

# Mattor

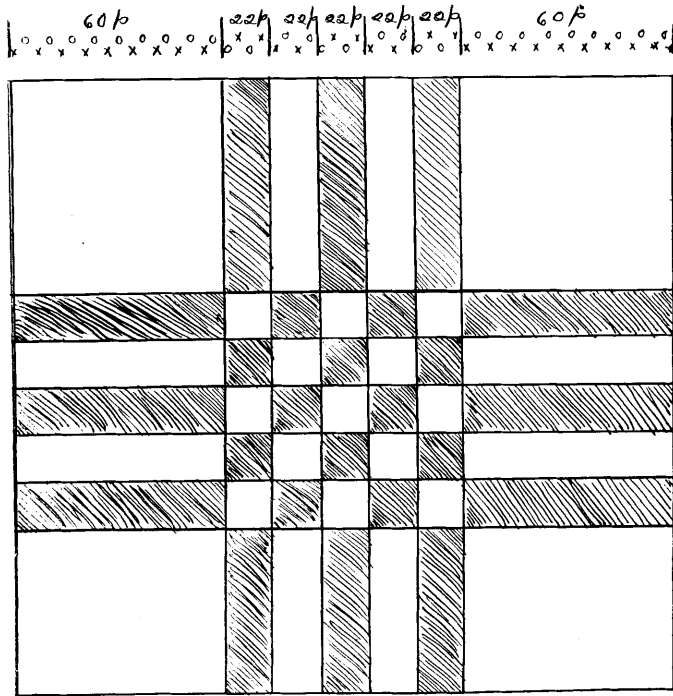
BY ROBERT FREDERIC HEARTZ

IN STUDYING the analysis and the fundamental construction of weaves, we learn that there are three basic weaves, the plain, twill and satin weaves; all other weaves are derivative weaves made by variations and combinations of these three weaves. Strictly speaking, a satin might be a derivative of a class of twills called broken crow, but because of the changed appearance of the woven cloth and its adaptability it is given a separate classification. In the plain weave classification there are rib weaves, basket weaves, fancy rib weaves, fancy basket weaves, figured rib weaves,

color in this type opens another interesting field of development. This is a plain weave for 2 harnesses, and yet some very interesting patterns can be woven on this principle.

In America hand-weavers have a type of rag rug, generally called "Log Cabin," that is woven on 2 harnesses. In the Scandinavian countries they have worked with more freedom in the use of materials, color and harnesses and have added a whole new field of possibilities in fabric, texture and design for the more advanced group of hand-weavers. In Illustration No. 11 is shown the texture and design for a weave of this type requiring 8 harnesses, and still it is only a two-shed fabric. It is possible with the 2-harness patterns to use many more than two colors. By experimenting with silks, linens, cottons, woolens and combinations of these materials, a large and interesting group of textures and fabrics suitable for table linens, cushions, draperies, and upholstery may be worked out.

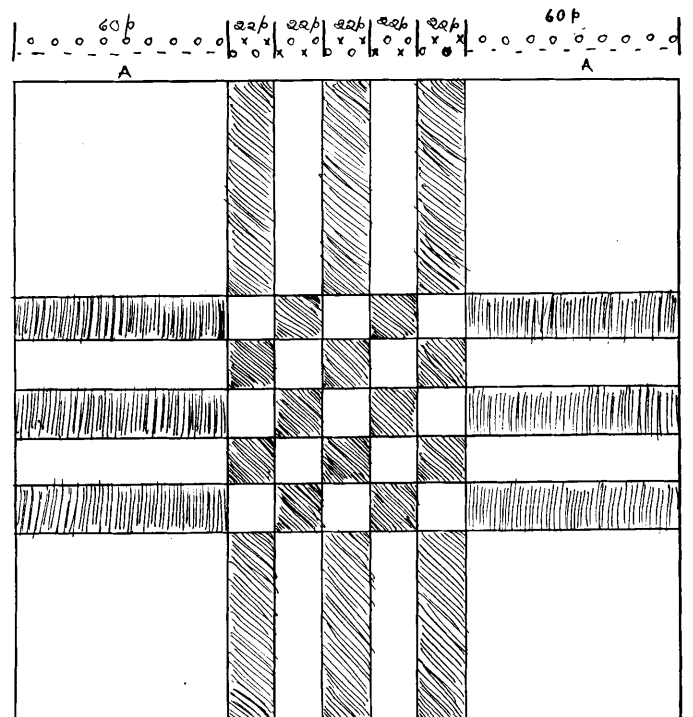
In the group of rugs called "Log Cabin" the regular carpet warp was used, set 24 ends per inch rather than the usual 10 or 12 ends that are ordinarily used for rag and roving rugs. By using two colors of warp drawn alternately light and dark and arranged in groups as in Draft No. 1, and woven by using alternate shots of fine and heavy weft, occasionally missing out on a shot of the fine weft, the pat-



Draft and Illustration No. I

figured basket weaves, oblique rib weaves and combinations of these different derivatives. In the twills there are regular twills, broken twills, steep twills or diagonals, reclining twills, curved twills, skip twills, corkscrew twills, entwining twills and combinations of these. In the satin group there are satins, double satins, granite weaves, damask. These three basic weaves are also combined in various ways with derivatives in the other groups, and make an endless possibility of effects that may be worked out.

In the class of plain weaves, almost the first possibility that develops is the introduction of color in the warp and weft pattern, after that the increasing of the proportion of warp or weft in the warp or weft flush group to build up a very definite rib effect which gives us another important class of textures. Rep is an important member of this group. The use of alternate shots of fine and heavy weft as well as



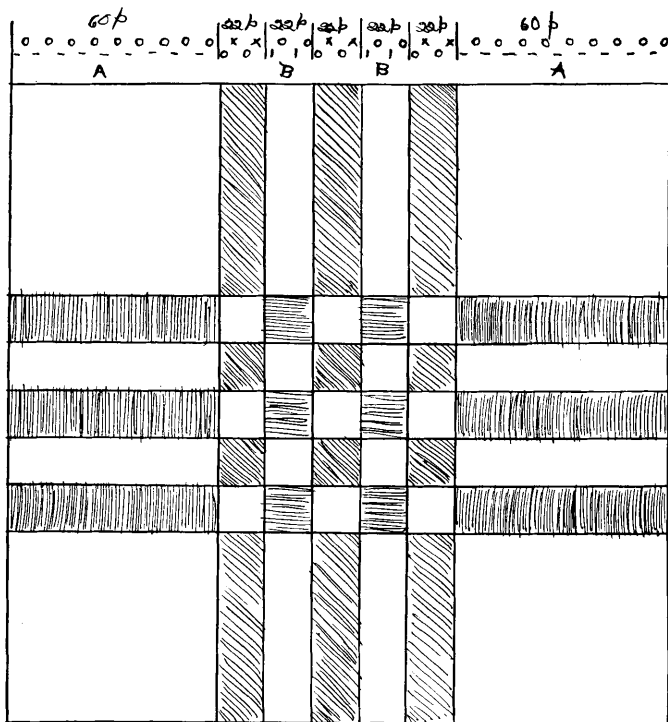
Draft and Illustration No. IA.

tern can be controlled and the pattern effect shown in Illustration No. 1 may be developed.

**Treadingling for Draft and Illustration No. 1:**

- 8 times fine weft for edge of piece.
- 1 shot heavy weft.
- 1 shot fine weft. Repeat this pair 60 times.
- Omit last shot of fine weft.
- 1 shot heavy weft.
- 1 shot fine weft. Repeat pair 24 times.
- Omit last shot of fine weft.
- 1 shot heavy weft.
- 1 shot fine weft. Repeat pair 24 times.
- Omit last shot of fine weft.
- 1 shot heavy weft.
- 1 shot fine weft. Repeat pair 24 times.
- Omit last shot of fine weft.
- 1 shot heavy weft.
- 1 shot fine weft. Repeat pair 24 times.
- Omit last shot of fine weft.
- 1 shot heavy weft.
- 1 shot fine weft. Repeat pair 24 times.
- Omit last shot of fine weft.
- 1 shot heavy weft.
- 1 shot fine weft. Repeat pair 24 times.
- Omit last shot of fine weft.
- 1 shot heavy weft.
- 1 shot fine weft. Repeat pair 60 times.
- 8 times fine weft for edge of piece.

The fine weft for the above treadingling draft is usually the same material as the warp and the heavy weft, for rugs the heavy cotton roving, or if rags are to be used they should be torn in strips 1" to 1½" in width, depending upon the weight of the material. The number of times that each



Draft and Illustration No. 1B.

pair of shots is repeated is also optional, the number of times each pair is repeated depending upon the number necessary to bring out the pattern in the proper proportion. The treadingling as given is for one repeat or square of the pattern; it may be woven any previously determined number of times to obtain a given length.

If in the No. 1 Draft the colors selected were blue and white, a blue and white irregular check would be woven. The colors are represented by having the crosses stand for the blue warp and the circles for the white. The draft arrangement may be further changed as in Draft No. 1A.

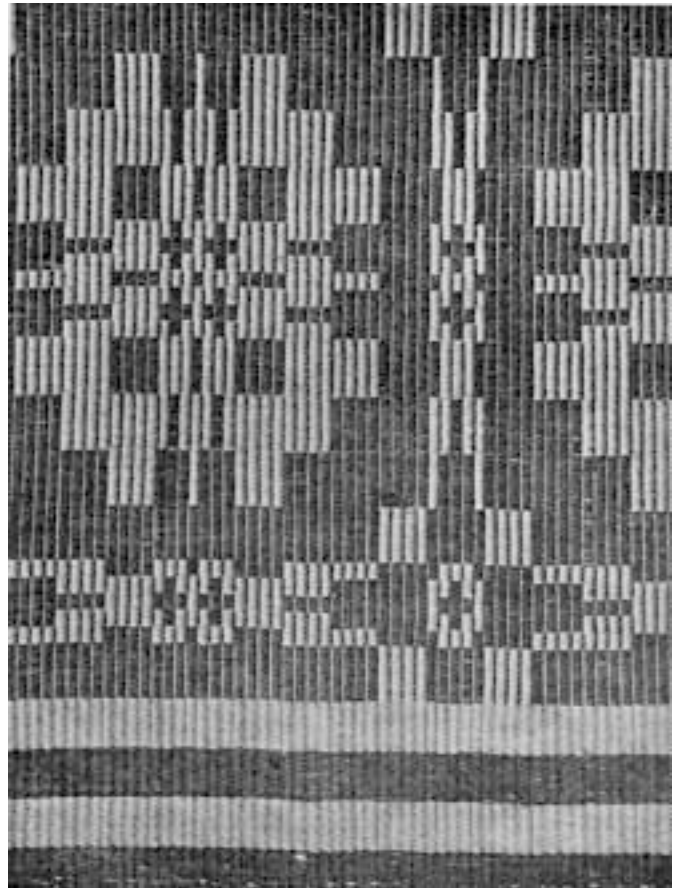
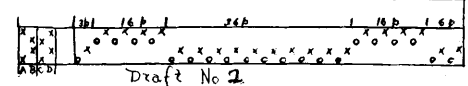
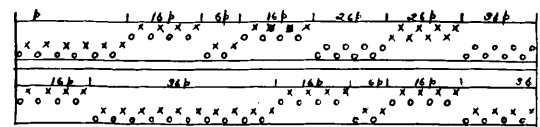
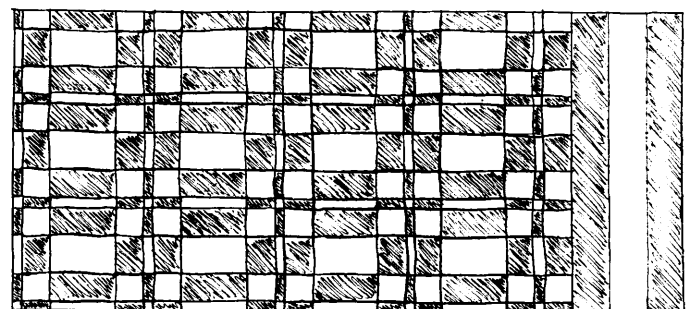


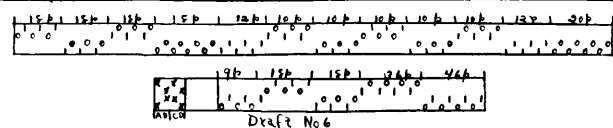
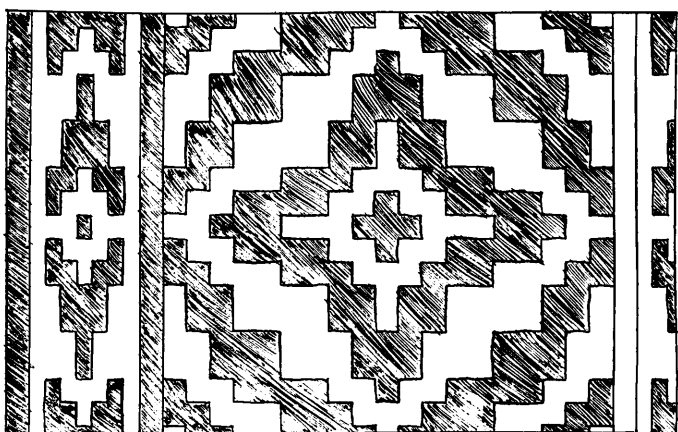
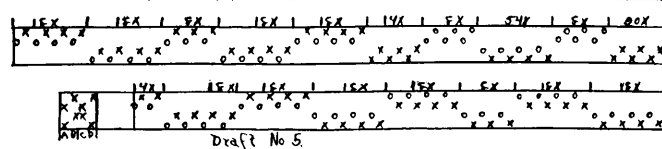
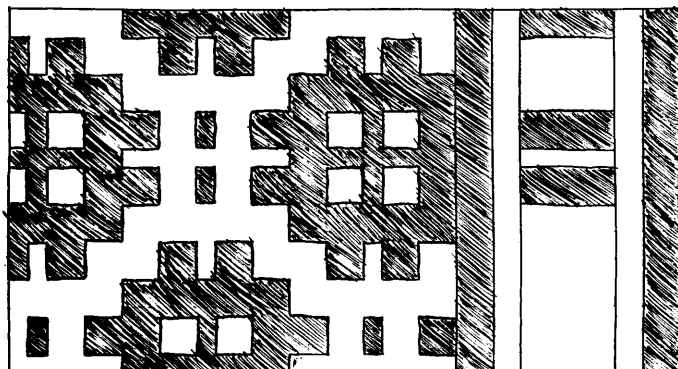
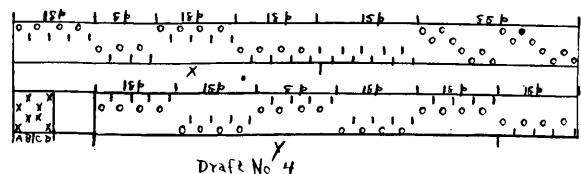
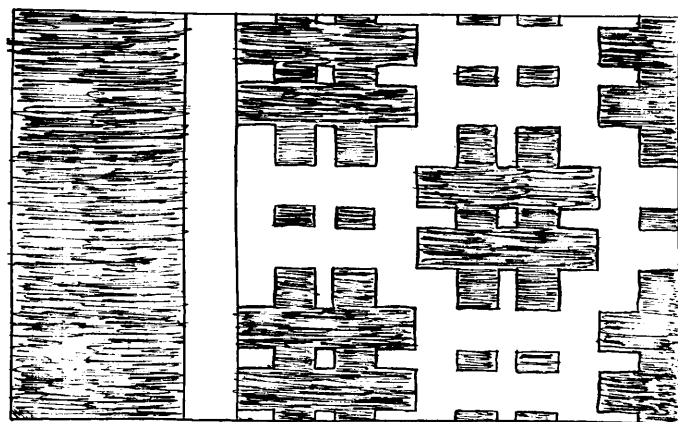
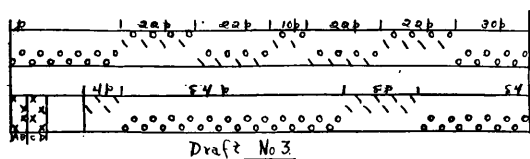
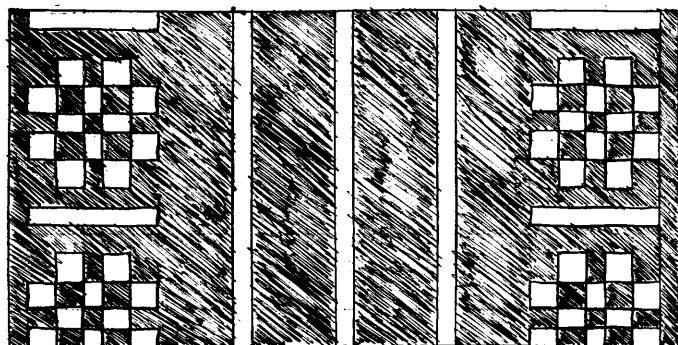
Illustration No. 2



Draft No. 2

In the two large blocks "A," the crosses are changed to dashes to show a color change from blue to green. The color change in the pattern is suggested in Illustration No. 1A. Again referring to Draft No. 1, allowing the change in block A to stand, and making a further change by substituting orange in place of the blue, mark the change by short vertical lines and another color is introduced into the pattern plan. The woven result of this change is indicated in Illustration 1B; blue, green and orange areas on a white ground. It is possible to change the effect in still a different way by having the circles in the "B" blocks to represent orange. By a little study and experimentation an endless number of variations with four or even more color combinations may be worked out. By comparison and study of Draft and Illustrations Nos. 1 and 1A and 1B, which is an irregular check, it will be an easy matter to write the draft arrangements for any regular or irregular check, then to apply the color principle for still more varied results. By experimenting with different colors for fine and heavy wefts, another variety of textures and fabrics can be developed.

The following group of patterns and drafts are taken from several Danish, Finnish, Norwegian and Swedish books on hand-weaving and show the cleverness of the Scandinavian peoples in getting the most out of a comparatively simple basic principle or technique. We, here in America, hear much about the very superior work of these peoples. It is not that they are better craftspeople than we, but that they apply themselves more fully to their work, do more of their own preparation, give more thought to their problems, use more color, are not afraid of being original, nor to experiment. In studying the source of their weaves, materials,



designs and distribution, it is apparent that the older weavers had very little outside influence or opportunity to study other than their own work, yet they have left behind them some very outstanding pieces of weaving. In the olden days there was little exchange of patterns between the districts; the different Provinces and Parishes had their own type of weave for which they were noted, and that weave might hardly be known outside of that district. Some of the weaves today still are identified by the names of the provinces where they were once made. Today, however, with government interest and coöperation in the revival of

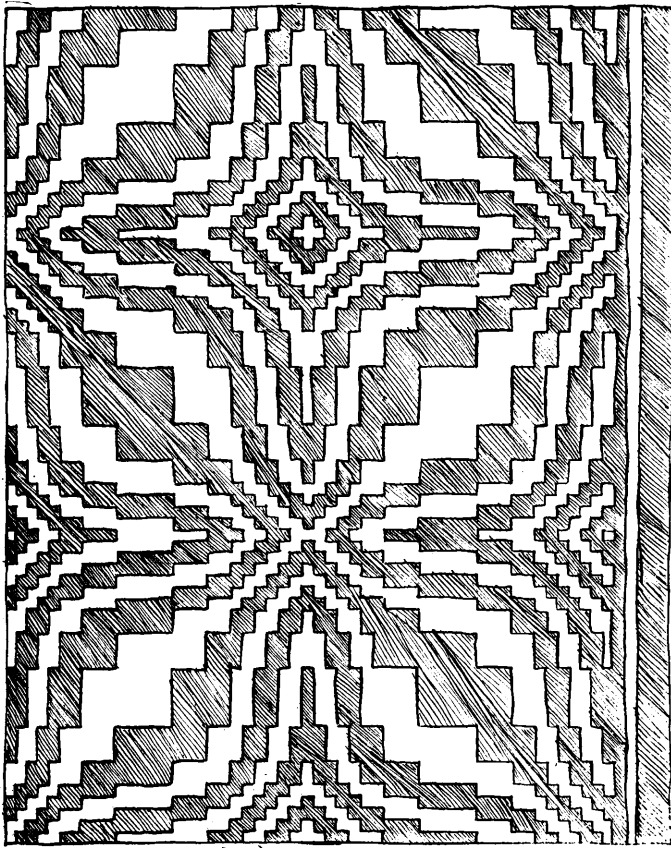
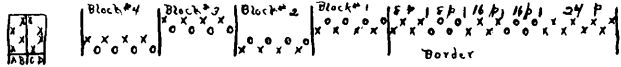


Illustration No. 7



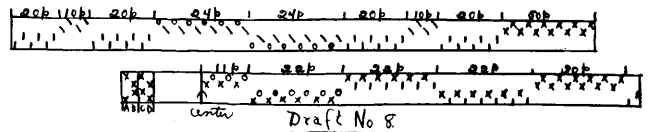
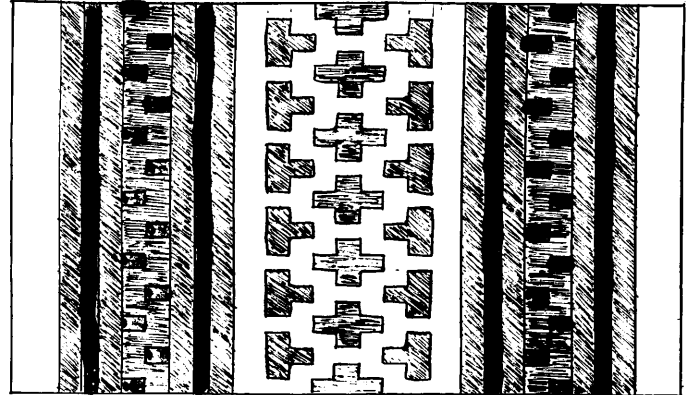
23 1 23 44 1 1 22 22 23 33 44 1 23 4 1 2 2 1 2 2 2 1 1 1 4 4 4 4 3 3 2 2 1 2 2 1  
 Border 1 2 3 4 4 1 1 1 2 2 2 2 2 3 3 4 4 1 2 3 4 1 2 2 1 1 1 4 4 4 4 3 3 2 2 1 2 2 1

Draft No. 7

in the reverse color combination. In the multiple color combinations they are reversible but not always in the exact reverse.

Treading for border of Draft No. 2:

Treadle sheds C and D alternately as for plain weaving, using alternate shots of fine and heavy weft. To change



Draft No. 8

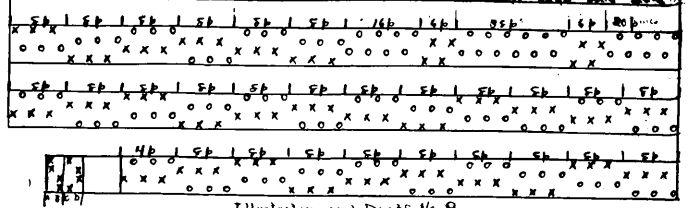
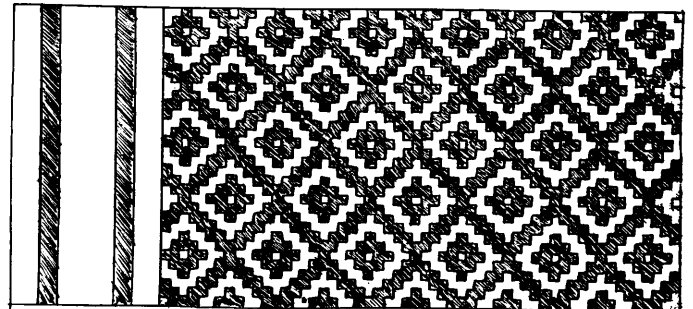
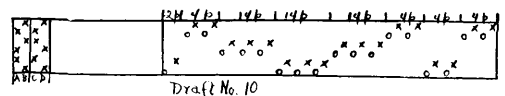
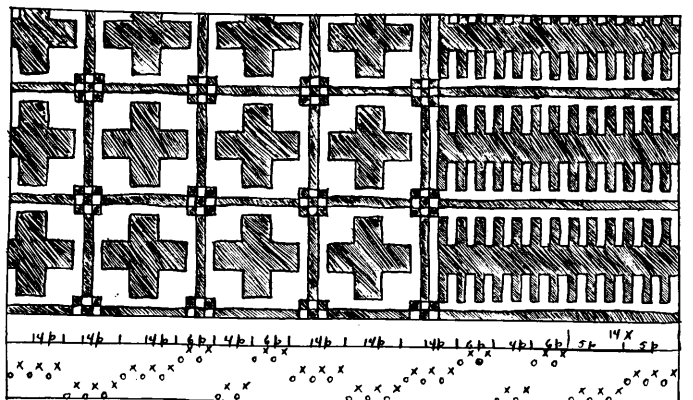


Illustration and Draft No. 9



Draft No. 10

the old peasant crafts and patterns, this is no longer true, as with the government aid there is a more general distribution of the knowledge of the crafts.

In planning and weaving some of the patterns in this group, it will be noticed that it might be possible to weave some of them with fewer harnesses, but they are given as originally written, as in their present form they allow for more variation in the border and color effects. It is a more difficult problem to get end borders, as the draft arrangements and method of fabric construction do not lend themselves readily to adaptations; side borders are much simpler and are planned in the drawing in drafts.

Draft and Illustration No. 2 is of a very simple checkerboard variation, with the addition of a simple border on the side. It is drawn in on 4 harnesses but could have been adapted for 2 harnesses, as it is woven on a 2-treadle tie-up. However, with this pattern arrangement on 4 harnesses it is possible with a more complete tie-up to weave this pattern with a solid border. There is also a chance for a play of much more than a two color combination here, as is true in all of these patterns if the principles laid out for Nos. 1, 1A, and 1B are applied to them. In the two-color fabrics the two colors are directly reversible, the patterns appearing



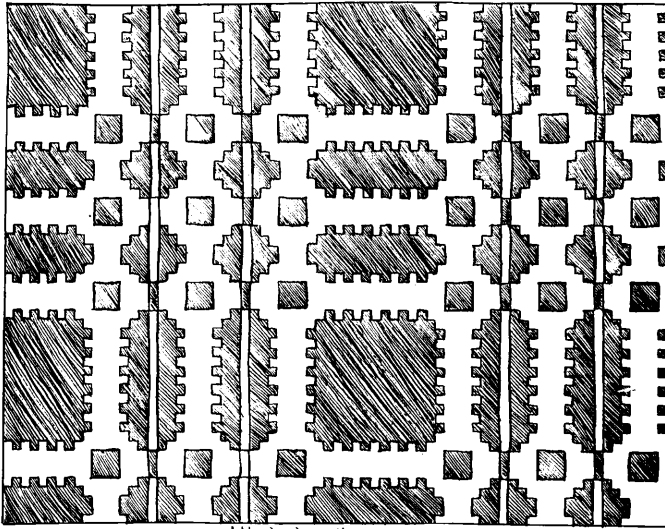
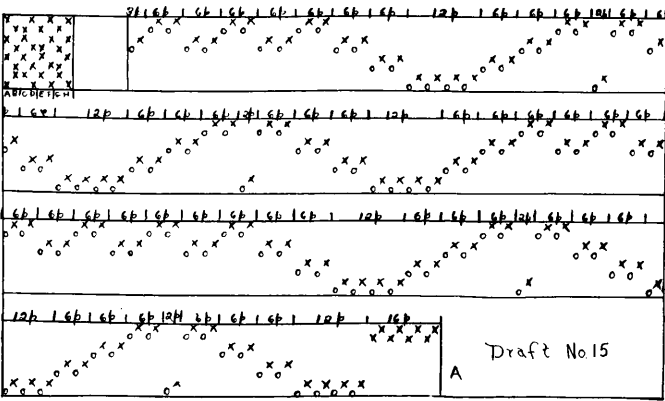
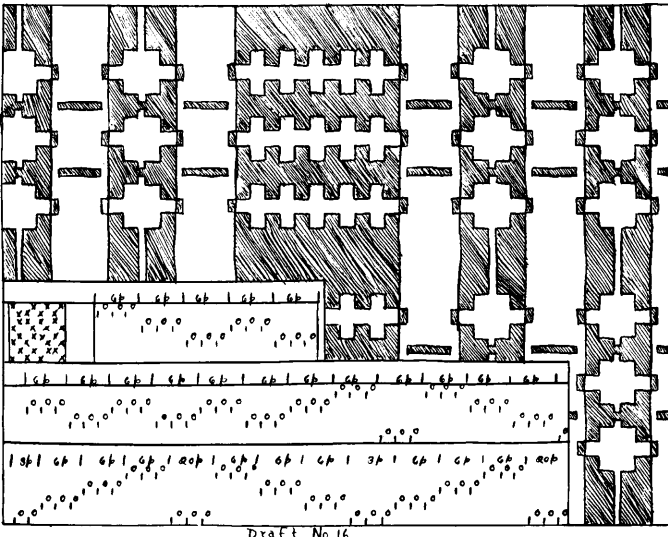


Illustration No. 12.



bag material; it might even be woven in a lighter weight material with the pattern border on one side only, and could then be used for side drapes. It cannot be woven with an end border.

Draft No. 4 will be very effective in a light-weight material for upholstery, pillow tops or bags, if worked without a border. This is a good pattern for a third color. It may be done by changing the circles in X block to crosses. The resultant fabric will be a spot weave with the two figure

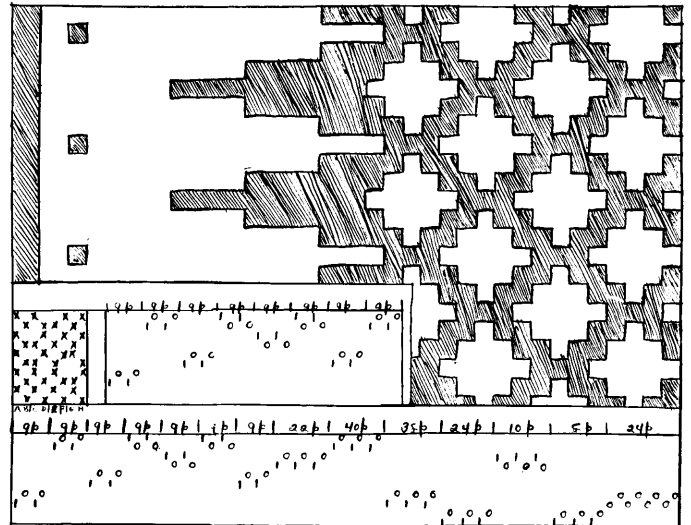


motives in two different colors on a plain ground. It is not adaptable for an end border.

Draft No. 5 is similar to No. 4.

Draft No. 6 is suitable for bags, pillows, upholstery and rugs. In very fine material it might be interesting for lunch-con sets.

Draft No. 7. This is a much more interesting arrangement of a 4-harness pattern and, although it looks to be quite complicated, it is no more difficult than the preceding patterns if one will go a little more slowly in following out the details. Referring to the draft for this pattern, it is very much longer and so has been written on shorter method which, with a little study and comparison, will be quite simple to follow, and at the same time it suggests a shorter way to write all of these drafts. The border plan has been written out in full, but for the center part of the pattern the key or drawing-in drafts for the four different possible blocks are given; each different block is indicated by a number. At the end of the same line is the tie-up. Below the draft is a line of figures beginning with the border at the right side.



The complete pattern layout is given from border to border. The figure No. 1 indicates that the sequence of the key block No. 1 is repeated once; 2, that key block No. 2 is drawn in one repeat; 3, that key block No. 3 is drawn in once; 4 is one repeat of key block No. 4; 1, one more repeat of key block No. 1; 22 is two repeats of key block No. 2; 333 indicates three repeats of key block No. 3; 4444 indicates four repeats of key block No. 4, and so on for the complete width of the row of figures to the border for the left side. End borders are not practical. This pattern will be developed similarly to the treadling for the preceding patterns.

Draft No. 8. This draft is planned with a four-color scheme. It is interesting for long runners. It cannot be woven with a border.

Draft No. 9. This is a pattern with a small all-over effect. The arrangement of drawing through the harnesses is somewhat more scattered, but the tie-up is the same as for the preceding numbers, and the weaving is done in the same way.

(Continued on page 18)

dom if ever counts the threads, but that is something that is a matter of judgment, formed by practice and in no other way. The main thing to watch is the shed. The shed *must* be the same over both colors, not closed over one and open over the other. It was for this reason that I emphasized that the two colors used in the first practice bit should start from opposite sides. There are other methods of hatching used, but the beginner in French tapestry will find that this one will answer all the needs of simple designs, and later one can work out other ways from any good piece of old tapestry.

After the sampler is made, for a first practice piece, use a simple flower and leaf copied from an old tapestry. Almost any museum has tapestries which have flowers and leaves in the borders or in the immediate foreground. Copy the simplest one *exactly*, drawing the hatchings just as they are as to position, shape, and size. You can make this copy in crayon or colored pencil, and then work it out carefully at home the exact size you want, — not too small. Make the background of a strongly contrasting color so that no mistakes will escape you.

#### NORWEGIAN PICTURE WEAVING

See Figure III. Norwegian picture weaving is woven

almost exactly like the French, except that it is interlocked from left to right; it is not interlocked when weaving in the opposite direction. I hesitate to mention this lovely tapestry, because its beauty depends so largely on the materials used. It should be made of hand-spun yarn, which has been hand-carded so that various colors can be blended before spinning. The yarn thus made is used either single twist (like "homespun") or two strands are twisted together. In either case it is a heavy yarn used in a single thread, not stranded as in French tapestry. Mixing the wool in the cards gives the softest possible shading effects. However, unless one is a hand-spinner and a great lover of color, do not attempt Norwegian picture weaving. It will mean disappointment, and why risk disappointment when there is a lifetime of joy in any one of the other tapestry methods.

The photographs for this article were made by Otto Hess of Brooklyn, N. Y., as were those for the knot tapestry.

NOTE. — It may be difficult to obtain the flutes, grattoir and box-wood comb; nearly all of them are imported. It is quite possible to use "spools" as in the knot tapestries, and a fork: or one may use the pointed bobbin shown at B on Diagram II, the top of which holds the yarn, the point taking the place of the grattoir. Necessarily, this substitution slows down the speed.

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## MATTOR

(Continued from page 9)

Drafts Nos. 10 and 13. An arrangement for 6 harnesses. The addition of one more pair of harnesses allows more freedom in design and color. The tie-up is for a 4-block design, but by experimenting with different tie-ups it is quite possible to build up a set of designs for this drawing in draft.

Drafts No. 11 through to No. 16 are a set of drafts in this weave, all of them arranged for 8-harness looms. Complete tie-ups are given, and they are woven in exactly the same way as the simpler drafts on 4 harnesses. The use of more harness frames opens up a bigger field of possibilities in design, color and textures for the weaver who, after doing one or more of the simpler of things in this weave, finds a growing interest and feeling for this texture. To me, in just assembling this material and in studying it and comparing the various drafts, I see possibilities of design, of textures and combinations that suggest themselves, but which would

require time and attention to just this one weave alone to bring them out.

Draft No. 17 is a set-up for 10 harnesses. It is possible to work up a set of drafts in this texture for 10, 12 or more harnesses but, as there are so few weavers who can and are equipped to work with them, none of them will be included. But for the weaver who works over the material here offered and who has the interest and equipment to carry on, the possibilities are there.

Material in this weave because of the closeness of the warp is somewhat stiffer than in some other fabrics and would require some experimenting with soft materials to work out a fabric that will drape and fold well. If this is done this will make an excellent weave for coat, dress materials, as well as for the softer material for drapes. The stiffness of the greater amount of this fabric will not detract from its desirability for upholstery, runners, pillows and rugs.