

Practical WEAVING



Suggestions

VOL. XXVIII

Since some of our first bulletins printed a number of years ago were our best and since so many of you who have joined our weaving family in recent years missed some of the first very fine issues, also because of many re-

cent requests, we are pleased to be able to again make this bulletin on "Profile System of Writing Drafts" available. We hope you will find it of value.

THE PROFILE SYSTEM OF WRITING DRAFTS

How To Adapt The Same Design to Several Techniques

By **HELEN L. ALLEN** and **OSMA GALLINGER**

Presented at the National Conference of American Handweavers
Creative Crafts, Guernsey, Pa.

Any system that reduces a weaving theory or method to simpler form is a real contribution to the weaving art. We feel that the profile system of writing drafts as devised by Miss Allen is an outstanding contribution and will aid all weavers to acquire a better understanding of how fabric designs may be planned in an easy way on paper.

The profile system reduces pattern draft-writing, as it were, to its lowest common denominator. It enables one to see at a glance the picture of the pat-

tern one is developing. It saves time, eyesight and nerve strain. It is simply a way of writing a draft in very short form,—easy to write down, easy to design with, easy to develop. In one quarter the usual time, one can "draw down" the pattern or "weave on paper" so as to see what the finished fabric will look like, without wasting thread. This system does for many techniques what the "short draft" method does for Summer and Winter, as explained by Mary Atwater in the Shuttlecraft Book of American Handweaving.

PATTERN DRAFTING BY THE USE OF HARNESS NUMBERS

The usual way of writing a draft for a 4-harness overshot pattern is to enumerate the harnesses on which the warp threads are to be threaded. These harness numbers, such as: 1, 2, 1, 2, 3, 2, 3, etc. comprise successive units of blocks, such as the 1, 2, 1, 2, block, and the 2, 3, 2, 3, block. When the harnesses designated by these numbers are depressed or raised all the warp threads bearing these numbers are also depressed or raised, and design spaces are formed at these points. A weft thread passing through the spaces makes a permanent record of them in the fabric design. We therefore know that when we plan a design with the successive blocks on graph paper, the finished pattern-draft is a kind of key to the resulting woven pattern.

Let us study for a moment the notation of a sample pattern-draft, such as the simple Cross or Diamond. The succession of blocks which form this pattern are the 1 & 2 block, the 2 & 3, the 3 & 4, the 4 & 1, then the reverse or the 3 & 4, the 2 & 3, and the 1 & 2. These blocks, or groups of harness numbers, are written out in detail in the long draft of Figure 1, at A. Start reading from right to left: 1, 2, 1, 2, 3, 2, 3, 4, 3, 4, etc. The last number or note in each block is the same as the first one in the next block, as one can easily see by the overlapping ovals which surround the blocks. An extra 4-thread on Harness 4 is inserted after the four threads of the 4 & 1 block in order to establish the reverse and permit again

using the 3 & 4 block. The center of the entire draft is the 4 in the circle, marked Center 1. Moreover if the pattern should repeat, starting in again with the 1 & 2 block, there would be another reverse point, or second center, the 2 in the circle, marked Center 2. Just how these reverse points form centers is shown in the development of the draft, Figure 1, E.

PATTERN DRAFTING BY THE PROFILE METHOD

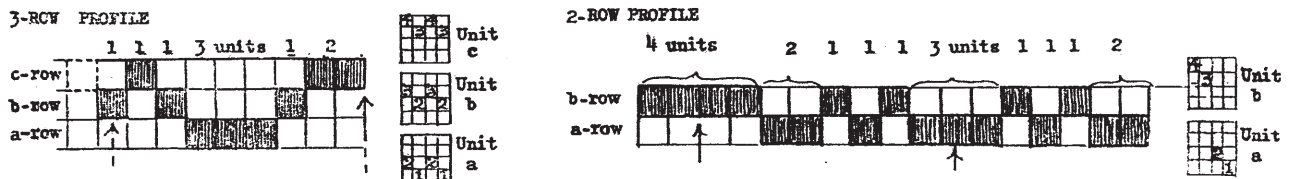
By the picture or profile method, this all becomes very simple. Instead of writing down the twenty numbers of one pattern repeat, we reduce it all to six units, as shown at Figure 1, B. Note that the rows of graph paper squares no longer represent harness bars, but design rows, marked Row 1, 2, 3 and 4. Just how we have condensed the blocks is shown by the enlarged profile at C. Here you will note that the four numbers, 1, 2, 1, 2, of the first block, have been put together as one unit and into 1 square on Row 1; that the 2, 3, 2, 3 block forms a single unit on Row 2; the 3, 4, 3, 4, a single unit on Row 3; and the 4, 1, 4, 1 (with its extra 4), a single unit on Row 4. The dotted numbers are duplicates put in to complete each block for visual purposes. The dotted squares of both the short regular profile at B and the graphic profile at C, suggest the further repeat of the pattern.

WEAVING THE PATTERN ON PAPER

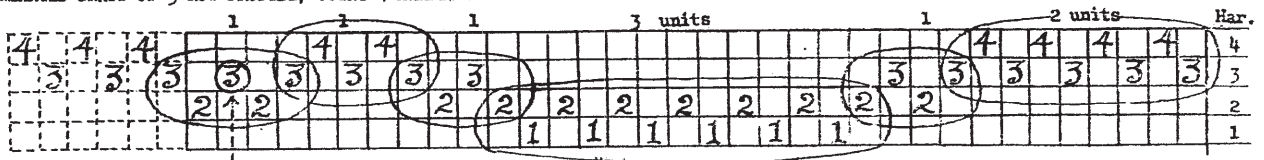
One can see at a glance how very easy it is to develop such a pattern profile on paper. To "draw down" the profile, we simply lay out the same successive units vertically as horizontally, then fill in the spaces where horizontal and vertical lines meet, as shown at Figure 1, E. Lay out the profile vertically just at the right and below the regular horizontal profile, as shown at D. Then weave the units in the order given by this vertical profile. First weave the 1 & 2 units below the 1 & 2 of the horizontal profile and at the left of the 1 & 2 of the vertical profile.

Next weave the 2 & 3 unit below the 2 & 3 of the horizontal profile and at the left of the 2 & 3 of the vertical profile. Continue thus, filling in wherever the units would meet if extended downward and to the left. Since there are four threads in each unit of the profile, representing four warp threads, three weft threads with tabby between will make the small woven squares necessary to develop the pattern into diagonal lines as shown. This same result is achieved by "drawing down" the long draft at A, but the profile method is a valuable short-cut.

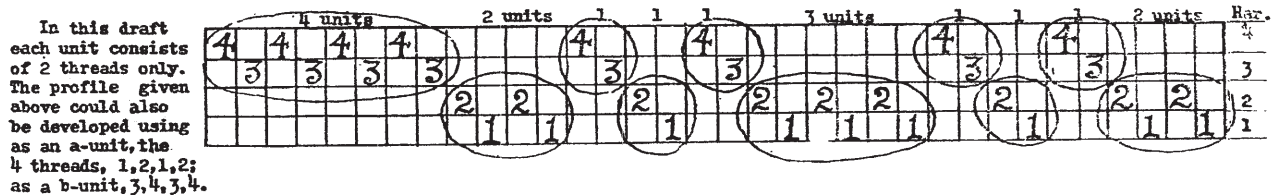
A **FIGURE II—Examples of 3-Row and 2-Row Profiles** **B**



ENLARGED DRAFT OF 3-ROW PROFILE, USING 4 HARNESSES.



ENLARGED DRAFT OF 2-ROW PROFILE, USING 4 HARNESSES.



So much for 4-block patterns represented by 4-row profiles. The same system is used for 3-block or 2-block patterns. A 3-block pattern using the 1 & 2, 2 & 3 and 3 & 4 blocks makes the profile shown at Figure 11, A; and a 2-block pattern using the 1 & 2 and the 3 & 4 blocks makes the profile shown at Figure 11, B.

In working by the profile method,

HOW TO ADAPT THE SAME DESIGN TO SEVERAL TECHNIQUES

2-ROW PATTERN TYPES

There are many pattern types that consist of two blocks only. In these the blocks repeat or alternate to form design squares. Such are the two-block Patch Patterns, composed of the 1 & 2 block and the 3 & 4 block, Figure 11, B. Likewise the 4-harness Summer and Winter patterns have only two blocks, and the same is true of the 4-harness Bronson, M's and O's and two-block Damask patterns for the 8-harness loom. All of these may be written in 2-row profile form.

All of the two-block pattern types just mentioned may be used interchangeably with the same designs. This means that the 2-row design,

one's design may readily be altered in the following manner. First lay out the units as planned. Then draw down the profile on paper to see what the final effect will be. If this is not pleasing to the eye, cut apart the units of your profile and rearrange them. When your proportions are improved, again draw the new profile on graph paper and develop it. Work at your design until it is convincingly pleasing.

shown in Figure III for the Patch Pattern, may also be worked out in the Summer and Winter technique, as well as the Bronson, M's and O's and two-block 8-harness. This is an interesting fact for the creative weaver, for out of a single design we may evolve a number of textures. Likewise a design found in any of the five techniques mentioned, may be reduced to 2-row profile form and duplicated in any of the other four techniques. There are still other techniques reducible to two blocks, but these five will give the principle.

Below are the detailed explanations of just how each of these techniques works out as a 2-row design. In all of them the first of the two rows is called

the a-row and any unit on this row is called an a-unit; and the second of the two rows is called the b-row, and any unit on it is called a b-unit. In all of them the design may be quickly developed into a pattern on paper by writing the 2-row profile down vertically at the side and filling in the spaces where the units would meet if extended from the horizontal and vertical profiles. In developing a profile in this way, one omits the third value.—the half-dark and half-light parts shown in Overshot patterns, and this enables one to see clearly the skeleton pattern underlying the whole. You can take photographs from woven material and get your profile from these.

In the profiles given only part of each profile has been developed on paper. For entire pattern, use the full length, and in threading, repeat the profile full length as far as desired.

THREADING PLAN FOR THE FIVE TYPES

To thread a loom from the profile, simply use the a-unit and the b-unit in the order indicated by the profile. For instance, in the Patch Pattern, Figure III, starting at the right side and going toward the left, thread: a-unit, 3

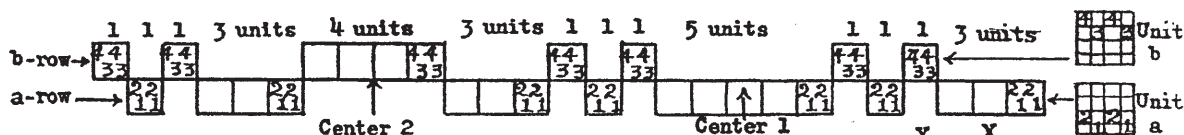
times; b-unit, once; a, once; b, once; a 5 times; b, once; a, once; b, once; a, 3 times; b, 4 times; a, 3 times; b, once; a, once; b, once; and repeat. This same threading plan applies to all the pattern types given here; any variation is within the units themselves. The resulting design for all of them is the same, but the textures within the design parts are different.

WEAVING PLAN for the FIVE TYPES

For the weaving of the profile, simply follow the number of units laid down in each row. For instance, starting at the right of the profile, the a-unit is laid down 3 times; we therefore weave it 3 times. Next follows the b-unit, once; we therefore weave the b-unit once. Next, the a-unit, once. Next, the b-unit, once. Next, the a-unit, 5 times, etc. One may also follow the units as they occur in the vertical profile at the right of each pattern.

In the Patch Pattern, Figure III, the first block woven on paper is marked X. Here the a-unit has been woven 3 times. The second block is marked Y. Here the b-unit has been woven once, as there is only one square indicated in the profile above it. Continue thus all along profile.

FIGURE III—"ON OPPOSITE" or "PATCH PATTERN" PROFILE



"ON OPPOSITE" UNITS

(2 or 4 threads each)

Unit (a) on a-row: 1, 2, 1,
2 or 1 & 2 only.

Unit (b) on b-row: 3, 4, 3,
4 or 3 & 4 only.

THREADING PLAN: Same as for all the patterns; follow on this profile.

TEXTURE: Groups of over-shot pattern threads, woven as squares or oblongs. Tabby follows each pattern row.

WEAVING PLAN:

Weave the a-unit:

- 1 & 2, pattern thread
- 1 & 3, tabby thread
- 1 & 2, pat.
- 2 & 4, Tab.

Repeat for number of units planned in each profile section.

Weave the b-unit:

- 3 & 4, pattern thread
- 1 & 3, tabby thread
- 3 & 4, pat.
- 2 & 4, tab.

Repeat for number of units planned.

THREAD SUGGESTIONS:

Coarse Texture: Drapes, pillows, etc.

Warp: Art. 214 or Art. 314—16/4 Natural or colored; or 10/2.

Weft: Pattern thread: Art. 114 Pearl 5; or Art. 714, Tulip Three Strand.

Tabby thread: Same as warp.

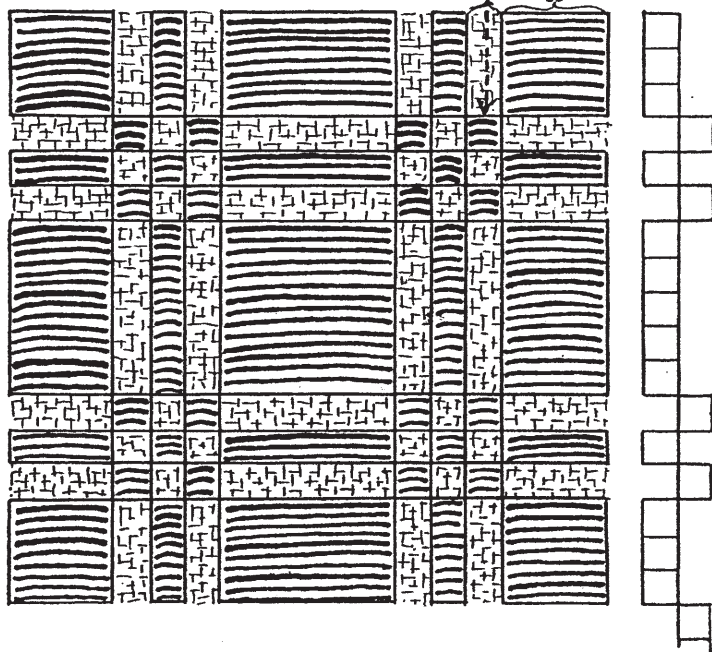
Warp threads per in.: 20 to 24.

Fine Texture: Towels, runners, borders in bags, aprons, fine drapes, vase mats, etc.

Warp: Art. 214, or Art. 314—20/2 or 24/3, natural or colored.

Weft: Pattern: Art. 114, Pearl 5 or Floss. Tabby: Same as warp.

Warp threads per in.: 30 or 32.

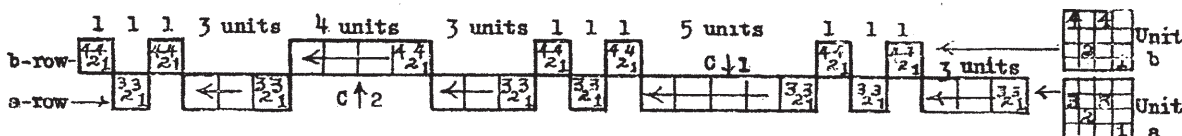


"ON OPPOSITE" or "PATCH PATTERN" TYPE

In this type pattern, there are two blocks, the first block, 1, 2, 1, 2, being on harnesses "opposite" to those of the second block, 3, 4, 3, 4; hence the name. In Figure III, the 1, 2, 1, 2, block is shown on the first or a-row and is called the a-unit; the 3, 4, 3, 4 block is shown on the second or b-row and is called the b-unit. Both the a- and b-units are shown enlarged at upper right corner of Figure III. The arrows point to the use of these units in their respective rows in the profile. The number of a- and b-units used in the design are marked along the top of the profile.

The a-unit may be composed of just two threads, the 1 & 2; and the b-unit of the 3 & 4. If you choose to work with these 2-thread instead of the 4-thread units, you will reduce the finished design when woven to half its size, but the parts of the design and its proportions will remain the same.

FIGURE IV—SUMMER AND WINTER PROFILE



SUMMER and WINTER UNITS

(4 threads in each)

Unit (a) on a-row: 1, 3, 2, 3

Unit (b) on b-row: 1, 4, 2, 4

THREADING PLAN: Same as for all the patterns; follow on this profile.

TEXTURE: A very short overshot, with the warp tying down the pattern-weft at every 4th thread. Where one side shows dark, predominately the weft color, the other shows light, predominately the warp color; or vice versa.

WEAVING PLAN:

Weave the a-unit:

1 & 3, Pat; followed by * 1 & 2, Tabby.

2 & 3, Pat; 3 & 4, Tabby.

2 & 3, Pat; 1 & 2, Tabby.

1 & 3, Pat; 3 & 4, Tabby.

Weave the b-unit:

1 & 4, Pat; followed by * 1 & 2, Tabby.

2 & 4, Pat; 3 & 4, Tabby.

2 & 4, Pat; 1 & 2, Tabby.

1 & 4, Pat; 3 & 4, Tabby.

THREAD SUGGESTIONS:

Coarse Texture: Heavy Pillows, Table Mats, Knitting Bags, Rugs.

Warp: Art. 414, Carpet Warp; or Art. 714, Tulip Three Strand.

Weft: Pattern: Art. 514, Tulip Stranded Filler. For rugs, Art. 614, Rug Yarn.

Tabby: Like warp or Art. 114, Pearl Size 5.

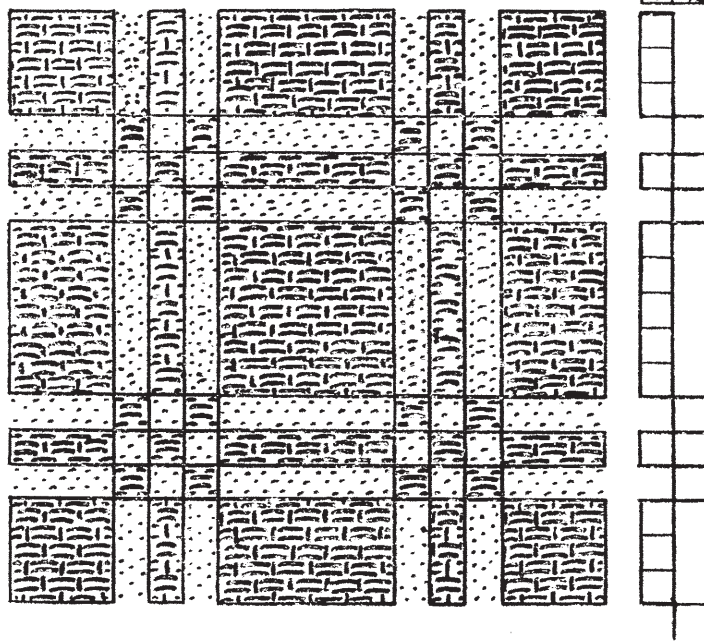
Warp threads per in: 16 or 18. For rugs, 12 per in.

Fine Texture: Table Linen, Towels, Drapes, Coverlets, Pillows.

Warp: Art. 214, 24/3 or 30/3; or Art. 314, 20/2 or 24/3.

Weft: Pattern: Art. 114, Pearl Size 5; or Art. 914, Size 20/6.

Tabby: Like warp or Art. 114, Pearl Size 20. Threads per in: 30 or 32.

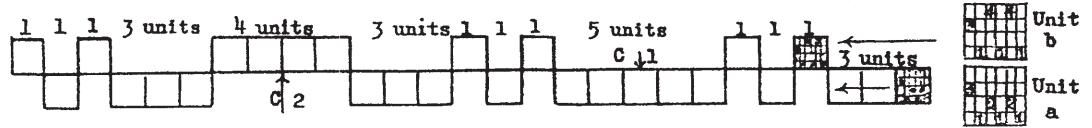


THE SUMMER-AND-WINTER TYPE PATTERN

Note: Notice that the tabby is built upon the 1 & 2, 3 & 4 system. If one uses the 3 & 4 tabby at the beginning of each unit, instead of the 1 & 2 as given here, an entirely different texture is the result.

The Summer-and-Winter Texture is a very useful one for fabrics requiring durability. The tying down of the weft thread at every fourth warp thread, makes it possible for the weft to continue in extended block formations, without fear of too long an overshot. The surface of Summer-and-Winter patterns has an interesting pebbly effect, due to the appearance of the warp at regular intervals. It is a lovely texture to work with, and gives satisfactory results for coverlets, pillows, table linen, towels, rugs and draperies.

FIGURE V—BRONSON "LACE-WEAVE" PROFILE



BRONSON UNITS (6-threads each)

Unit (a) on a-row: 1, 2, 1, 2, 1, 3
 Unit (b) on b-row: 1, 4, 1, 4, 1, 3

THREADING PLAN: Same as for all the patterns; follow on this profile.

TEXTURE: Weft threads weave 2 or 3 rows of a short overshot, followed by 2 rows tabby. A lacey effect is secured by the open rows alternating with the tabby.

WEAVING PLAN: (Use one weft only).

Weave the a-unit:

- Harnesses 1 & 2, followed by harnesses 2, 3, 4, together.
- 1 & 2, then 2, 3, 4, together.
- 1 & 2, then 2, 3, 4, together.
- 1 alone, then 2, 3, 4, together.

Weave the b-unit:

- Harnesses 1 & 4, followed by harnesses 2, 3, 4, together.
- 1 & 4, then 2, 3, 4, together.
- 1 & 4, then 2, 3, 4, together.
- 1 alone, then 2, 3, 4, together.

Tabby Sections:

- Treadle 1 alone, followed by 2, 3, 4 together.

THREAD SUGGESTIONS:

Coarse Texture: Heavy Table Mats, Mantel Runners, Semi-transparent Side Drapes.
 Warp: Art. 114, Pearl Size 3; or Size 5; or Art. 914, Size 20/6.

Weft: Same as warp or Art. 214, Size 10/4 or 12/4 in dark ecru or beige, for rich linen color. Art. 114, Floss, in many colors, is excellent.

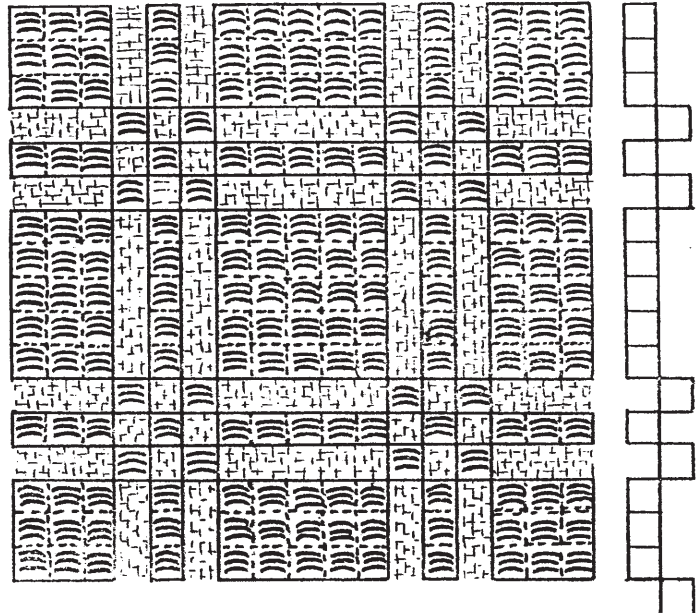
Threads per in: 12 to 16.

Fine Texture: Soft-textured doilies, napkins, guest towels, (with lacey borders), tablecloths, sun curtains, summer blouses.

Warp: Art. 214, or Art. 314, Size 30/3; or size 20/2; or size 24/2.

Weft: Art. 114, Pearl Size 20; or Art. 214, Size 30/3; or Art. 314, Size 20/2, Size 20/3 or Size 24/3, (Natural Egypt for linen color). For slightly heavier material, use Art. 114, or Art. 314, Size 10. The Pearl Size 10 in its many beautiful colors is effective.

Threads per in: Sizes 20/2, 30/3—30 to 36 per inch. Size 24/2—36 to 40 per inch.



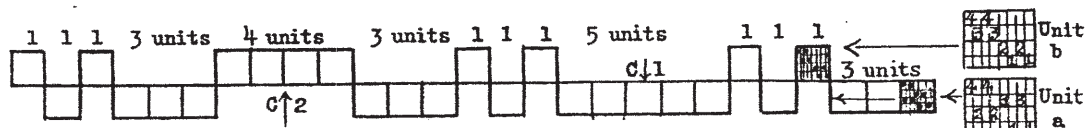
THE BRONSON TYPE PATTERN

The Bronson is originally a Scandinavian weave. There are variations in the setting up of Bronson, but this one is fairly standard for 4-harness Bronson patterns in the United States. In addition to the a-units and the b-units given above, which form the lace-work of the pattern, you may also have a plain area threaded 1, 3, 1, 3, 1, 3 as far as desired. In planning your design, use this plain or tabby area between the lace parts, or for plain borders at either side of the width.

In weaving the Bronson pattern, only one weft is used, and both pattern and tabby rows are woven with this same continuous thread. The tabby sections are woven by using harness 1 alone, and following this by the 2, 3, and 4 together.

The Bronson is suitable for table linen, sun curtains and fine dress materials. In the absence of linen there are many lovely cotton threads which resemble the appearance of linen.

FIGURE VI—M'S and O'S PROFILE



M'S AND O'S UNITS
(8 threads each)

Unit (a) on a-row: 1,3,1,3,2,4,2,4
Unit (b) on b-row: 1,2,1,2,3,4,3,4

THREADING PLAN: Same as for all the patterns; follow on this profile.

TEXTURE: One block shows weft passing under 4 threads and over 4 threads, while the other block shows tabby. The texture can be both coarse and fine, the short-4-thread overshoots making sections which show somewhat in subtle relief.

WEAVING PLAN: (Use one weft only)

Weave the a-unit:

Harnesses 1 & 3
Harnesses 2 & 4

Repeat to form size square desired.

Weave the b-unit:

Harness 1 & 2
Harness 3 & 4

Repeat to form size square desired.

THREAD SUGGESTIONS:

Coarse Texture: Peasant Mats, Bags, Purses, Side Drapes.

Warp: Art. 114, Pearl Size 3; or Pearl Size 5; or Art. 914, Size 20/6.

Weft: Same as warp, or Art. 214, Size 10/4 or 12/4 in ecru or beige for linen colors; or Art. 114, Floss in Buff, Taupe, or Linen Color.

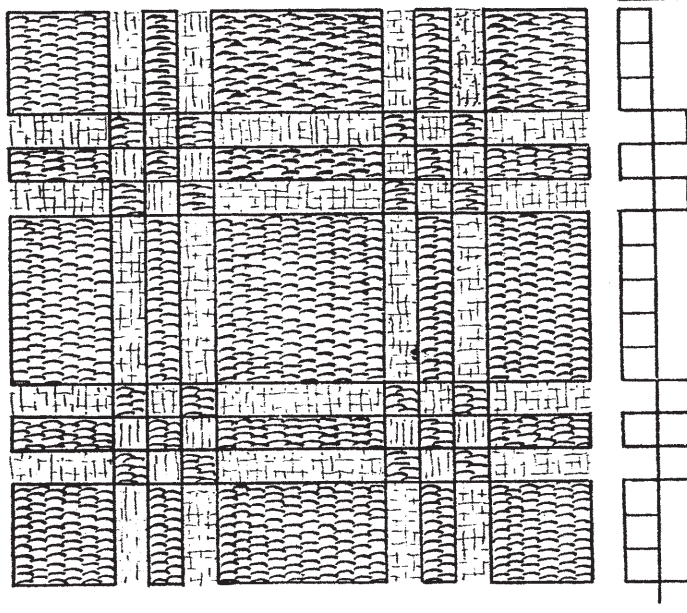
Threads per in: Pearl 3, 16 to 18 per in. Pearl 5 and 20/6, 18 to 24 per inch.

Fine Texture: Table Linens, Doilies, Guest Towels, Fine Curtains.

Warp: Art. 214, Size 16/4 and 20/4; or Art. 314, Size 20/2, 20/3, 10/2, or 24/3.

Weft: Art. 114, Pearl Size 20; or Art. 214, same as warp; or Art. 314, same as warp. Weft for M's and O's should be same size as warp or a bit heavier.

Threads per in: Size 16/4, 20/4, and 10/2 at 24 per inch. Size 20/3, 20/3 and 24/3 at 30 or 32 per inch.



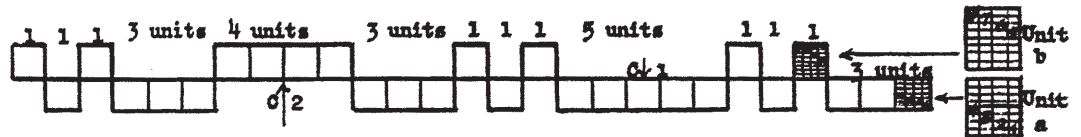
THE M'S AND O'S TYPE PATTERN

The M's and O's is a one-shuttle weave using a single weft thread only. It has two units, each composed of 8 threads. This is the smallest unit that can be used to weave the pattern effectively. Both sides when woven look exactly the same. The weave is an old linen weave used for hundreds of years. It is based on a combination of two tabby systems. The a-unit: 1, 3, 1, 3, 2, 4, 2, 4, uses the 1 & 3, 2 & 4 tabby system which we find in most of our American patterns. The b-unit: 1, 2, 1, 2, 3, 4, 3, 4, uses the 1 & 2, 3 & 4 system sometimes found in Mr. Worst's book. By taking just half of each M's and O's unit one gets a broken twill, which gives a mottled texture, i. e. 1, 3, 2, 4, 1, 2, 3, 4, and repeat.

Since there are 8 threads in a unit of M's and O's the pattern comes out larger than one expects, and it is therefore wise to plan accordingly.

M's and O's can be very lovely when woven with coarse thread. This makes up into stunning table mats or runners, useful for outdoor wear; also heavy purses and pillows. The old linens made in this technique were usually of fine thread. For varied ways of weaving M's and O's, see "How To Weave Linens" by Edward Worst, now out of print, but available in libraries.

FIGURE VII—2-ROW, 8-HARNESS DAMASK PROFILE



8-HARNESS DAMASK UNITS
(4 or 8 thds. each)

Unit (a) on a-row: 1, 2, 3, 4 or
1, 2, 3, 4, 1, 2, 3, 4.

Unit (b) on b-row: 5, 6, 7, 8 or
5, 6, 7, 8, 5, 6, 7, 8.

THREADING PLAN: Same as
for all the patterns follow on
this profile.

TEXTURE: A twill texture for
towels or linens, the single
weft making 3-thread over-
shots then passing under a warp
thread as a tie. Each row the
pattern progresses diagonally.
Where one side shows predom-
inantly weft, the other shows
predominantly warp.

WEAVING PLAN: (Use one
weft only)

Weave the a-unit: (Follow the
tie-up for Harness combina-
tions)

Tied Treadles: 1, 2, 3, 4. Repeat
to form squares.

Weave the b-unit:
Tied Treadles: 5, 6, 7, 8. Re-
peat to form squares.

THREAD SUGGESTIONS:

Coarse Texture: Wall Hangings, Knitting
Bags, Runners, Bath Mats.

Warp: Art. 214, Size 10/4 or 12/4; or
Art. 414, Tulip Carpet Warp.

Weft: Same as warp. For bath mats,
Art. 514, Art. 614 or Art. 814.

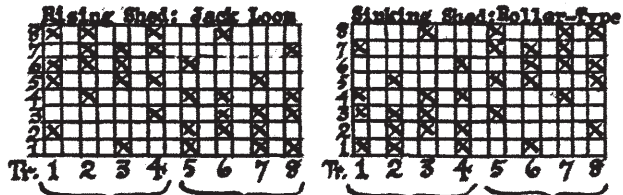
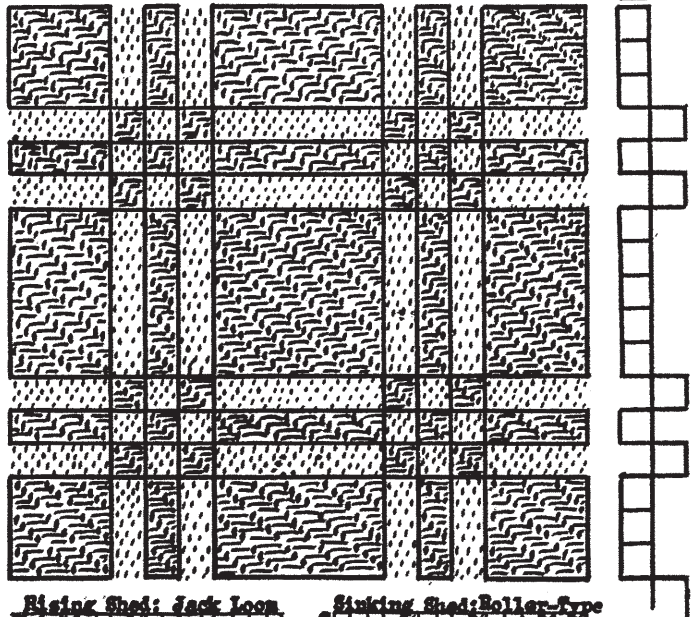
Threads per in.: Size 10/4 and 12/4:
20 per inch. Carpet Warp: 16 per
inch.

Fine Texture: Table Linens, Towels.

Warp Art. 114, Pearl Size 20; or Art.
214, Size 30/3; or Art. 314, Size 20/2
or 24/2.

Weft: Same as warp.
Threads per inch: 30, 32, 36; or 40
for the 24/2.

10



TIE-UPS FOR TREADLING OF 8-HARNESS DAMASK

2-ROW 8-HARNESS DAMASK PATTERNS

Damask patterns of two blocks may be designed in various and pleasing proportions for an 8-harness loom, using the profile method. The damask texture shows an attractive all-over weft-color surface on one side with the other side of the same section warp-color. The character of damask is apparent by noting the glossy and grainy surfaces interspersed on a piece of old table linen. For Damask table wear, choose fine thread resembling linen. This pleasing twill surface of damask patterns makes it interesting for mats or rugs.



We illustrate above the various items and put-ups available in the Lily Line of Hand Weaving Yarns. Rug Yarn and stranded filler are put in skeins. Other items are available on 2-oz. tubes and 1-lb. cones.

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