fabrics, blankets, and a few of them for linens. Treadle: 1, 2, 3, 4, 5, 6, one shot on each shed, and repeat. Or weave the treadles in reverse order: 6, 5, 4, 3, 2, 1, and repeat, which makes the diagonal ribs — characteristic of the twill weave — slant in the opposite direction.

Tie-up Nos. 1 and 2, weave conventional twill patterns; No. 2 is the plain over three, under three plan of weave, and makes a heavier, softer fabric than No. 1. The fabric is the same on both sides. Tie-up No. 3 weaves a fabric with a warp-effect on one side and a weft-effect on the other, so this fabric is not the same on both sides, though both sides are good. If the warp is light and the weft dark, the fabric will be darker on one side than on the other. The effect of the weave is also a diagonal rib.

Tie-up No. 4 makes an extremely soft, loose fabric that makes an attractive sweater and can also be used for a couch blanket. The fabric is so loosely combined, however, that it has no great wearing qualities and the weave should not be used for anything that will receive hard wear. A similar effect, somewhat more closely combined, may be woven on tie-up No. 7. These weaves are more effective when warped and woven in different colors. For a blanket the warp may be made in two colors, arranged in a large

# Some Six-Harness "Fabric" Patterns



For all these weaves the warp and weft should be the same material, or materials that are similar in grist — though not necessarily the same in color.

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plaid, and woven as warped. Linen towelling may be woven on this tie-up also, and the two-color arrangements are interesting for this purpose. Both these tie-ups produce a fabric that is the same on both sides.

Tie-up No. 5 produces a crêpe effect and is good for

light-weight dress fabrics in a fine yarn such as Bernat's "Afghan."

Other tie-ups that may be used in weaving the plain twill threading at (a) are Nos. 8, 11, 12, 13, 14 and 16.

Pattern (b) is a "novelty" twill that makes a handsome

coat fabric. It should be woven on tie-up No. 2, and treadled in the ordinary manner: 1, 2, 3, 4, 5, 6, and repeat, — one shot on each shed. If desired it may be woven in reverse order: 6, 5, 4, 3, 2, 1, and repeat, which makes the twill slant in the opposite direction. This pattern is not adapted to blankets or linens.

Pattern (c) is a particularly interesting form of twill, done on five harnesses. It is known as the “Corkscrew” twill and produces an excellent texture with an unusual effect. This is a closely combined weave and is suitable for tweeds. It has excellent wearing qualities. As it is an unbalanced weave there is more warp on one side and more weft on the other, so it is reversible, though both sides are good. Tie-up No. 6 is the special tie-up for this weave.

Pattern (d) is for a coat fabric in two colors, and should be woven in fairly coarse yarns, such as Shetland. It is woven on tie-up No. 2, but treadled as follows: 1, 2, 3, 4, 5, 6, one shot each, in the darker weft; 3, 2, 1, 6, 5, 4, one shot each, in the lighter colored weft. Repeat. The two colors used for weft need not be the same two colors used for warp, though they should be similar in tone or “value;” — to use painter’s jargon. The pattern has the effect of a bold “Shepherd’s Check.”

Pattern (e) gives the threading for a double-faced twill and should be woven on tie-up No. 9. Weave as follows: 1, 2, 3, one shot on each treadle. Repeat four times. Then 4, 5, 6, one shot each, repeated four times. This method of weaving produces alternating squares in warp-face and weft-face twill. If the entire piece is woven by repeating the first three treadles the effect will be lengthwise stripes instead of squares. The weave may be used for upholstery and for blankets, and is also excellent in linen. It is the same on both sides, and when the warp is set close and the weft well beaten up it makes an extremely strong and durable fabric.

Pattern (f) produces a “Shepherd’s Check” effect. The warp is in two colors arranged as indicated on the draft, and the weft should also be of two colors — the same or similar shades. Weave this pattern on tie-up No. 10, and treadle 1, 2, 3, in one color; 4, 5, 6, in the other, and repeat.

Pattern (g) is a simple “Diamond” arrangement and may be woven on any of the tie-ups listed as suitable for pattern (a). Tie-up No. 1 is recommended. When treadled: 1, 2, 3, 4, 5, 6, and repeat, it produces a zigzag effect. To weave a diamond figure treadle: 1, 2, 3, 4, 5, 6, 5, 4, 3, 2, and repeat.

Pattern (h) is the six-harness “Bird’s-Eye” threading and may also be woven on most of the tie-ups given on the diagram. Pattern (i) is the six-harness “Herringbone” or “Goose-Eye” pattern, and may, like patterns (g) and (h), be woven all one way, or to produce diamond figures. These patterns are familiar to all four-harness weavers, and the six-harness forms are like the four-harness ones except that the effect is richer and more interesting. These patterns are, of course, often used for linens as well as for blankets. They are less appropriate for dress fabrics, but are nice for simple upholstery. Tie-up No. 1 may be used with these threadings.

Pattern (j) should be woven on the four-treadle tie-up No. 15. Treadle: 1, 2, 3, 4 and repeat. This weaves lengthwise stripes of Herringbone and plain tabby. The pattern may, if desired, be woven in squares, bordered by tabby; however, for this effect two more treadles are required, tied 1, 3, 5 and 2, 4, 8, of course. This would be an interesting way to weave it for a baby blanket or couch blanket.

Pattern (k) makes a quite elaborate coat fabric. The warp is in two colors, as noted on the draft, and the weft

should be in the same colors or similar shades. It should be woven on tie-up No. 17, as follows: 1, 2, 3, 4, 5, 6, 5, 4, 3, 2, first in one color and then in the other.

Pattern (l) is in ancient pattern for suits and overcoats — nice for tweeds — that in the old books is named “Dornik.” I have no idea of the origin of the name; no doubt it goes back to pre-Colonial England. Perhaps some British subscriber to *THE HANDICRAFTER* may have information about this and will let us know. In New England “dornik” means a hard, round, flinty stone, such as one finds all too frequently in the fields; but what connection this may have with the old twill pattern it is difficult to imagine. This pattern may be woven on any of the tie-ups suitable for twills. It makes a rather bold effect of the “Herringbone” type.

Pattern (m) looks, on the paper, similar to pattern (g) except that it is on five harnesses instead of six. However, it is a very different weave, for (m) is the “Waffle” cloth. It should be woven: 1, 2, 3, 4, 5, 4, 3, 2, and repeat.

Pattern (n) produces a very interesting diagonal rib in which the threads twill in the direction opposite to the inclination of the rib, with plain tabby between the ribs. It is a striking and unusual texture. For a very “sporty” sports-coat in white or one color it would be handsome. The tie-up for this pattern is No. 19.

Pattern (o) is the interesting and useful “Basket weave.” Some people call a fabric made of several strands of material in plain tabby weave by the name of “basket weave,” but this is a misnomer. The fabric made of strands is a very unsatisfactory fabric, as the strands tend to bunch together when the material is washed, and the effect is ruined. In the true basket weave the threads are firmly interwoven, and this difficulty does not develop.

I mention the matter of the name of this weave because I have a great dislike for words used loosely to cover a number of more or less vague meanings. Unless we are a bit particular in the use of our weaving terms we shall soon be in great confusion. A word is quite valueless when all its corners have been worn away, and the poor thing means any-idea-at-all instead of standing for some single definite thing. I suppose I have in the last few years answered a good bushel of letters asking about the basket weave, so here it is — again. It is included in my *Shuttle-Craft Book* also, of course. It should be woven on tie-up No. 20, treadled this way: 1, 2, 3, 2, 1, 2, 3, 4, 5, 6, 5, 4, 5, 6.

Pattern (p) is another pattern in two colors, which should be used in the weft as well as in the warp. Use tie-up No. 21 and treadle as follows: 1, 2, 1, 2, 3, 4, 3, 4, 5, 6, 5, 6 in the first color, and repeat in the second color. This makes a good coat fabric of the soft and rather loosely woven type, and the weave may also be used for baby blankets and so on.

Pattern (q) is an odd but very attractive weave for fine cottons, with two threads in coarse cotton, and is also excellent in fine worsted with coarse threads as indicated on the draft. The fine warp should be threaded and sleyed regularly as for four-harness twill, and the two coarse threads in each repeat should be sleyed through the same dent in the reed as the fine thread below it on the draft. Weave on tie-up No. 22. Treadle as follows: 1, 2, 3, one shot each in coarse yarn; 6, 7, 4, 5 and repeat, fine yarn. Treadle 1, two shots or a double strand in coarse yarn; 4, 5, 6, 7 and repeat, fine yarn. Repeat. This makes an interesting crossbarred effect. The effect is on the right side of the fabric only.



Pattern (r) is an attractive little pattern for lightweight cotton fabrics for dresses. Two threads in each repeat should be a little coarser than the rest of the warp and may be in a different color if desired. Use tie-up 23 and weave as follows: 1, 2, 3, 4 in fine thread; 5, 6 in coarse thread; 3, 4 in fine thread, and repeat. This makes a tabby fabric with little crosses in the coarse thread.

Pattern (s) is a blanket pattern, not suited to dress-fabrics, upholstery or linens. Done in a coarse yarn such as German-town, the effect is excellent. Use tie-up No. 24 and treadle as follows: 1, 2, 3, 4, 3, 2, 3, 4, 5, 4, 3, 4, 5, 6, 5, 4, 3, 4, 5, 4, 3, 2, 3, 4, 3, 2, and repeat. The pattern may also be woven: 1, 2, 3, 4, 5, 6, 5, 4, 3, 2, and repeat.

A word about the tie-up drafts: As most six-harness looms are of the "jack" type and operate with a rising shed, I have shown the raising ties rather than the sinking ties on this set of tie-up drafts. For the Structo loom use the levers, as indicated by the ties, to form each shed. If used on a loom with the double tie-up, tie the blank squares on each treadle to sink. I have not shown these ties as they make the draft difficult to read.

A tabby can be woven on these patterns if desired, by tying two additional treadles to make these sheds. The tabby is not used in weaving these patterns, but for headings and so on it is a convenience. There is no tabby in the "Corkscrew" twill, of course.

These notes and drafts do not exhaust the possibilities by any means. I have simply tried to give a useful collection of the simpler "fabric" weaves possible on six-harness equipment, and have tried to include threadings for a variety of purposes, — dress fabrics chiefly but many that are suitable for other purposes as well. The success of these fabrics depends largely on the selection of suitable materials, a correct setting of the warp in the reed, and evenness of beat. Simple pattern weaving is far easier for the beginner than the "texture" weaves, as the figures of the design tend to hide small inequalities of beat. One of the most difficult weaves for a beginner is plain tabby; next in difficulty come these twills and fabric weaves.

I repeat that the matter of material is of prime importance in these weaves. If the material chosen is harsh or stiff it does not matter how well it is woven, as the resulting fabric will be hard and stiff also, and as the aim is texture rather than pattern the purpose is defeated before one begins.

The correct warp-setting is also of prime importance. No rules can be set down for this, as the correct setting depends on the material used and on the weave selected. For "50-50" weaves, such as all those presented in this article — weaves in which warp and weft play an equal part — the warp-setting determines the number of weft-shots to the inch and too skimpy a warp cannot be corrected by close beating and additional weft as in some pattern weaves. It may be necessary to do a bit of experimenting with an unfamiliar material before arriving at the best possible warp-setting for a particular fabric. The weaver who goes in for fabric weaving should be equipped with a number of reed of different dentages to permit a wide variety of settings. In a general way the warp-setting for any of the twill weaves should be somewhat closer than for plain tabby.

Of course the texture of an all-wool fabric depends also on washing. A loosely woven piece will shrink much more than a closely woven piece, so that small errors in setting are sometimes corrected by the washing. However, it is safer not to depend too much on this, but to set the warp as correctly as possible. In testing an unfamiliar yarn, as suggested above, it is best to weave a fairly good-sized sample, and to wash and press the sample before making a decision. This saves time and work in the end, and also saves waste of material and disappointment. It makes no great difference if a small bit of pattern weaving proves unsatisfactory, as it can be discarded with little pain, — but to weave many yards of dress fabric and have it turn out badly is a very different matter.

People are far more apt to set the warp too far apart than to set it too close, but the latter error is the more serious. The washing and finishing of the fabric tends to correct the first error and makes the second one worse.

I am led to make these remarks because I am frequently sent samples of unsatisfactory fabrics and am asked to suggest a remedy. In nine cases out of ten the trouble is with the setting, and in the tenth case it is poor choice of material.

We cannot compete with machinery in the making of cheap fabrics, so what we must aim at is quality. We cannot produce a beautiful texture with poor materials, no matter how we weave it. We can hide an ugly warp under the weft in pattern weaving, but in a "50-50" fabric this is impossible.

I do not mean to say that the most costly yarn is always the best for a given purpose. This, of course, is not true. The best material depends on the purpose. For instance, very soft and costly worsteds are not suitable for tweeds. A sturdy quality with a bit of harshness is desirable for these fabrics, which are intended for hard wear. A very solid quality, even a degree of hardness, is desirable for chair-covering, though very unpleasant for dress fabrics. Softness and lightness are desired in a baby blanket, but not to the same extent in an automobile robe. And so on.

The point I wish to make is that the weaver who plans to go in for fabric weaving must be willing to spend a lot of time in experimenting with weaves and materials before launching such a project.

A beginning weaver wrote me recently that she was going to do her practice work with carpet warp to save waste of good material. Of course in doing this she wasted her time, as this practice work would simply show how to weave carpet-warp, and there is little or no use for a fabric made of this material. The yarn used in experimental work is not wasted, even though many of the experiments are failures, as a failure on a small scale will often prevent an expensive failure on a large scale.

My suggestion to a weaver planning to go in for "yard-age" would be to get together a collection of many kinds of material in a wide variety of colors, and to spend as much time as necessary in order to find just the yarns and the weave best suited to the fabric to be produced. The samples made — the unsuccessful ones as well as the successful ones — should be filed away with notes as to the material and the weave used and will be extremely valuable for reference.

# Bag Making

BY JANE H. HILLMAN

**B**AG making seems so difficult to most people. Many are able to embroider or weave beautiful bag materials, but few are able to make bags up properly. There are several general rules to follow that I think will be helpful.

First, I think nearly every bag needs an interlining, and some need two, besides the lining itself. The exception might be in a large knitting bag that one would like soft and crushable, and filled onto the top. Yet, I have sometimes interlined these if the outer material is soft or thin. It is surprising how much an interlining improves every bag. It gives it body and holds its shape so much better when in use.

The second thing to consider is an appropriate top and then to decide on the shape. Be sure to give the bag a good, balanced line and not have it too deep or too shallow. It is a good plan to cut a piece of unbleached muslin and try out the size first. This can afterwards be used for the interlining. When you are sure of size and shape cut the material and sew up the side seams.

Now comes the important part in bag making, the part which gives it that tailored look. Separate the seams and turn back against body of bag (as in Figure 1) and lightly blind-stitch or cat-stitch into place. Then press well. A sleeve board is excellent for this. Do not pull stitches too tight as they will show through after pressing. Turn down top and baste to desired shape. Next, cut the interlining  $\frac{1}{4}$ -inch smaller than space to be covered and cat-stitch to edge of turned back side seams (Figure 2). By sewing to edge of seam you will leave a smooth side seam. You will have to

pull the interlining over to meet the seam edge, but when the bag is turned you will see how nicely this fits. The lining is also cut  $\frac{1}{4}$ -inch smaller and sewed to side seam with a running stitch just enough to hold in place.

Now turn bag right side out and pin through linings along bottom, using small lace pins about  $\frac{3}{4}$ -inch long. These are very satisfactory to use as they do not leave marks. Put pins up sides and through center and pull lining up snugly so that there are no wrinkles, and finish top. Don't forget to put a pocket in every bag and add a small white kid or gold or silver envelope purse, which can be purchased for 10 cents and which adds much to the appearance and saleability of the bag.

The bag requiring two interlinings is the envelope type or one with a zipper top. This type bag should be stiffened first with a canvas-like material that has an adhesive side that can be pressed to wrong side of the material with a hot iron. This makes a lovely firm foundation. I like to put a thin interlining between this and the silk lining. Unbleached muslin makes an excellent interlining. You can get several grades, and it is very inexpensive. Some bags with metal tops are hard to line, but a curved surgical needle will help to make your stitches invisible.

Use a good quality of material for your lining. Only a small amount is required so why not have it pretty and of good quality. Rayon taffeta is firm and a very satisfactory material for linings. It comes 39 inches wide and cuts to good advantage.

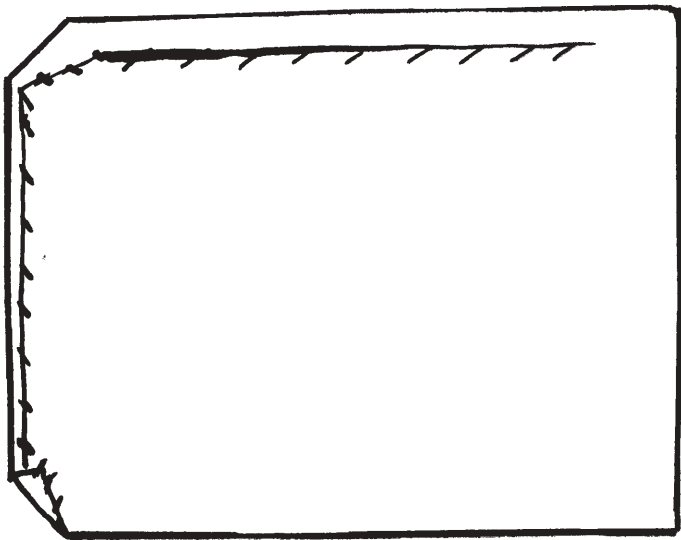


FIGURE 1

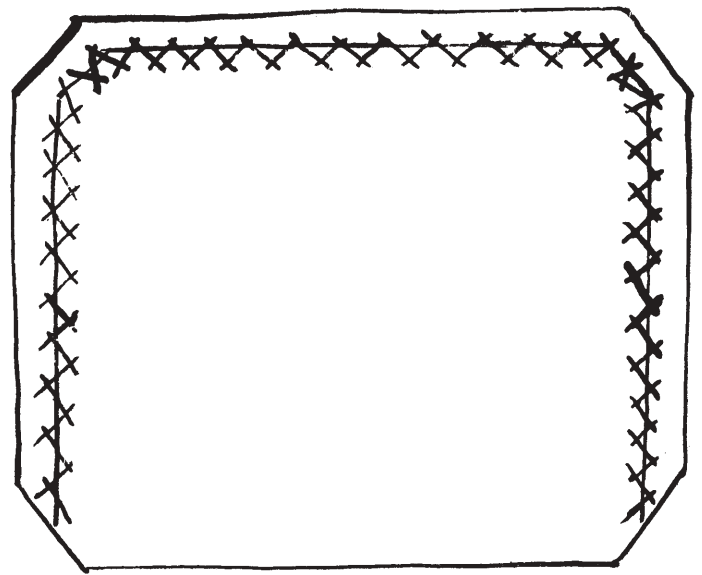


FIGURE 2



*Illustration No. 1*

*Corner in hall showing window and portion of door hanging*

bank of one of our lakes (we have 1,400 in our county), looking up at a bright blue sky with the setting sun flickering through the leaves and the shadows drifting on the water as the breeze gently sways the branches of our great old oaks festooned with gray moss?

So once again in spite of all good resolutions to sit down and draft something original, that "Drifting Shadows" idea was just too much. The name was haunting with its feeling of lights and shadows, twilight and sunshine, and the possibility of trying new color effects. It all had to come in to be perfect, and now as I sit in my comfortable chair and look at a curtain which hangs in a door close by, it is very easy to dream dreams and see the shadows drifting indoors as well as out.

For so lovely a name, the warp had to be longer than absolutely essential, for who could stop at just the number of articles required, and I was only sorry that I hadn't put on twice 35 yards when I found how many exciting things I could do with that warp.

A 20/2's cotton warp was chosen, and because "Drifting Shadows" means to me green leaves, sunshine and purple twilight, two shades of green (one a light yellow green, the other quite dark), a lavender and a yellow went into the warp, which was threaded hit-and-miss fashion at 30 threads to the inch, using five repeats of the draft and a 1, 2, 3, 4 selvage on both sides.

This setting of a trifle over 44 inches in the loom made a textile of which one length served for a couple of narrow doors, and where just side hangings were required, the material was cut through the center and hemmed, as was the case with those shown in Illustration No. 1, which also shows the edge of the striped curtain used in the doorway.

For a tiny entrance hall with an east exposure, curtains were made for the windows and a doorway at the head of the stairs — stripes for the door and natural jute with green and black borders for the windows. All are made of drapery cottons and a jute of the same weight.

**STRIPED CURTAINS**

The curtains for the doorway are made of the same shades of light and dark green as was used in the warp, a rather dark purple and a natural jute, woven in plain tabby and well beaten.

The stripes were woven as follows:

- \* 1 shot of dark green and 2 shots of light green for 2 inches
- 1 shot of purple, 1 shot of light green
- 1 shot of purple, 1 shot of light green
- 1 shot of purple, 4 shots of light green
- 13 shots of purple, 4 shots of light green
- 1 shot of purple, 1 shot of light green
- 1 shot of purple, 1 shot of light green
- 1 shot of purple, 4 shots of light green
- 6 shots of jute
- 7 shots of dark green (center). Reverse to beginning \*.

A plain stripe 2½ inches wide was woven with 2 shots of natural jute and 1 shot of light green. Repeat colored and plain stripes the desired length.

**JUTE CURTAINS**

The body of the jute curtains was woven very lightly of one strand of the drapery cotton (a 10/2's), while the bottom and pattern were beaten somewhat closer. The 20/2's used for warp was utilized for the tabby.

“*Drifting Shadows*”

**BY VERA N. CARR**

**D**RIFTING SHADOWS” — what an entrancing sound that has for those of us who live in the South where the sun is bright and hot almost every day in the year. Though it is glorious, and most of us miss it more than anything else when we have to leave it for a time, we do love to sit in the shade, and for that reason what could be more intriguing when inclined to make new curtains and household “fixin’s” than to choose Mrs. Atwater’s “Drifting Shadows” draft given some months ago in *THE WEAVER*.

Can't you just imagine lolling on a late afternoon on the

Illustration No. 3

Door hanging in "Drifting Shadows" pattern

With a single strand of jute, weave a plain tabby strip about 7½ inches, which allows ample for a 3½-inch hem. Then with a double strand of the cottons, proceed as follows:

- \* 6 shots of black tabby; treadle 1, 3, 1, light green, 1 shot each, no tabby
- 6 shots of black tabby
- 3 shots of jute tabby; treadle 2, 4, 2, dark green, 1 shot each, no tabby
- 3 shots of jute tabby
- 6 shots of black tabby; treadle 1, 3, 1, light green, 1 shot each, no tabby
- 6 shots of black tabby
- 1 inch of jute tabby

With a double strand of dark green pattern weft and light green tabby:

- Treadle 4, 3, 2, 1, 2 shots each with tabby
- 4, 2, 4, 2, 4, 1 shot each, no tabby
- 1, 2, 3, 4, 2 shots each with tabby
- 1 inch of jute tabby
- 6 shots black tabby
- 4 shots jute tabby
- 1, 8 shots light green (dark green tabby)
- 3, 4
- 1, 4
- 3, 8
- 1, 20
- 3, 8
- 1, 4
- 3, 4
- 1, 8 (Centre stripe — reverse to beginning \*.)

**A TABLE RUNNER**

For a small window in an entrance a length of material was cut in three strips, two used for side drapes and the third for a table runner. These were finished on all edges with rolled hems, and a gray tabby used except in the black borders.

With Bernat's Vittora Strand cotton doubled weave as follows:

- Treadle 1, 2, 3, 4, 1, 2, 3, 4, light Italian rose, 1 shot each
- 1, 5 shots
- 2, 3, 4, 1, 2, 3, 1 shot each
- 4, 5 shots
- 1, 2, 3, 4, 1, 2, 1 shot each
- 3, 5 shots
- 4, 1, 2, 3, 4, 1, 1 shot each
- 2, 5 shots
- 3, 4, 1, 2, 3, 4, 1, 2, once each

Stripe (a)



\* 3 shots of black tabby, treadle 1, 3, 1, dark Italian rose, and reverse to \*.

- Treadle 2, 2 shots in yellow } 3 times
- 3, 2 shots in Italian rose }
- 2, 4, 2, 4, 2, 1 shot each in yellow
- 2, 4, 2, 3 shots each in Italian rose
- 2, 4, 2, 4, 2, 1 shot each in yellow

With medium blue, treadle \* 3, 3 shots

- 2, 3
- 1, 6
- 4, 9
- 3, 3
- 2, 3
- 1, 3
- 4, 3
- 3, 3
- 1, 3
- 4, 3
- 2, 3
- 1, 3

Illustration No. 2  
Table runner

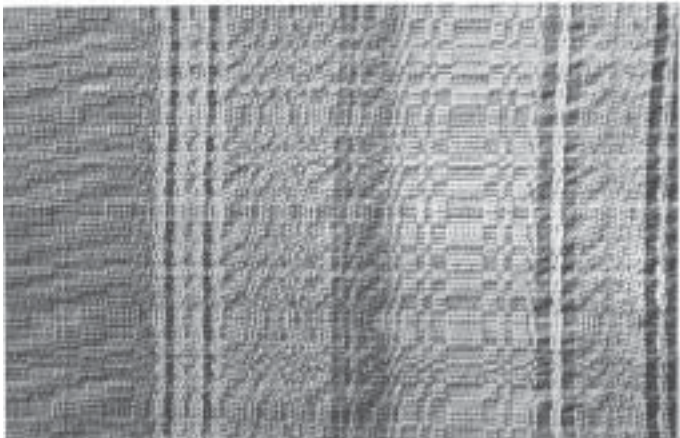




Illustration No. 4  
Blanket and pillows

**PORTIÈRES**

Some door hangings were, after all, the most satisfactory pieces from this stringing, and too they live up to their name. (See Illustration No. 3.) They were done entirely in dark green drapery cotton, doubled for pattern, and were treadled as one of Mrs. Atwater's pillows, instructions as follows:

6 tabby shots in pattern weft  
Treadle 1, 2, 3, 4, 3, 2, 1, 1 shot each, no tabby } (c)  
6 tabby shots in pattern weft  
Treadle 4, 3, 2, 1, 3 shots each with light } (d)

With medium blue, treadle \* 4, 6 shots  
3, 9  
2, 3  
1, 3  
2 shots black tabby in pattern thread  
Treadle 2, 4, 2, 2 shots each  
2 shots black pattern thread, and reverse to \*.  
Treadle 6 black tabby of pattern thread  
2, 4, 2, without tabby in tan  
6, black tabby in pattern thread  
With Italian rose, treadle 4, 3, 2, 1, 3 shots each  
4, 2, 4, 2, 4, 1 shot each, no tabby  
1, 2, 3, 4, 3 shots each  
6 shots of tabby in dark green pattern weft  
Treadle 4, 2, 4, 2, 4, in yellow, no tabby  
6 shots of tabby in dark green pattern weft  
With light Italian rose, treadle 1, 6 shots  
3, 3  
1, 3  
3, 6  
1, 16 Stripe (b)  
3, 6  
3, 3  
1, 6  
Tan pattern thread and no tabby, treadle 2, 4, 2, 1 shot each  
Dark green, treadle 1, 2, 3, 4, 3 shots each  
Tan pattern thread and no tabby, treadle 2, 4, 2, 1 shot each  
Italian red, treadle 3, 1, 3, 2 shots each with tabby  
Blue, treadle 4, 1, 2, 3, 3 shots each with tabby  
4, 2, 4, 2, 4, no tabby, 1 each  
3, 2, 1, 4, 3 shots each with tabby  
\* Yellow, no tabby, treadle 1, 3, 1, 3, 1  
Black with tabby, treadle 4, 3 shots  
Yellow as above, treadle 1, 3, 1, 3, 1  
Blue, treadle 3, s shots and reverse \*.  
Italian rose, treadle 1, 2, 3, 4, 1, 2, 3, 4, 12 times each  
4 shots blue pattern tabby  
4, 2, 4, 2, 4, no tabby, in yellow  
4 blue tabby shots  
4, 2, 4, 3 shots each  
Stripe (a) with which the runner started

green tabby  
Treadle 4, 2, 4, 2, 4, 1 shot each, no tabby  
1, 2, 3, 4, 3 shots each with light green tabby  
Repeat stripe (c)  
Stripe (b) with yellow tabby  
Repeat stripe (c)  
Treadle 4, 1, 2, 3, 3 shots each with light green tabby  
4, 2, 4, 2, 4, no tabby  
3, 2, 1, 4, 3 shots each with light green tabby  
Repeat (c)  
Treadle 3, 5 shots with lavender tabby  
2, 5  
1, 8  
4, 12  
3, 5  
2, 5  
1, 5  
4, 5  
3, 5  
1, 5  
4, 5  
2, 5  
1, 5  
4, 8  
3, 12  
2, 5  
1, 5  
Repeat (c)  
Treadle 3, 2, 1, 4, 3 shots each, light green tabby  
4, 2, 4, 2, 4, no tabby  
4, 1, 2, 3, 3 shots each, light green tabby  
Repeat (c)  
Repeat (b)  
Repeat (c)

Stripe (c)

With single strands of pattern thread, weave alternate dark and light for three inches; five inches of one dark and two light; seven inches of one dark and three light, and the remainder one dark and four light.

**COUCH BLANKET**

A light couch blanket was made of Bernat's Fabri wools in

*Illustration No. 5  
Bag with hand-carved top*



a plain tabby weave in several shades of green, hennas, yellows and black and finished with a binding of grosgrain ribbon, as shown in the back of Illustration No. 4.

#### **PILLOWS**

A number of sofa pillows were made on the stringing, and, for variety, some of just plain tabby weave. The two figured pillows shown in Illustration No. 4 were made of Bernat's Vittora Strand cottons doubled, and were treadled as follows:

##### *Large Pillow*

Treadle 1, 2, 3, 4, 1 shot each, 3 times, in black with a lavender tabby  
 1, 7 shots (and continue as in Stripe (a) except for using 7 shots instead of 5 shots on treadles 1, 4, 3, 2 when used singly  
 4 shots of pattern weft  
 1, 2, 3, 4, 3, 2, 1, 1 shot each with no tabby, in yellow  
 4 shots of black pattern weft  
 1, 3 times in light green, light green tabby  
 3, 5 times in dark green  
 1, 3 times in light green  
 4 shots of black pattern weft  
 1, 2, 3, 5, 3, 2, 1 in light yellow, 1 shot each, no tabby  
 1, 12 shots in a deep burnt orange, green tabby  
 2, 12 shots  
 3, 12  
 4, 12  
 1, 12  
 2, 12  
 1, 3  
 4, 3  
 3, 3  
 2, 4, 2, 4, 2, 1 shot each, no tabby, in black  
 1, 3 shots in light green, green tabby  
 4, 2, 4, 2, 4, 1 shot each, no tabby, in black  
 3, 5 shots in purple green tabby

This is center of the pillow and directions are reversed, reading back to the beginning.

The back of this pillow is done in varied colored stripes, most of them in plain tabby weave, but an occasional pattern shot is thrown at irregular intervals through some of the wider stripes.

#### **PILLOW NO. 1**

A second pillow in pattern and much smaller was made by using Border (c) in dark green with light green tabby.

Treadle 6 shots in black pattern weft  
 4, 2, 4, 2, 4, 1 shot each with no tabby } (f)  
 6 shots in black pattern weft  
 Border (b) in light green with dark green tabby  
 Repeat (f)

#### **THE WEAVER**

Border (e) with dark green pattern and light green tabby  
 Repeat (f)  
 Repeat (b)  
 Repeat (f)  
 Repeat (c)  
 and weave plain back, any shade desired.

The third and plain woven pillow was done in a Chinese red, black, gray, green, orange and yellow, using but one strand of the cotton and beating it closely.

#### **BAGS**

Bags were found to be an adventure in themselves, and an endless variety is possible in the use of materials and colors. One width of the material was sufficient for bags of the type illustrated. With all the previous detailed instructions, as well as the clear illustrations used in Mrs. Atwater's article, it seems hardly necessary to do more at this time than to suggest some of the colors used.

The two bags shown in Illustration No. 6 were made for beach bags of the strand cottons, the upper one being in shades of orange, yellow, red, jade and brown to blend with the streaks in the cedar top; the lower one is in shades of brown, tan, red and orange, and pulls in nicely with the orange wood top which had been stained a light coat of walnut and rubbed down and waxed, which leaves the yellow of the orange wood showing conspicuously through the light coat of stain.

These bags were lined with rubber sheeting and proved most durable and satisfactory for hard wear and careless usage at the beaches and lakes for carrying wet towels and bathing suits.

The bag with the more ornate top was made of rayon — a dark greenish blue with the tabby and the smaller stripes of light green and gold — and lined with a dark blue moire.

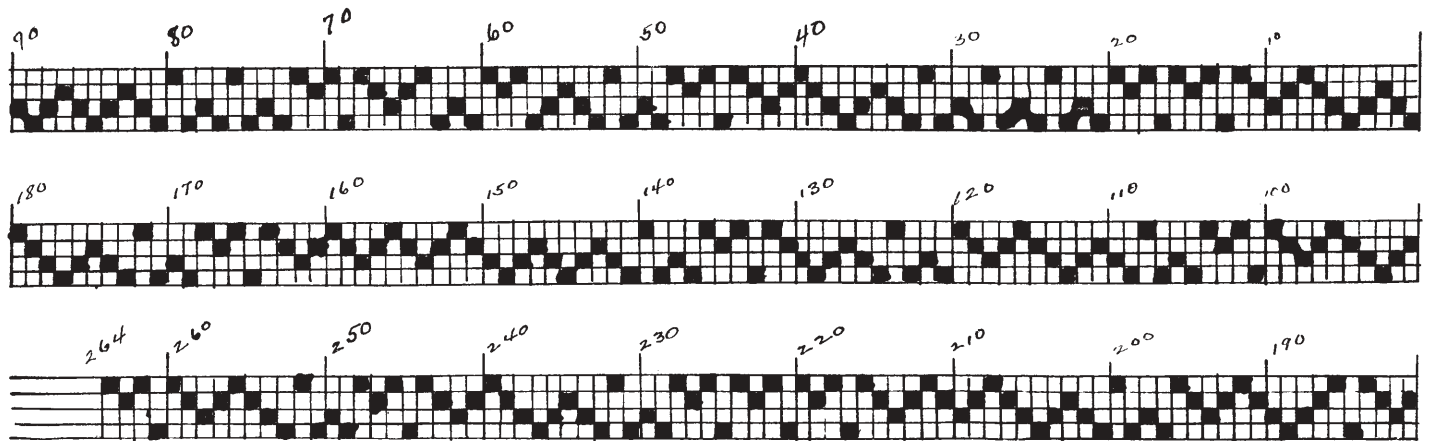
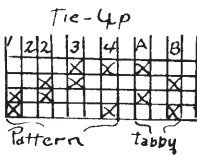
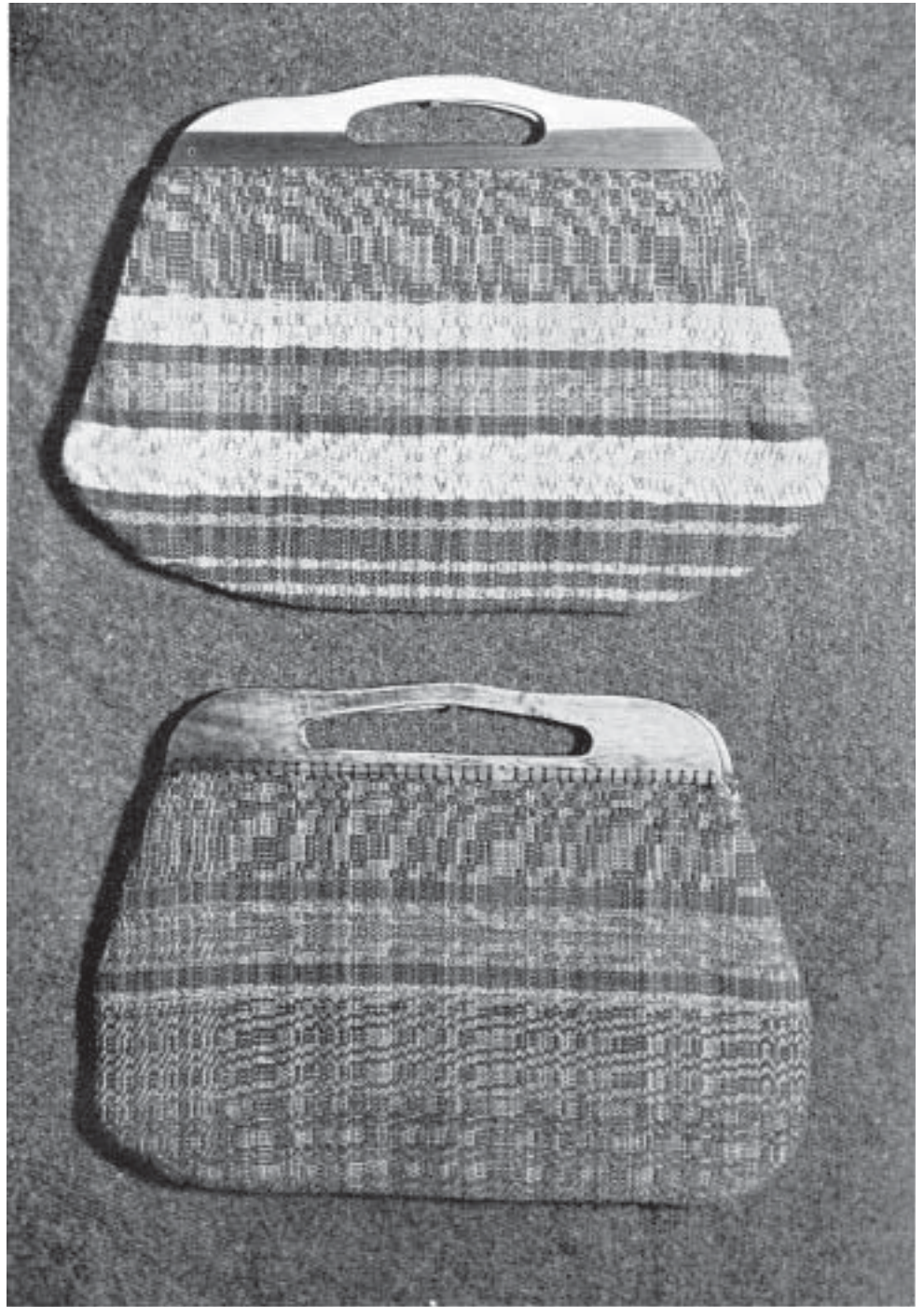
Another piece made of rayons in lavender, green and gold was much admired. A wide stripe was made of the lavender with a dark green silk tabby, and smaller stripes with alternate shots of the colors, such as one stripe of green and

Illustration No. 6  
Beach bags

lavender; another of orange and lavender, and still another of the three colors. A gold moire lining completed this bag.

An exceedingly nice combination proved to be a brown piece made for one of these carved handles which had been lightly touched with a rose and green stain. A reddish brown pattern thread was used with a combination of green rayon and a green and gold tinsel for tabby; the green and gold tinsel being used in a light green stripe of the same shade as the green tabby. The upper portion of the bag was made of a light terra cotta with the green tabby, and the bag lined with a lovely soft shade of rose moire.

There is no limit to the different effects possible with this lovely draft, but it seems to me it best carries out the feeling of the pattern — and the name — when varied hues in warp, tabby and pattern wefts are used.



# "Loom Controlled" Patterns

BY FLORENCE D. BRATTEN  
AND NELLIE SARGENT JOHNSON

(Special Instructor in Weaving, Wayne University, Detroit, Mich.)

IT is a fascinating pleasure to be able to create your own "loom controlled" pattern drafts, as well as to weave them. By "loom-controlled" pattern we mean the woven pattern resulting from weaving according to the arrangement in which the warp threads have been threaded on the different harnesses of the loom.

This is written with the hope that weavers will be encouraged to experiment. There has been all too little experimenting, and too much "copying" and weaving of the same kind of thing over and over. In a recent trip through the South, a young weaver was found who had been weaving for eight years, and had never learned how to weave anything else but "Whig Rose" pattern over and over again. Compare this with some progressive weavers in California who have devised some "artificial snow" on the hand loom, which is shortly to be adopted by a national concern for indoor skiing purposes. If weavers of today are to do anything toward producing any lasting effect as far as hand-woven fabrics of our own time are concerned, they cannot be content to just copy over and over again Colonial or Scandinavian threading drafts. They must devise, create, and experiment for themselves. Many weavers are afraid to experiment, or even try anything that is at all new for fear someone will tell them it is wrong, or for fear they may possibly waste some material. Better try and make many mistakes, than not even try at all. For new styles of pattern design and new weaves may be discovered in this way. This particular method, which will be described below, was devised by Mrs. Bratten as a means of creating new patterns, and the first description of it was given in the January 1937 copy of *Handweaving News*, a monthly leaflet on weaving.

Let us look at the draft at the top of Figure No. I. Let us call this the key draft, because from this all of our different threading drafts can be made. At the right of the key draft are the figures 1, 2, 3, and 4.

These represent the four pattern blocks of this pattern. On a four-harness loom, we have the first pattern block written on harness 1 and 2, the second on harness 2 and 3, the third on harness 3 and 4, and the fourth on harness 1 and 4. The figures at the top line of the key draft represent the number of *units* in each pattern block; in this case two units in all of the pattern blocks except the center one, which has four units. It is possible to make these units any size you may care to write them according to the size you wish to have the woven blocks. In planning these patterns, it is very important to note where your pattern will center, and keep the pattern balanced on each side of this center so that it will be symmetrical. You can, however, write a pattern to take in all of your warp threads for the entire width of the loom, by writing it so that the center will come on the center warp thread, and then reverse the threading back to the beginning. The key draft at Figure No. I is one repeat of the pattern, and this pattern has its center as marked at (C), on the four-unit block. This pattern could also be arranged so that it could center on the fifth two-unit block from the beginning, instead of on the four-unit block, if desired.

In order to get the effect of what this key draft will produce when woven, we will proceed to draw down the blocks of the key draft in the size and order in which they occur. Begin at the upper right-hand corner of your paper, and draw in squares as shown on Figure No. I below the key draft, making a row of blocks all across the top of the paper wherever a pattern block 1 occurs. Reading from right to left on your paper, you should have 3 two-unit blocks, then a four-unit, and then 3 more two-units. Next draw down those on pattern block No. 2 in the same way, and you will have 6 two-unit blocks below the ones you drew first. Do the third and fourth rows in the same manner. The figures at the right of the drawing show the order in which the blocks are drawn down, and it is well to study this carefully so

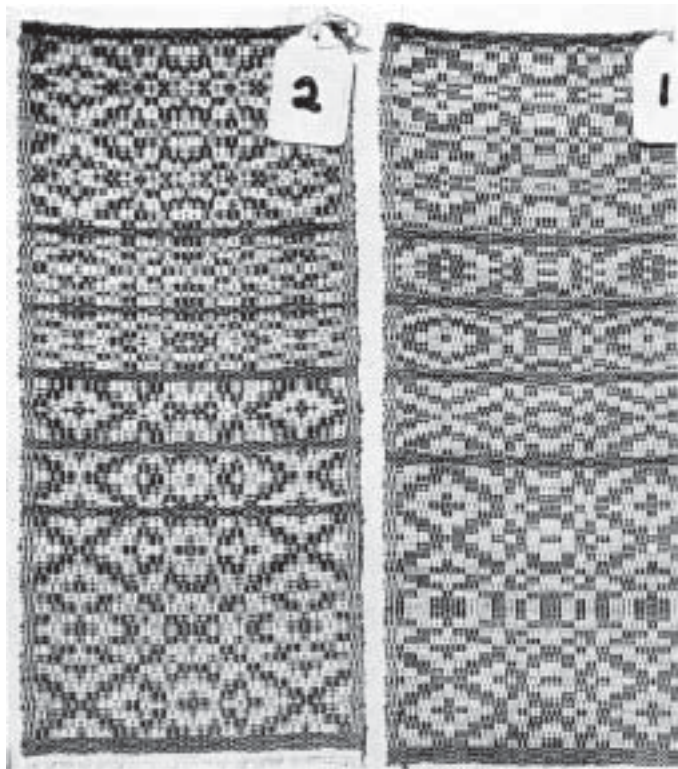
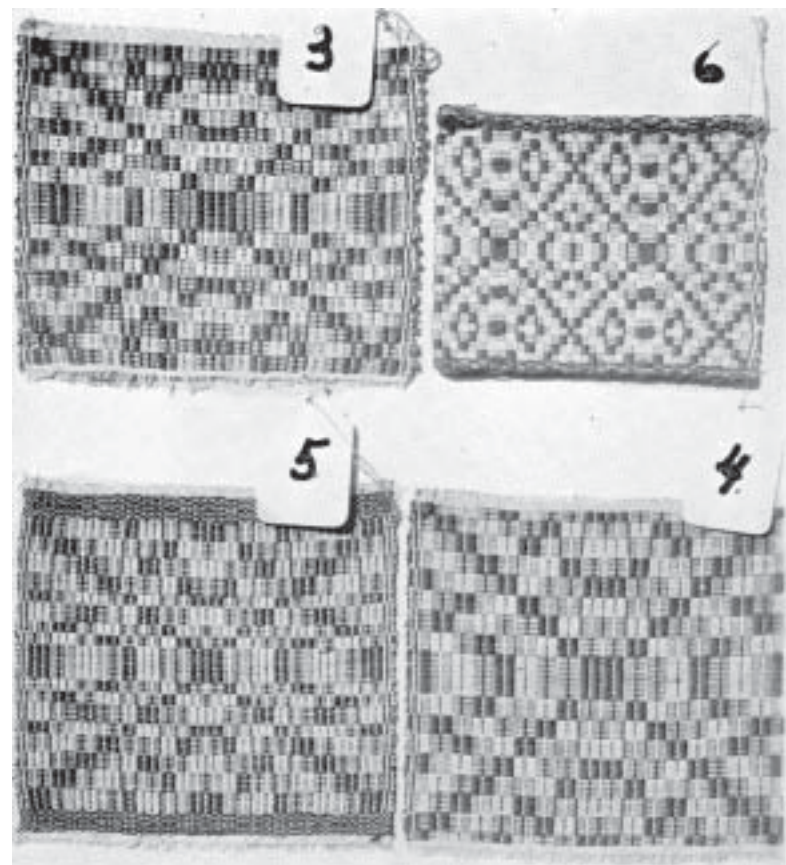


Illustration No. 1

Woven effect of "3 and 1" threading draft at Figure No. I, and "4 and 1" threading of same figure





that you can see just how this is done. As the full repeat of the pattern is 24 blocks, it is well to draw it all out to get the full effect, and also include an extra block which would be the beginning of the next repeat of the pattern. With some patterns it might be well to repeat at least one and a half of the repeat, and sometimes two repeats will give the effect of the pattern better.

Now that we have the key draft No. 1 drawn out so that we can get the effect of the pattern, we can examine it carefully and see if we wish to have any of the blocks made larger or smaller to improve the pattern design. If any changes are desired, make them, and change the key draft accordingly. Then draw down the effect again to see if it is correct before going any further with the designing of the different threading drafts which are to be used. All of this may be done on paper without any consideration of the loom at all. For simplicity, all the blocks in the pattern have been studying, except the center one, have been made the same size. Variations in the sizes of the different pattern blocks make the resulting pattern of much more interest. Study this in any good pattern you see and make notes of the successions in the position of the different pattern blocks.

Any order of the pattern blocks will produce a pattern, but some will be much more attractive and pleasing than others. Changing the sizes of different pattern blocks will generally improve a monotonous pattern and give better results when woven.

After you are satisfied with your key draft and the pattern effect of it as you have it on paper, the next step is to draw out a pattern draft which you can thread into the loom. This key draft can be worked out in a number of different threadings for the loom. Just as it is, it could be used on a six-harness loom to give the "Summer and Winter" weave effect. In this case, each pattern block unit of the key

draft would represent a threading of block 1 — harness 1, 3, 2, 3; block 2 — 1, 4, 2, 4; block 3 — 1, 5, 2, 5, while block 4 would be threaded on harness 1, 6, 2, 6, and these would be repeated for each unit of the pattern block on the key draft. Those of you who are familiar with this type of weaving will have no difficulty in seeing how this is done.

Now let us look at the threading drafts of Figure No. II. The first one is called the "3 and 1," and if you examine it carefully you will see that it is none other than the familiar "Crackle" weave or "Jamtlandsvav" — to give it the Scandinavian name. In this weave the pattern blocks are made up of a succession of skips over three warp threads separated by one warp thread left up which makes a binding thread. This order of three and one may be repeated any number of times to make pattern blocks of any desired size. But it is often necessary to add one or two extra threads to keep the correct order of the tabby thread. Each square of the key draft at Figure No. I stands for one group of four warp threads which are to be woven over three and under one, but in the actual draft of the threading at (1) of Figure No. II, each x represents a warp thread. In this draft the center or middle thread is at thread 115 at the end, so you thread from 1 to 115, then 114 back to the beginning for one complete repeat of the pattern. Illustration No. 1 is photograph of the actual weaving carried out in several variations, as well as the way it is "drawn in." This makes a good-looking piece to hang on the wall, and much can be learned from carefully studying such a piece.

Note how the blocks follow each other, whether the pattern as it is woven is symmetrical or not, and the color values which have an important part in this type of draft. Also pay particular attention to the way in which the different blocks overlap each other, for it is this overlapping which gives the

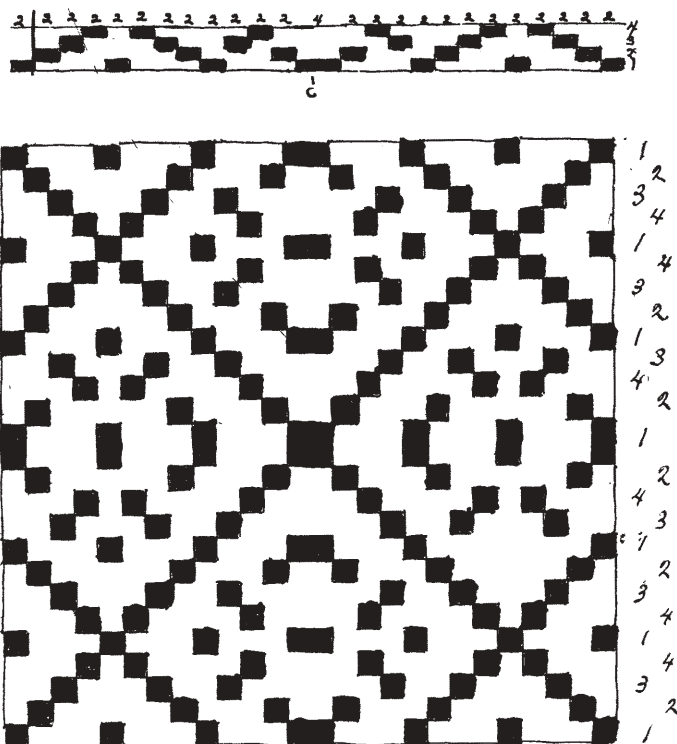
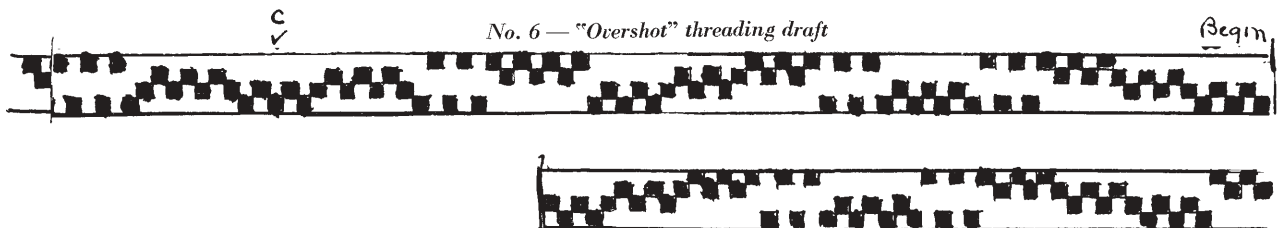
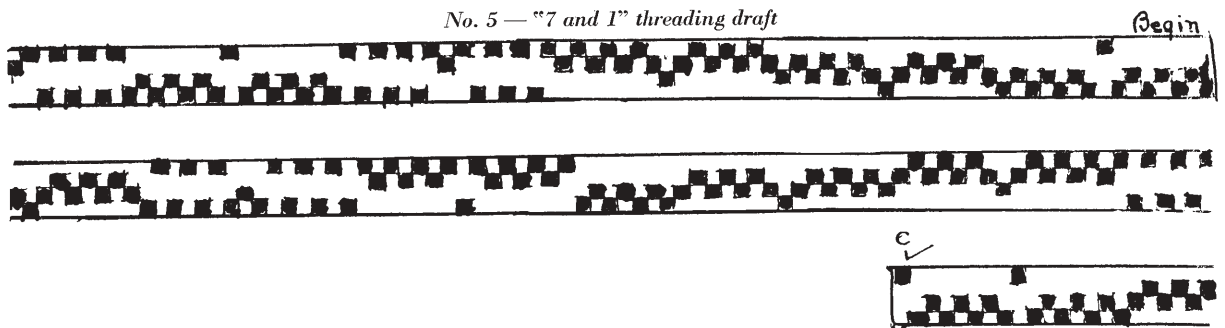
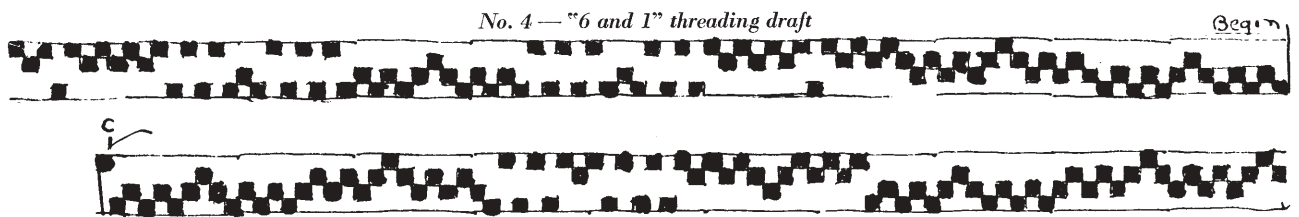
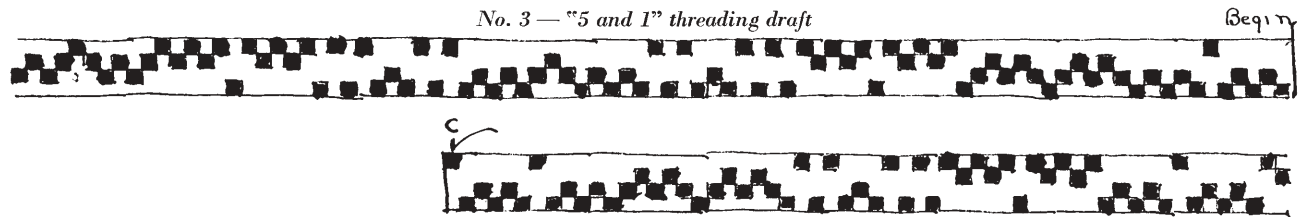
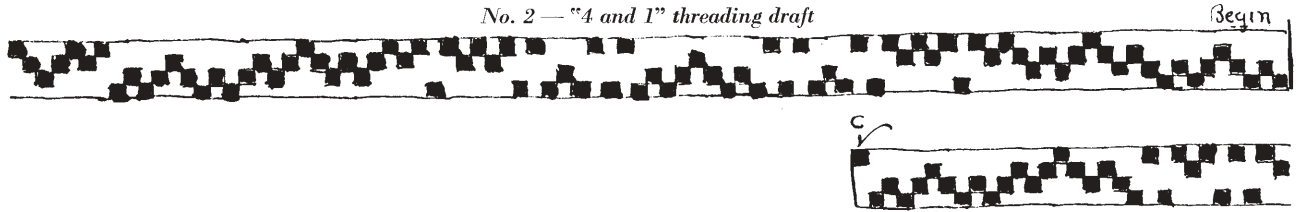
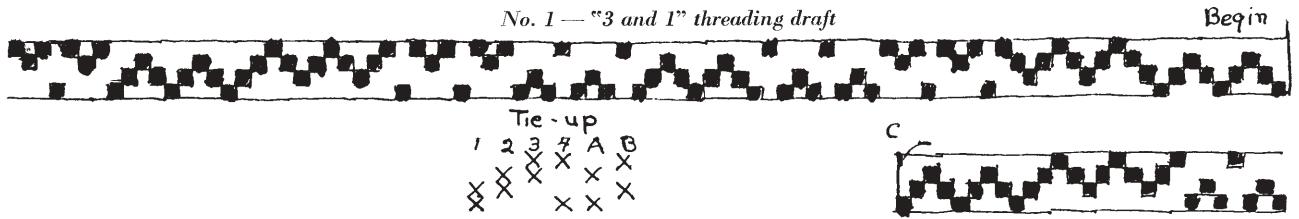
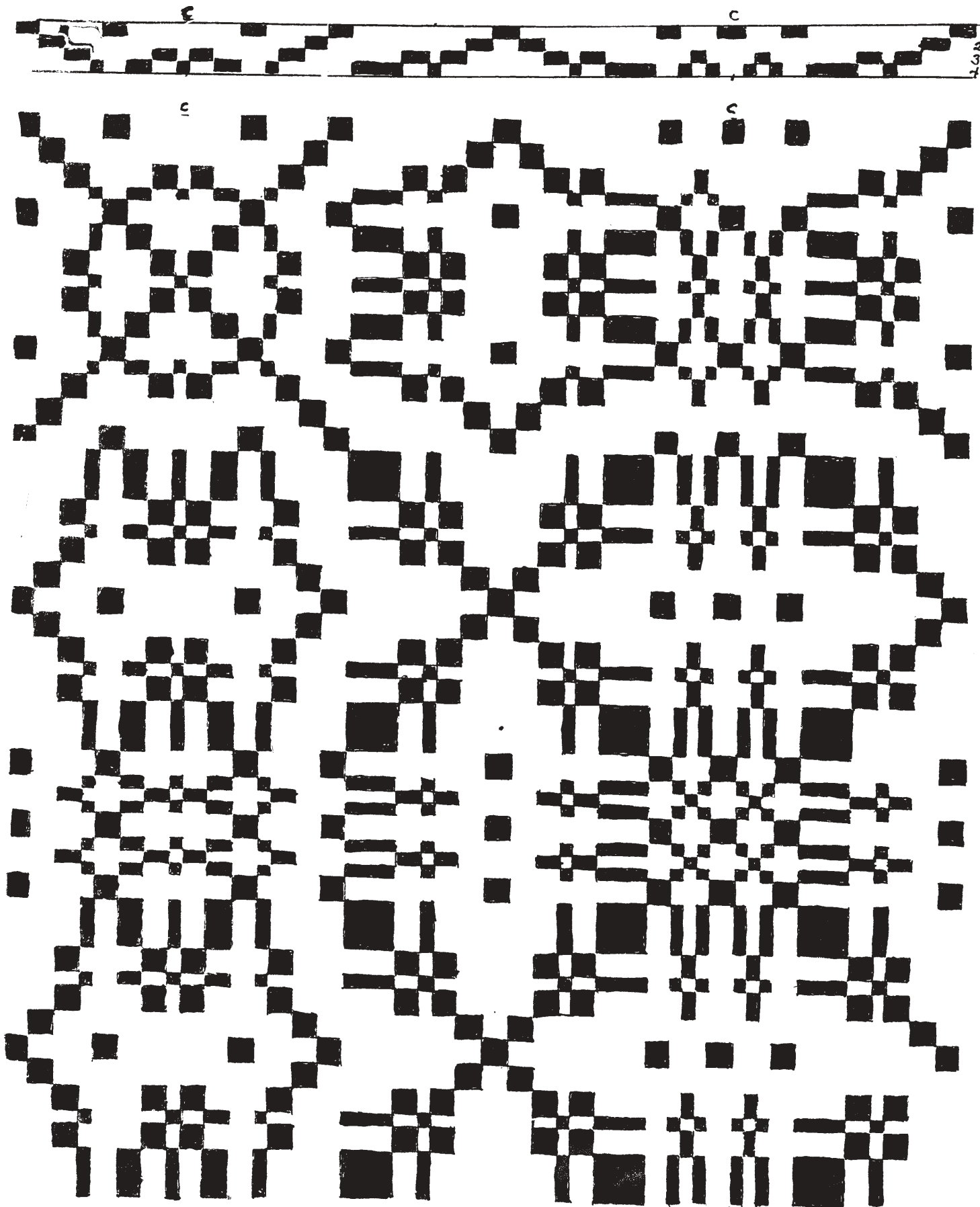


Figure No. I  
Key draft and draw down of key draft to show how key draft is drawn out to get the pattern



*Patterns by Mrs F D Bratten*

Figure No. II  
Different threading drafts all based on the pattern of the key draft at Figure No. 1



*Pattern by Mrs F D Bratten.*

Figure No. III  
Key draft for threadings at Figure No. IV

“Crackle” weave its distinctive effect when woven. For those of you who are interested in still another method of writing this 3 and 1 type of draft, we would refer you to *Handweaving News* for September 1936.

Having become familiar with this 3 and 1 type of pattern and its possibilities, let us try the effect of making each unit of the pattern block key draft consist of four threads plus one. The same key draft may be used, so that we can study the difference in the effect produced. When using a grouping of 4 and 1 for each of the units of the key draft of Figure No. I, thread each of the pattern blocks to be threaded into the loom as follows:

Block 1 may be threaded 1, 2, 1, 2, 3, or 2, 1, 2, 1, 4.

Block 2 may be threaded 2, 3, 2, 3, 4, or 3, 2, 3, 2, 1.

Block 3 may be threaded 3, 4, 3, 4, 1, or 4, 3, 4, 3, 2.

Block 4 may be threaded 1, 4, 1, 4, 3, or 4, 1, 4, 1, 2.

Use either form as is needed to preserve the tabby succession. This “4 and 1” threading draft has no overlapping blocks, but it does form small two and three thread blocks which do greatly influence the woven effect, and these should be carefully studied.

Illustrations No. 1 and 2 show the woven effect of the 4 and 1 threading, as well as some of its variations. The same type of threading may be written using groups of 5 and 1, 6 and 1, and 7 and 1, as well as the regular “overshot” type, and all of these can definitely be made to follow the same key draft as given in Figure No. I. At Figure No. II are given all of these different drafts, and at Illustration No. 2, 3, 4, 5, and 6 show the woven effects gained by using these different drafts. As will be seen from the illustrations, the groups having four or more threads combined with the one thread give a more bold effect when woven. In the “6 and 1” the accidental skips are more pronounced than in the “4 and 1.” Study these carefully, note how they are produced, and where they may be eliminated if not desired. In the larger groups “4,” “5,” “6,” and “7,” note that there is a larger proportion of color in the pattern blocks, which

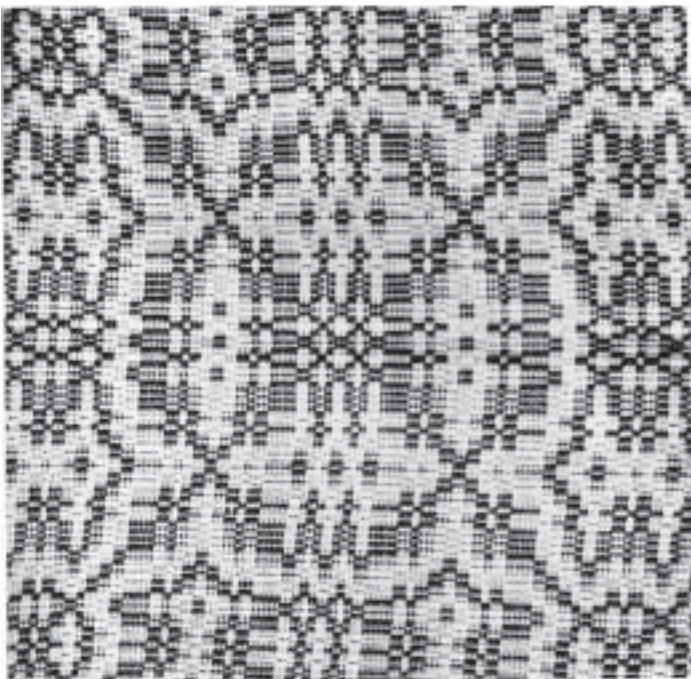


*Illustration No. 3*

*Woven effect of “4 and 1” threading draft at Figure No. 3*

makes for greater contrast in the darks and lights. Also there are three different tone blocks besides the pattern blocks, making shadow effects of varying density. The placing of these shadows should be studied and the threading altered if necessary to give the best effect. These drafts, as well as the woven effects, deserve careful study, for when you realize that you can make any sort of key draft that you may desire, and then carry it out in all of these different types of drafts, the possibilities for unusual weaving is almost limitless.

At Figure No. III is shown another key draft, and at Figure No. IV the pattern threadings for the 4 and 1, and 5 and 1 types of threading drafts. The c 1, and c 2 on these drafts refer to the centers as marked on the key draft. Only one half of the complete pattern repeat is given in these threading drafts. Thread from the beginning to the end of the draft, and repeat right back to the beginning again for the complete repeat threading. Illustration No. 3 shows the woven effect of the 4 and 1 threading draft of Figure No. III, and Illustration No. 4 shows the woven effect of the 5 and 1 threading taken from the same key draft



*Illustration No. 4*

*Woven effect of “5 and 1” threading draft at Figure No. 3*

at Figure No. III. Both of these pieces were woven on a 20/2 cotton warp set at 30 threads to the inch, with tabby like the warp and six-strand green soft cotton for the pattern weft. While the difference in effect is not very clear in the photographs, it is considerably different in the woven

fabric itself. This kind of drafting of new patterns offers a wide field of adventure for the person who desires to get some original patterns of their own to use, and we hope that many of you will find this of much interest, and inspire you to create for yourself.



*Pattern by Mrs. F. D. Brabster*

Figure No. IV  
Threading drafts from key draft at Figure No. III

# Yale School Weavers

BY ROMA C. WALTERS

WEAVING at Yale School, Youngstown, Ohio, came about largely by accident — as do many happy experiences. I had planned to take the children of this small private school on hikes to hunt geological specimens, butterflies, and the like, when a sudden illness prevented me from taking strenuous exercise for several months. My own sons had enjoyed weaving at home, so I decided to try teaching it to the eighth grade children at Yale. My loom was moved to school, and another was kindly loaned to us by the Association of the Blind. The announcement was made that all children interested in weaving were to come to the Weaving Room on an appointed day. To the amazement of the faculty, only boys reported.

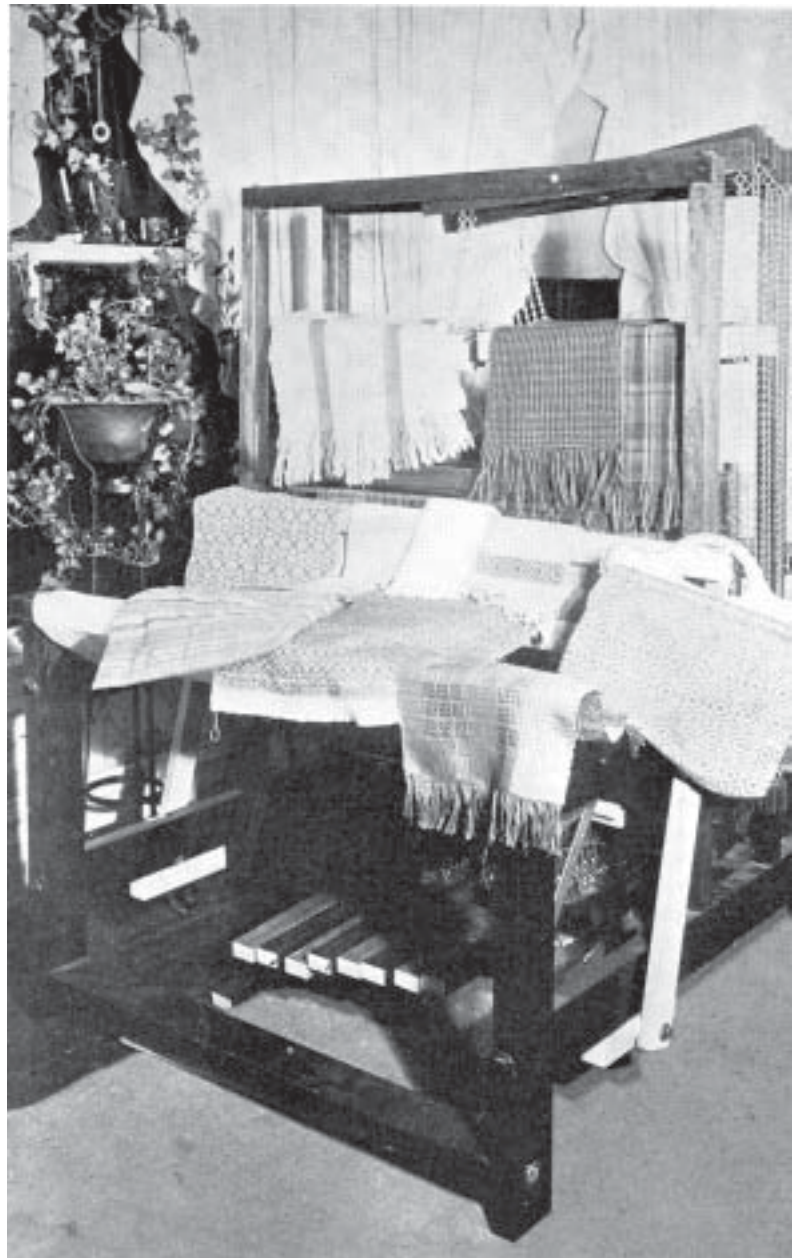
The venture was started with seventh and eighth grade boys. To them, the loom was a fascinating piece of machinery, and I believe they were secretly happy if an adjustment of any kind had to be made. Very soon I realized that weaving was the perfect project for progressive education. I have taught it for the past fifteen months by a method that Mrs. Atwater and all good weavers would not endorse, but it has worked out successfully for these children. We learned to weave backwards. First of all, one loom was given to them ready to be woven upon, then the boys took turns weaving. The questions they asked formed their instruction. "What is this called" soon taught them the names of all the parts of the loom. They learned how patterns are produced, how looms were warped and threaded by asking "why" and "how." My only difficulty with this first group of boys was that they were not at all interested in learning anything about design. Their interest lay wholly in a mathematical combination of the treadles. Working the pattern out on squared paper had no fascination for them. They would work out among themselves an amazing combination of figures, and whether or not the pattern worked out successfully under that method interested them not at all, but the fact that it was a different pattern each time they tried some of the combinations was a great joy to them. In a short time they began to compare their efforts, and had they not graduated from the little school in a short time, they would have learned by this method what is good design and what is not.

My first few months with them taught me much more than they learned, so that when school opened the following autumn I had definite plans made for using every possibility of tying up weaving to all the regular school work. Two more large treadle looms were added and a small Structo hand loom. One boy made a bench in the manual training class, and a very satisfactory floor swift at home. (Next year we hope to construct a loom, making it a cooperative project for all the children interested in working on it.) By September, 1936, all girls and boys in the seventh and eighth grades were interested.

Early in the year, weaving began to be felt in the classrooms. A child chose of her own accord as a book report,

"The Old Coverlet Book" by Ella Calvert Hall. Themes in English took on a distinct weaving flavor. "The Early History of Weaving," "The Great Weaver Penelope," "Modern Weaving," "Chinese Weaving," were some of the titles. Outfitting a soldier of the American Revolution suddenly became a live topic in history class when the children, out of their own experience, began to figure just how long it would take to weave his linen shirts, his suit and his two blankets. A girl in the Latin class was inspired to translate the story of Arachne, the spider.

I am ashamed to confess that we had no discipline in the Weaving Room — we did not need it. We were all very happy, and if we wanted to sing we did so. Everyone talked as much as he pleased about anything he pleased. The only time we were at all considerate was when a loom was being threaded. Then the rule was *silence*, and never once did it have to be enforced. We often had visitors, particularly the grades who did not weave. The little children from kindergarten and first grade thought it was nothing short of a



*Some of the weaving done by seventh and eighth grades of the Yale School*

**THE WEAVER**



*Weavers studying French at the Yale School*

miracle to see fabric made from thread. Often we studied. One of the illustrations shows two seventh grade girls learning their French words. It was the regular rule to give spelling during weaving, and before a test in history everyone helped out on giving questions to the weavers so they might not lose any time on the looms. One day we discovered that some weaving could be done to music. The kindergarten room was just below, and it was fun to try to keep time to their music. It made weaving doubly enchanting.

Many times only one child would be in the room, and it was then that I frequently felt like a confessor. I shall never forget the child who asked me how it felt to grow up. We each profited from that experience. Her mother told me later that I had helped smooth out that difficult problem, and it made me happy to know that I could give the children something besides instruction in weaving.

We had one sight-saving child who was rather a problem. When she came to me she was constantly bumping into chairs and knocking them over. I could not decide whether she really could not see the chairs or whether she simply craved attention. I do not know whether it was because she learned to weave blindfolded and thereby became an interesting person, or whether her muscles came under better control through weaving, but she gradually stopped bumping into the furniture and soon became a very likeable person. Of course, it was natural that everyone else should want to weave blindfolded — and they did.

Toward the end of the year, we were told that we might have a Morning Circle on the weaving project for the

parents. I asked for themes and, if possible, one poem. Then, because I was fearful that no one would write one, I was underhanded enough to speak to one mother, who was very clever at writing, and asked her to see that her daughter brought me a poem whether it was original or not! But that deceit was not necessary. How proud I was of those first attempts the children brought. They truly bore out one of the first statements ever made about poetry — by a Chinese — “What is poetry but a voice from the heart? It can be found in children’s hearts, and it comes to us by morning and by night.” I like to think of the origin of children’s poetry being as simple as that.

This poem by Phyllis was written out of her experience of weaving a very handsome yellow shepherd’s check wool scarf.

*A Weaver’s Poem*

One, three, two, four,  
O’er and round once more,  
Beat them down and flatten out  
The threads that soon will be about  
A fellow’s neck to keep it warm  
Through chilly days and wintry storm.

A beautiful pattern begins to appear,  
And now the end of the work is near.  
The beautiful colors begin to show  
And make a very pleasant glow  
About the scarf which is to be  
A very useful gift for me.

Eleanor sat at the long table in the Weaving Room with pencil in hand and a worried look on her face. But before she went to her next class, she had written the following:

*Queen’s Delight with soft taupe warp and tabby*



*Sitting at the Loom*

Sitting at the loom,  
In the noisy weaving room,  
Weaving to your heart's content —  
New designs there to invent.

Sitting at the loom,  
In the cheery weaving room.  
A change of the treadles, a slip of the shuttle,  
Long strings are left there in a muddle.

Sitting at the loom,  
Watching folks about the room.  
All the strange things there to see —  
Weaving large towels and bags so wee.  
Sitting at the loom.

If you knew Gloria, you would agree to the truth of the expression "self-revelation, that privilege of poetry." She wrote this one:

*There's Music in Weaving*

There's music in weaving,  
Music with a gay lilting rhythm;  
A push of the beater is the beat of a drum;  
There's music in weaving.

A throw of the shuttle through silken threads  
Plays a tune all its own.  
There's music in weaving.

There's a melody in each change of the treadles;  
You're never alone when you're weaving.  
There's music in weaving.

The English teacher and I make no apologies for the meter in these poems. They were read in Circle and are printed here exactly as they were handed in. There is plenty of time to worry about meter; the thought behind them was what we were after.

No grades were given in weaving. Grades would have spoiled the fun. A few of the children became excellent weavers. One girl wove as fast as I did and very evenly. Some were very good at threading and some quite hopeless. They all liked to warp. I think most of them liked to have a thread break in the warp because they felt clever at being able to mend it. Some of the children will probably not be able to set up a loom by themselves, but others will. I believe the same rule would apply to a class of adults. Since starting weaving at Yale School, I have been besieged by adults to teach them, but teaching adults would not be half the fun that it is teaching children. I wish weaving might be taught in more schools, for its educational possibilities are unlimited. We touched on different kinds of threads, how cotton was grown and wool produced. They brought that to the weaving room from Geography. Next year we expect to prepare our own flax as a stunt. The fascinating history of rayon is before us. It is good to learn these things as we handle wool and cotton and linen and rayon. Children learn so much through their hands.

In the early spring the Junior Chamber of Commerce put on a Hobby Show, and Yale Weavers won first place for

school handicraft. One of the illustrations shows some of the work shown in the exhibit. We did not do any very original work. One girl did a nice piece of inlaid weaving, and we did some attractive pieces in two colors, linen floss and Raytane. We made many linen towels and wool scarves. One of the best pieces was a large wool scarf of soft grey and pink made at Christmas for one of the grandmothers by her two granddaughters in the school. Knitting bags were popular, and the handles were made in the woodworking shop at school. We made dozens of pocketbooks with zippers on the top. Some of the handsomest ones were of Bernat's white chenille with pastel tabby of linen floss used double. I need not add that weaving was as popular with the parents of the school as with the children. It is the perfect way to get them to visit school.

My plans for next year are ambitious, but I see no reason why they should not work out. Youngstown has a very large foreign population, as does every industrial city. In addition to correlating weaving with the school curriculum, I hope to promote some international understanding among these children of the privileged class of citizens by having them copy weaving from other lands. *THE WEAVER* has been my inspiration for this idea, and will be used as a text for Yale Weavers next year.



*Boys as well as girls learn weaving*



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# Questions and Answers

ADDRESS YOUR QUESTIONS TO MRS. MARY M. ATWATER, BASIN, MONTANA

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I HAVE received so many questions of a vague and general type that it seems necessary to say a word on the subject. For instance, one correspondent writes (forgetting even to include the postage for reply): "Please tell me how to set up a loom for weaving." Naturally questions such as this cannot be answered in detail and all I am able to do is to refer these inquirers to books that give the desired information.

Another correspondent asks: "Please tell me how to spin." Books have been written on that subject, and naturally the question cannot be answered in a letter.

I receive many letters asking how to determine a fair selling price for this and that. These questions are particularly difficult to answer. The selling price is a matter of many factors. It cannot be based strictly on the time taken in weaving as some people weave very slowly and others quite rapidly, and the work of the slow weaver is not necessarily of more value than that of the rapid weaver. The cost of the material is another consideration. People who buy their yarns from a department store pay more for the material than those who are able to buy from yarn dealers, but the material is no better if bought at the higher price. The quality of workmanship is another element, but an attractive thing will sell better, even if quite badly woven, than an ugly piece of excellent workmanship. Location also makes a difference. In some places things sell for much better prices than in other places.

The only general rule I can suggest in the matter of selling prices is to make the price high enough to return a reasonable profit, but not high enough to prevent making sales. If it is impossible to sell a particular article at a price that will be profitable, the only thing to do is to make something else, or to find some way of making the particular article that will either increase its attractiveness or reduce the cost of producing it — either by reducing the cost of the material or the time in weaving.

I realize that this is extremely vague, but it is impossible to be more definite. If weaving were organized on a commercial basis — if, for instance, there were a large selling

agency to handle hand-woven products — certain standardized fabrics would be produced and standard prices could be determined. At present there is no such agency, and each of us must standardize his or her own product and set prices.

Some people write and ask me what are the best things to weave, from the point of view of selling. This, again, is something I cannot answer definitely and off-hand. Some things sell well in one place and not well at all elsewhere. The thing to make is also a matter of personal ability in the weaver. Many people suffer from slight degrees of color-blindness or are unable to use color freely and cleverly in their work. For these people a line such as bags, scarves, pillow-tops and so on, would be a poor choice as the value of these things depends so much on color. Some people do fine weaving well and are unsuccessful when working in coarse materials, while others are constituted just the other way. Anyone planning to develop hand-weaving for profit should be willing to experiment in order to find the product most saleable in the locality and the thing he or she is best suited to produce.

In a general way, I consider upholstery fabrics and drapery as offering the best field for a highly skilled weaver who wishes to make a full-time occupation of weaving. Dress-fabrics are an excellent line for many, and less skill is required than for the making of upholstery fabrics. It is, however, desirable to have a feeling for "style" and a good color sense for this work. Some people seem to have an affinity for linen and do best when working with this material. I think the least profitable lines are the making of small specialties such as bags and scarves, though many weavers do very well in this line. It is more the field for the part-time weaver who aims at "pin-money" rather than at a steady income.

The main thing is to select a suitable "line" and to stick to it, developing it along business lines as one would do with any other product — such as home-made pies, for instance.

I am always glad to answer questions as fully and definitely as I am able, but please make the questions definite and specific.

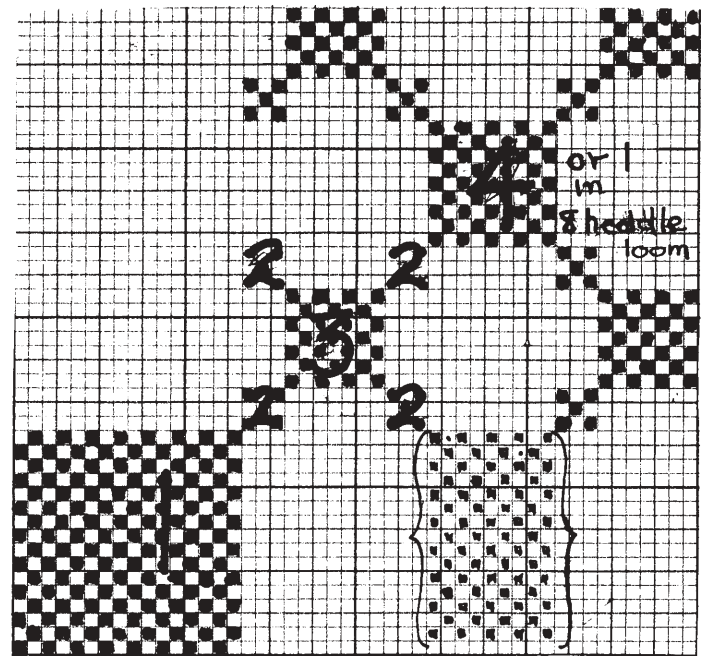
# "Swing" in Summer and Winter

BY HELEN LOUISE ALLEN

IN THIS DAY of "swing" music a weaver might try the idea on a loom. The characteristic of "swing" is that on a given melody each performer works out his own variations according to his talents. Just so in weaving, with a given draft each weaver should be able to work out original variations according to his or her ingenuity and talents in design. A few simple rules of design should be followed to give the best results.

Good proportion is the most important principle of design. In weaving this refers not only to the proportion of the article as a whole but to the divisions of the design and to the amounts of color if changes or color are made. The divisions should not be equal in size nor should one division be just twice the size of the other. The question of balance is not difficult in weaving as most of the patterns are symmetrically balanced. Emphasis or center of interest is a very important factor to be watched in planning designs for weaving or in using the design in an article. Either the center of the article should have the dominant interest with the border subordinated to it, or the border should be of greater interest with the center simple.

The draft worked with in this article is for either a ten- or an eight-harness loom. The ten-heddle loom will give more interesting designs than does the eight, although the differences are not as great as would be supposed. The original pattern for this draft is composed of checkerboard blocks of varying sizes. The second block is repeated after the third before moving on to the fourth. (Illustration III.) The central three blocks may be repeated as many times as desired



Basic design in checkerboard. Upper left-side shows effect in ten-heddle loom. Lower right shows design as it would appear for eight-heddle loom

with the corner blocks used only at the edge, giving the effect of a border.

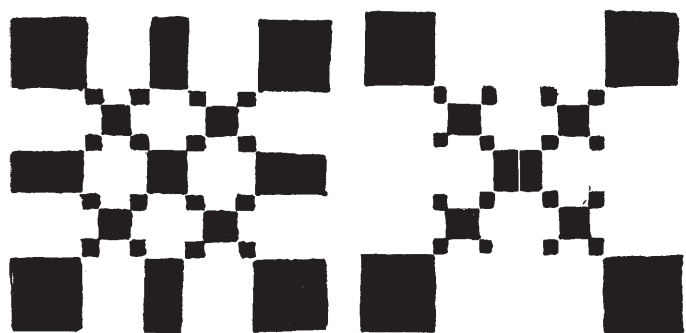
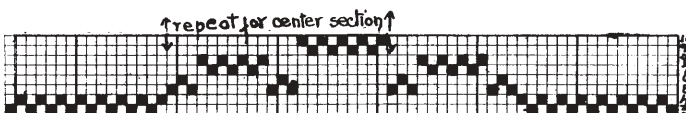
Each block of the pattern may be used as a single block by itself as in A and A<sup>1</sup>, or may be combined with neighboring blocks to form larger areas. B has block 2 and 3 thrown together. C has 2 and 4 combined, and owing to the repeat of 2, parallel bands are formed around the center. In D, blocks 1, 2, and 3 are combined into one large unit, leaving block 4 to stand alone. E combines B, blocks 1 and 2, which makes parallel stripes at the edge in what would be the border if the center blocks were repeated a number of times across the article. F throws all the center blocks together. Further variations of these can be made as desired. For example, E and F could be combined to give parallel lines at the edge: or block 4 could be omitted in F, leaving a hollow square in the center.

Besides these variations in basic design, there are nine types of treatment for each individual block. The blocks or areas may be treated as checkerboards, as shown in 1, and as used in many of the given designs; or as single checks, using the corner checks to give a large block as in 2 and in the center of Design V. Single checks using the inside checks give a smaller block with a light edge around it as in 3. Vertical or horizontal lines may be made as in 4 or 5, and are seen in Designs II, III, IV, VI, and VIII. The outside vertical and horizontal lines may be combined, giving a grill work with a closed edge as in 6, and seen in Designs V and VIII. The inside lines may also be used as a grill, having

Short draft for ten-heddle loom



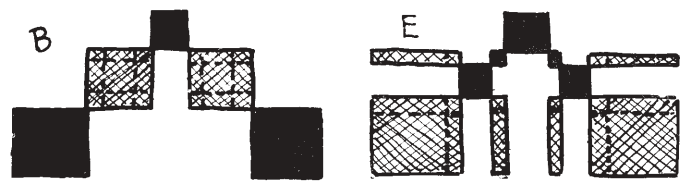
Short draft for eight-heddle loom



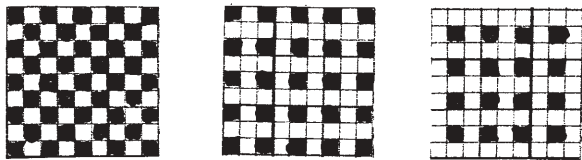
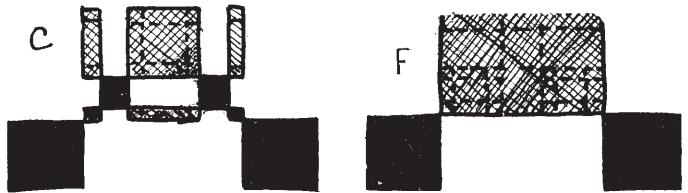
Basic design for eight-heddle loom

Basic design for ten-heddle loom

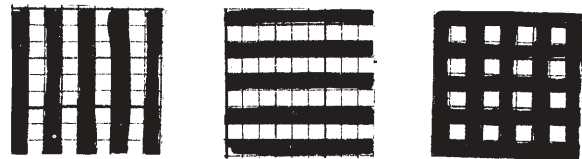
a serrated edge as seen in 7 and in Designs I and IV and V. The areas may be solid dark as in 8, or may be omitted entirely by using only the binder heddles for the pattern thread, i.e., using just heddles 1 and 2. This is shown in 9



Changes in design made by various combinations of the blocks. The dark blocks are uncombined



1 2 3

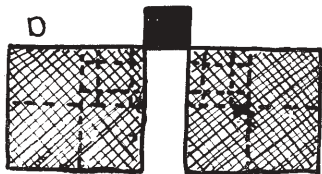


4 5 6



7 8 9

Treatments of the blocks or combined areas



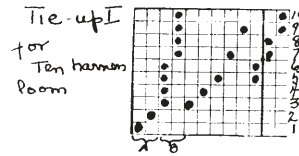
and in Design VI. The dark areas are used to give accent to the center of interest, while the other treatments will give varying dark and light values or "grays" to the design. The checkerboard and the grills will give a middle value, while the checks will give a light value.

None of the above treatments refers to the various textures that can be woven on a Summer and Winter weave, but only to the design possibilities of this draft. Summer and Winter may be woven using both binder heddles in single or in doubles, that is using each tabby combination after a binder heddle before using the next binder heddle, 4-1, tabby A, 4-1, tabby B, 4-2, tabby A, 4-2, tabby B. Summer

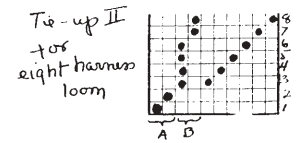
and Winter may also be woven using only one of the binder heddles, which will give the effect of vertical lines in the texture, or one may have one's own particular pet way of weaving Summer and Winter.

This draft is planned so that the small checks forming the blocks are of the same size. Each check may be threaded and woven as a single unit of Summer and Winter, or as double or triple units. For example, in the single unit scheme, the first check in the draft would read 3-2-3-1, the next 4-2-4-1, etc. In a double scheme, it would read 3-2-3-1, 3-2-3-1, and the next 4-2-4-1, 4-2-4-1. In the triple, 3-2-3-1, 3-2-3-1, 3-2-3-1, the next 4-2-4-1, 4-2-4-1, 4-2-4-2. The size of the thread used, the size of the article to be made and the number of times the center units are repeated would regulate the scheme to be used. The single unit scheme will give the most interesting effects. Of course one could vary the scheme with the different blocks. This would change the size of the blocks and would mean a careful regulation of the proportions.

The loom used may be a jack loom with tied heddles or a lever loom. The treadles would have to be tied according to the particular design. For example, in Design I for ten heddles, I would tie the treadles like this. For one of the combinations it will be necessary to step on two adjacent treadles with one foot. The B tabby I have put on two adjacent treadles as eight heddles, I have found to be too heavy to pull up evenly from one treadle.



Tie-up I for ten-harness loom



Tie-up II for eight-harness loom

For an eight-heddle loom Tie-up 2 is suggested, again using one foot on two adjacent treadles for one of the combinations. The designs are more easily worked out on a lever loom in which each lever is pushed down as desired. The designs can then call for as many combinations as desired, as one is not limited by the available number of treadles.

The following are the treadling of the given design. They are given for the ten-heddled loom. The treadlings are easily converted to the eight-heddled loom by substituting "3" for the "9" and "4" for the "10." Design I has been so transposed for the eight-heddled loom. The effect in design is of repeating the treatment in block 4 that is found in block 1. Design VIII would not transpose to give the best effect, but the other designs would work out all right.

Each row of the treadling direction is to be repeated with the binder and tabby combination that the weaver has chosen to use until the check or area is a square. This may take two or more repeats of the pattern treadling, depending also on the size of the pattern thread and of the size of the tabby thread.

In each of the designs the first two rows of treadlings are to be repeated until the corner is a square. In most cases this will be 8 repeats of these rows. In Design VIII the first treadling is repeated for 16 units or until the corner is square.

Design I for ten heddles:

- (a) 3-6
- 4-6-10
- Do these two rows 8 times.

Eight

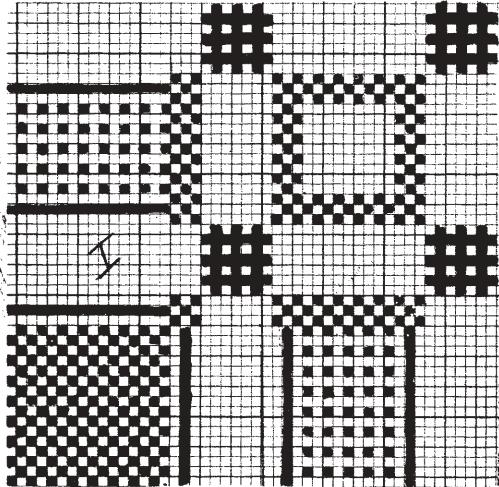
- (a) 3-6
- 4-6 (-4)
- 5-3

(b) 5-9  
3-4-6-10  
5-9

(b) 5-3  
3-4-6 (-4)  
5-3  
7

(c) 7  
7-8  
7 Repeat sections (c) and (d)  
7-8 for center of article.  
7  
7-8  
7  
7-8  
7

(c) 7  
7-8  
7  
7-8  
7  
7-8  
7



(d) 5-9  
3-4-6-10  
5-9  
4-6  
5  
4-6  
5  
4-6  
5  
4-6  
5  
3-9-6-10  
3-4-6-10  
5-9

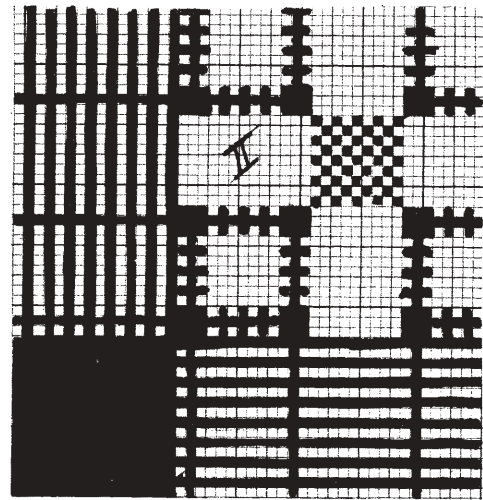
(d) 5-3  
3-4-6 (-4)  
5-3  
4-6  
5  
4-6  
5  
4-6  
5  
4-6  
5  
3-9-6 (-4)  
3-4-6 (-4)  
5-9

Design II for ten heddles:

(a) 3-4-6  
3-4-5-6-7-8-9-10  
Do 8 times.

(b) 4-5-6-7  
3-4-5-6-7-8  
4-5-6-7  
4-6  
4-5-6  
4-6  
4-5-6  
4-6  
4-5-6-7  
3-4-5-6-7-8  
4-5-6-7

(c) 9  
10  
9

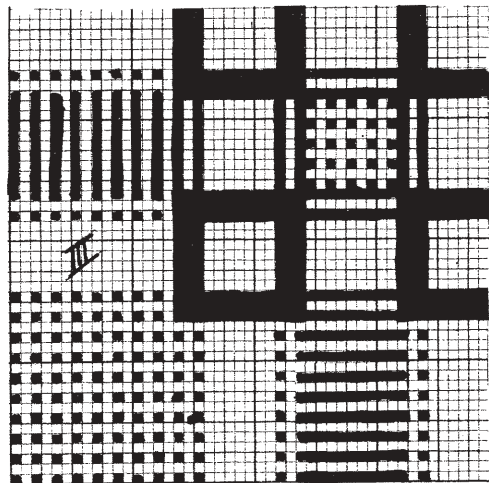


10 Repeat sections (b) and  
9 (c) for the center of the  
10 article.  
9  
10  
9

Design III for ten heddles:

(a) 3-5-9-10  
Binders only, i.e., heddles 1 and 2.  
Do these two rows 8 times.

(b) 3-5-6-7-8-9-10  
5-6-7-8  
3-4-5-6-7-8-9-10  
5-6, do 7 times.  
3-5-6-7-8-9-10  
5-6-7-8



3-5-6-7-8-9-10  
3-5-10 or 9  
3-5  
3-5-10 or 9  
3-5-10  
3-5-10 or 9  
3-5  
3-5-10 or 9  
3-5  
3-5-10 or 9  
3-5-6-7-8-9-10

5-6-7-8  
 3-5-6-7-8-9-10  
 5-6, do 7 times  
 3-4-5-6-7-8-9-10  
 5-6-7-8  
 3-4-5-6-7-8-9-10

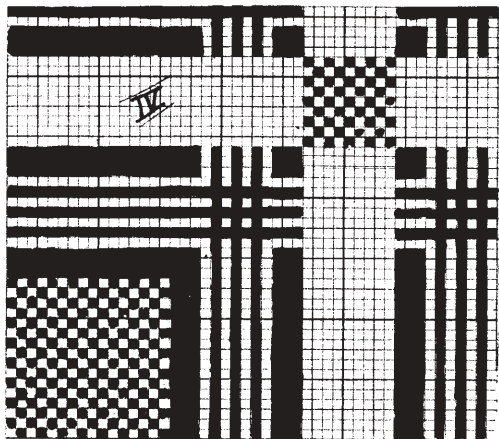
Using 9 instead of 10 will give the smaller inner checked square in the center of the design.

Repeat section (b) for the center of the article.

Design IV:

(a) 4-5-6-7  
 3-5-6-7

Do these two rows 8 times.



(b) 3-4-5-6-7, do for 3 units.

7  
 3-4-5-6-7-8  
 7  
 3-4-5-6-7-8  
 7  
 3-4-5-6-7-8  
 7  
 3-4-5-6-7, do for 3 units.

(c) 10 Repeat section (b) and  
 9 (c) for center of article.

10  
 9  
 10  
 9  
 10  
 9  
 10

Design V:

(a) 3-4  
 3-5-7-9

Repeat these two rows 8 times.

(b) 4-7-8

7-8  
 4-7-8

5-6-7

Repeat sections (b) and  
 (c) for center of article.

4-5-6-8

5-6-7

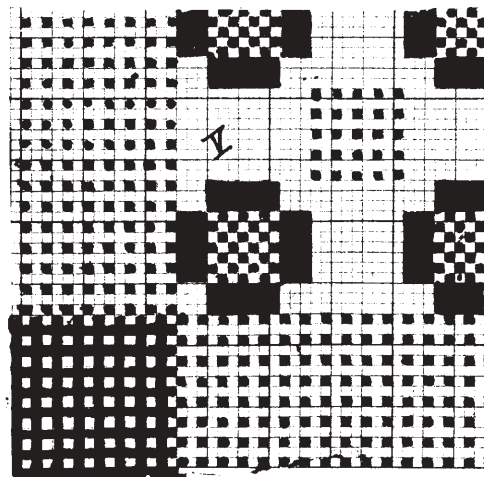
4-5-6-8

5-6-7

4-7-8

7-8

4-7-8



10  
 4  
 10  
 4  
 10  
 4  
 10  
 4  
 10

Design VI:

(a) 3-4-5-6-7-8-9-10

3

Repeat these two rows 8 times.

(b) 3-5-7-8

3-6-7-8

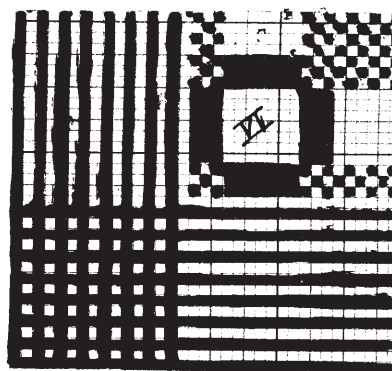
3-5-7-8

3-5-6, do for 7 units.

3-5-7-8-9

3-5-7-8-10

3-5-7-8-9



3-6-10 Repeat section (b) for  
 3-5-9 center of article.

3-6-10

3-5-9

3-6-10

3-5-9

3-6-10

3-5-9

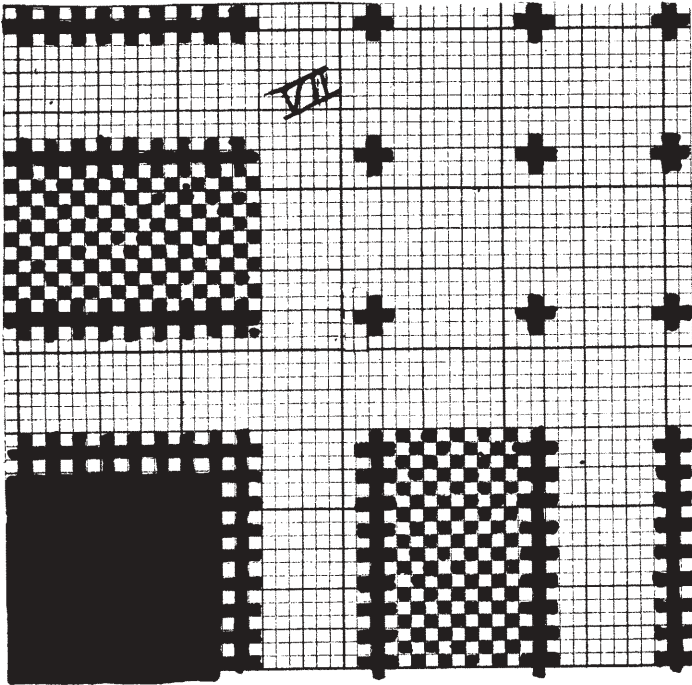
3-6-10

Design VII:

(a) 3-4-6-10

3-4-5-6-9

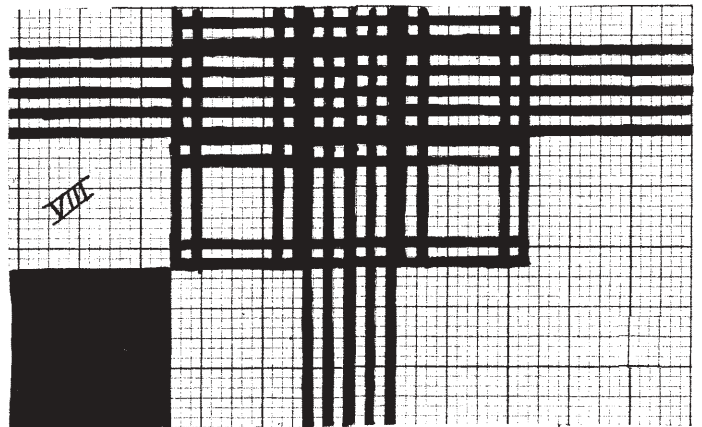
Repeat these two rows 8 times.



- (b) 4-6-10  
3-4-5-6-9  
4-6-10
- (c) Use binder combinations with pattern thread for 7 units.
- (d) 3-6  
3-4-5-6     Repeat sections (c) and  
3-6             (d) for center of the  
3-5             article.  
4-6  
3-5  
4-6  
3-5  
4-6  
3-5  
4-6  
3-5  
3-6  
3-4-5-6  
3-6

Design VIII:

- (a) 3-4-10 for solid dark corner.  
10 only for light corner.  
Do either of these for 16 units.
- (b) 5-6-7-8-9-10  
5-10  
5-6-7-8-9-10  
5-10, do for 7 units.  
5-6-7-8-9-10  
5-10  
5-6-7-8-9-10     Repeat section (b) for  
3-4-5-6-7-8-9-10     center of article.  
5-10  
3-4-5-6-7-8-9-10  
5-10  
3-4-5-6-7-8-9-10  
5-10  
3-4-5-6-7-8-9-10



The more elaborate the design used the simpler should be the color scheme. As intricate a design as Design VIII should be done in only a background and a pattern thread color. These would be better if they contrasted more in dark and light than in hue. A design as simple as Design VII might have two colors in the pattern thread, or might have a change of color in the warp and tabby areas on heddles 7 and 8 and used for the tabby of the same areas in which the binder combinations only are used.

The main interest in an eight- or ten-heddled design should be in the design rather than in the color scheme.

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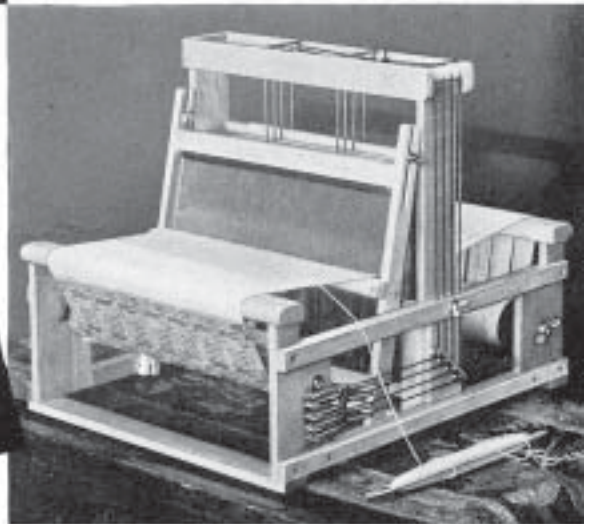
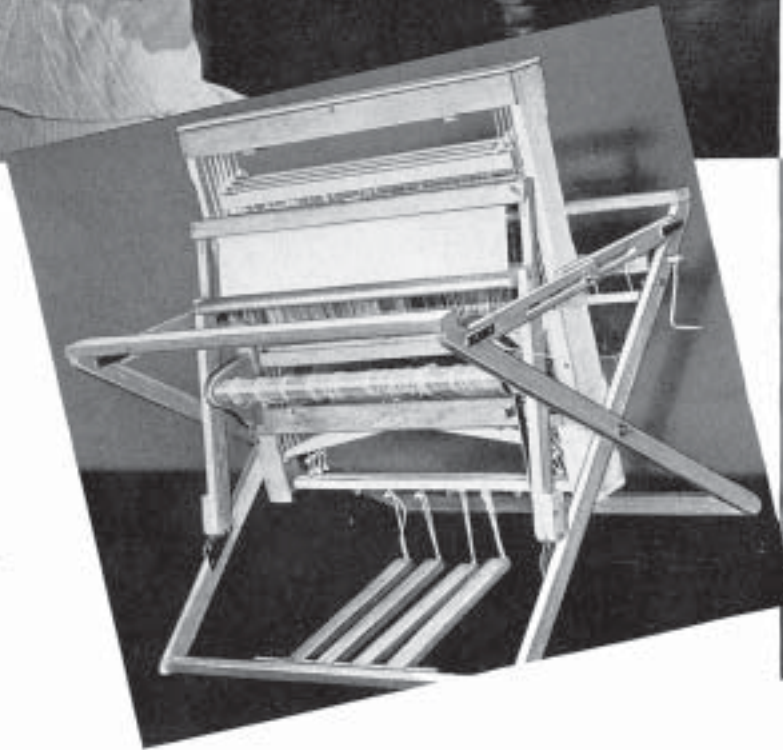
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