

THE BRONSON WEAVE - FOUR WAYS

by MARY M. ATWATER

When I became interested in hand-weaving, a good many years ago, some of the old ways of weaving had become so deeply buried by time and disuse that they were to all practical purposes "lost art". It has been my great pleasure to dig up some of these fine old forms of beauty, to put them into useable shape again, and to see them generally accepted once more as part of the tradition and practise of our craft.

One of the most valuable of the old weaves set going again in this way is the so-called "Bronson" weave. The name is something of a misnomer, and I fear I am responsible. But it is probably too late to correct the error. The thing happened this way: when studying some ancient books on hand-weaving in a private library where I was permitted to work, I came upon the "Domestic Manufacturer's Assistant and Family Directory in the Arts of Weaving and Dyeing", printed in the year 1817. The authors: J. and R. Bronson. In this delightful and enlightening work I came upon several drafts for linen weaving written in a manner I had not seen elsewhere. No name was given this special weave in the book, and in order to have a handle for it I gave it the name of "Bronson weave".

As I discovered later, the weave is far older than the Bronsons, and in giving it their name I accorded them an honor not strictly due them. But after all no great harm has been done, I fancy.

The weave, as I learned later, is more correctly known as the "spot" weave, and appears to be of English origin. I found it under this name in an ancient English weaving book, where it was given not only for linens but also for the making of shawls. In Colonial America, however, it appears to have been used rather exclusively for linens. Many charming old bits can be found in the museums and in private collections here and there about the country, and I have seen tiny samples of exquisite fineness pasted to the pages of ancient note-books kept by weavers of the Colonial period.

The wide use of this weave for linens, in early America, may have been due to the fact that in the new country there were not many elaborate looms for the weaving of damask, and this weave permits pattern weaving in linen on a quite simple loom. Some patterns, in fact, may be woven on four harnesses, though in most of the ancient pieces at least five harnesses appear to have been used. When put on eight or ten harnesses the weave provides all the elaboration of pattern most weavers care for in fabrics of this type.

The form of threading we know as the Bronson weave has many uses in addition to its value for linens. These forms

are so distinct as to be actually separate weaves, and as a result there has been some confusion. It is in the hope of clearing up some of this confusion and of answering the many questions that have reached me on the subject, that this article has been prepared.

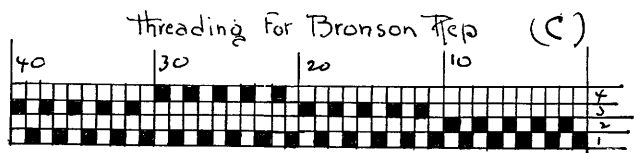
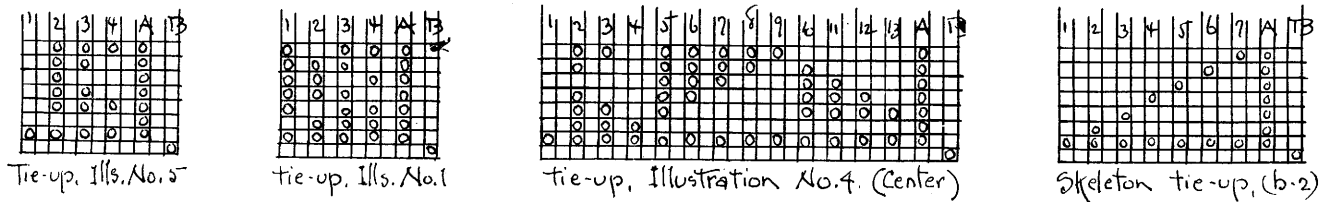
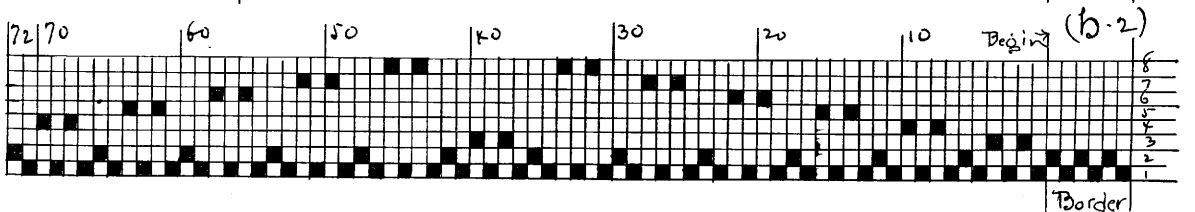
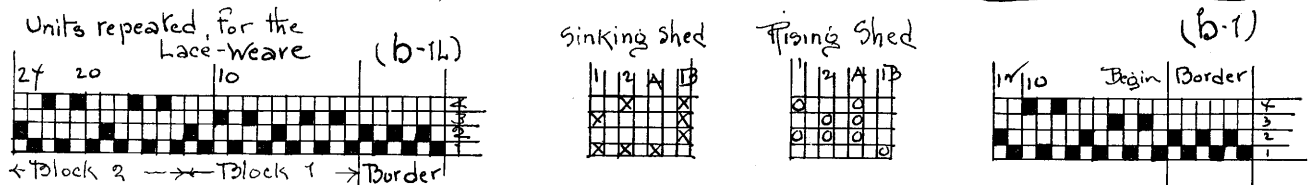
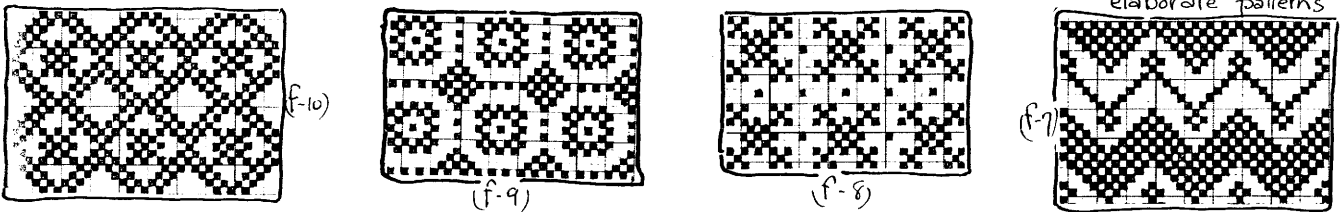
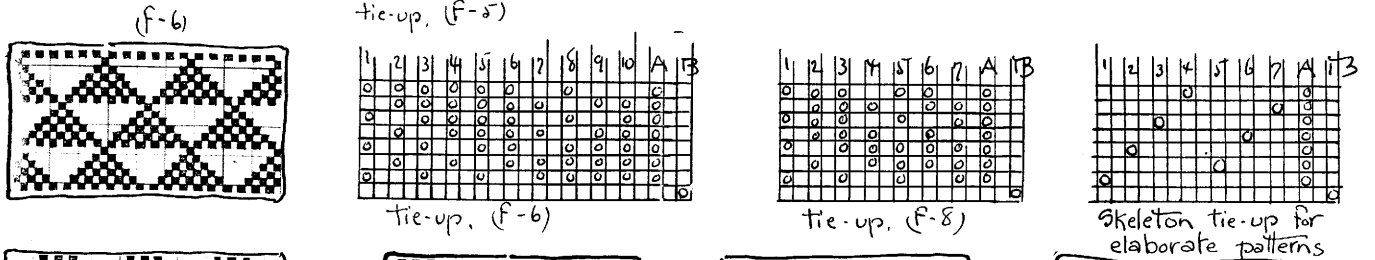
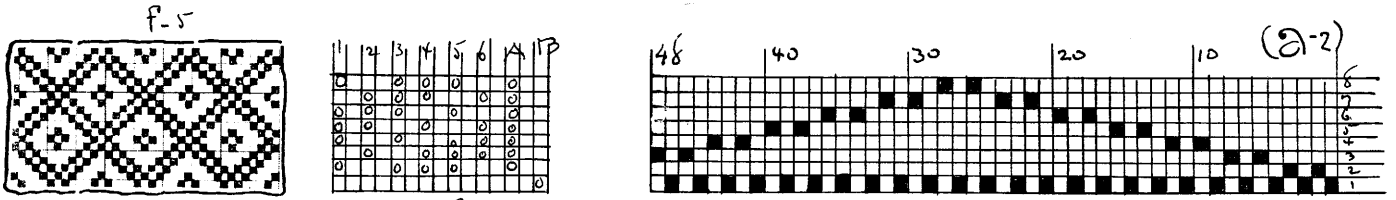
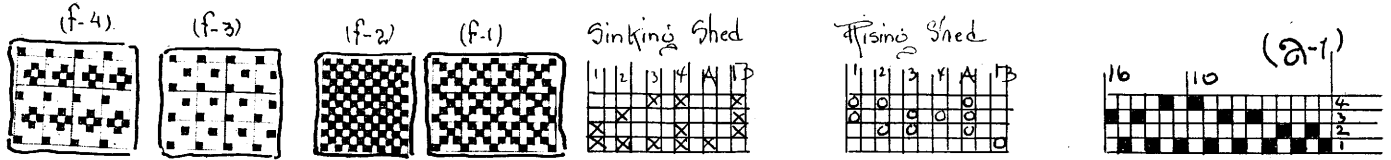
The peculiarity of a Bronson threading is that half the warp — every other thread — is threaded through one harness; usually the front harness though the back harness is sometimes used instead. The remaining harnesses, to any desired number, are used for the pattern. There are two distinct forms of this threading, shown at (a) and (b) on the diagram. It will be observed that in the (a) type of threading all the pattern blocks are of the same number of threads and that there are the same number of pattern blocks as the number of harnesses, less one. On four harnesses there are, for example, three pattern blocks, and on eight harnesses there are seven pattern blocks. These blocks may be written in any order desired to produce a particular figure. For the sake of clearness the drafts given on the diagram are all "point" or "diamond" patterns.

In the (b) form of draft a small three-thread block, always on the same harness, is inserted between all the other pattern blocks. This little block may be woven as a pattern block if desired but is usually treated simply as a "tie", somewhat in the manner of the ties in the summer and winter weave. Any one of the pattern harnesses may be used for this tie block. For example in drafts Nos. 256, 257, 258, 260 and 261, page 256 of my Shuttle-Craft Book, I wrote the tie blocks on harness 3. In draft 269, page 260, however, I wrote the tie blocks on harness 2, and as this gives the draft a better appearance on paper I now follow this system exclusively. It makes no difference, of course, in the weave — provided the treadling follows the draft as written.

A draft written in the (b) manner provides one less pattern block than an (a) draft, it will be observed, but there are a number of advantages, especially in the weaving of fairly elaborate patterns on eight or ten harnesses. It is not practical to weave adjoining pattern blocks at the same time if the draft is written in the (a) style, as long overshot skips would result. But if the draft is written in the (b) manner the tie thread on harness 2 makes it possible to weave all the pattern blocks together, for a stripe all across the fabric, and figures may be developed with much greater freedom.

Another interesting thing about drafts written in (b) fashion is that borders in plain tabby, and plain tabby sections

Bronson Weaves — Diagram



M. M. Atwater 1940

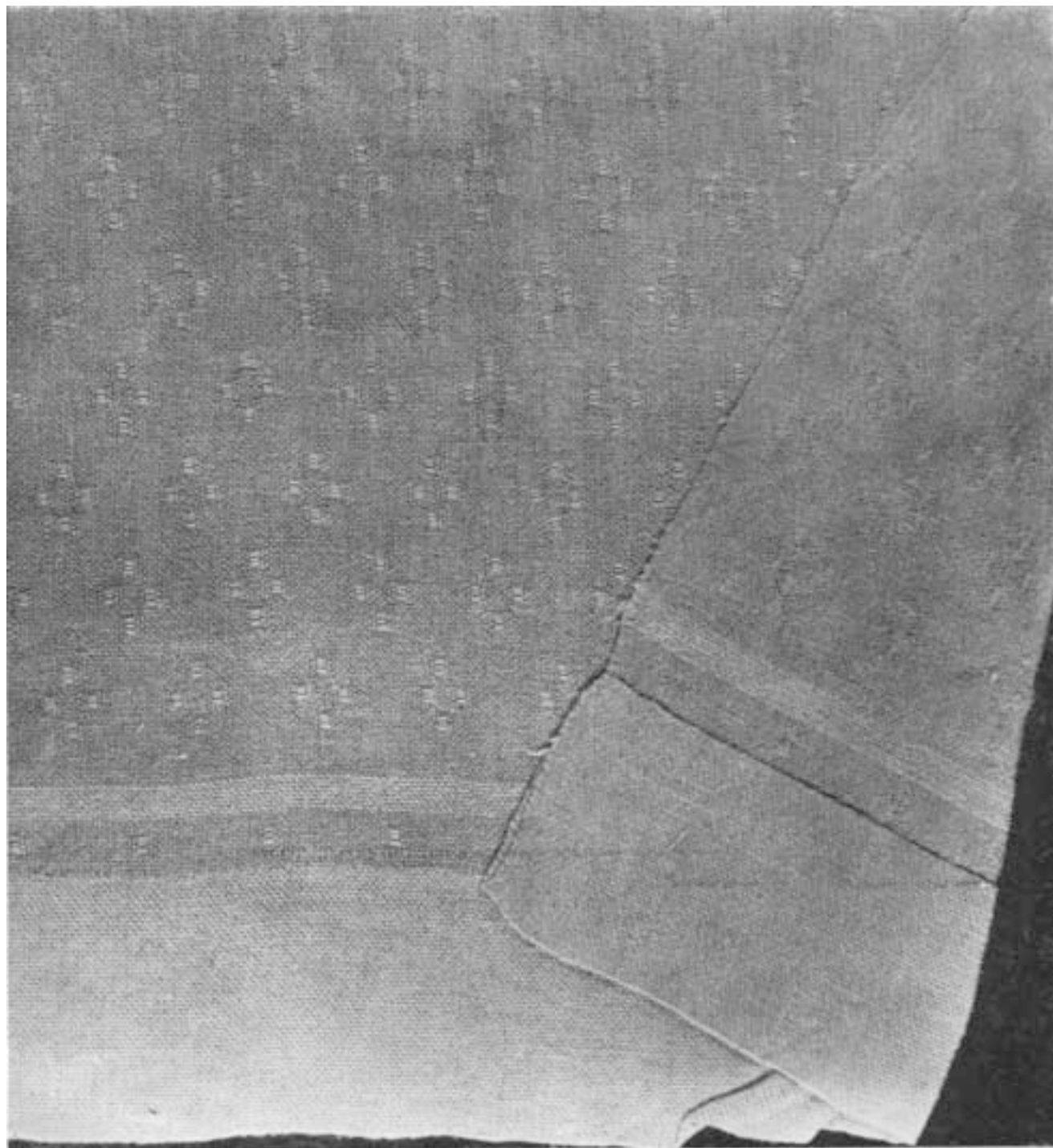


Illustration No. 1
Towelling in Bronson Weave

between pattern figures, may be introduced as desired — written 1, 2, 1, 2, and so on as indicated on the diagram.

Another feature of the (b) drafts is that they may be used for an openwork weave similar to the Swedish lace-weave. (The lace-weave cannot be produced on the (a) type of draft.) But in order to make the lace-effect it is necessary to repeat each pattern block at least twice, as shown on the diagram.

There are also two ways of using a Bronson weave threading for upholstery fabrics. One of these techniques we have been using for years, and patterns for the weave have been published in the Shuttle-Craft Guild "Recipe Book". It consists simply in the manner of treadling. The second technique for upholstery was worked out experimentally last summer, and found very interesting at our summer "institutes". It consists in threading each pattern block with ten

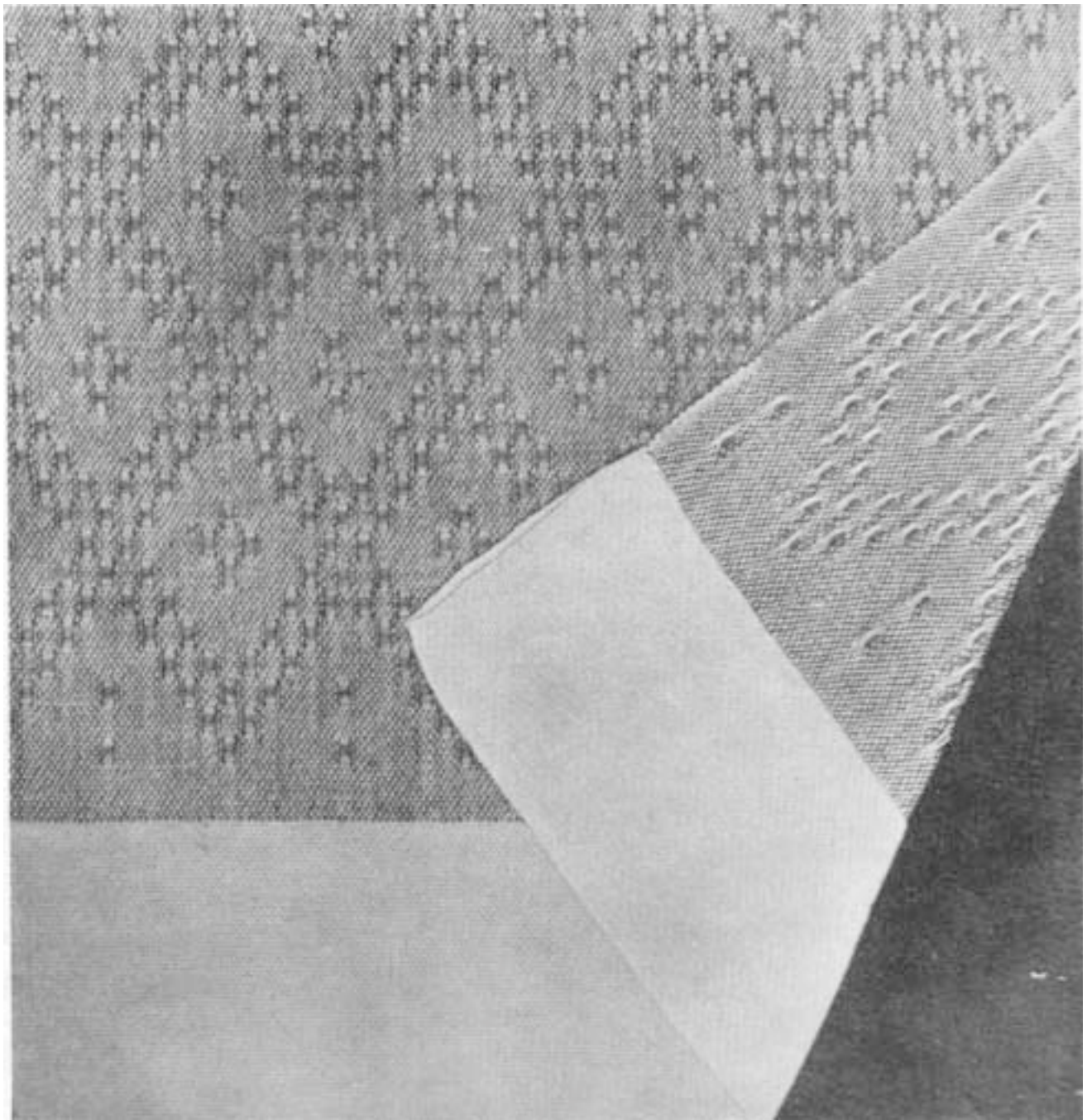


Illustration No. 2
Towelling in Bronson Weave

ends, instead of four, setting the warp very close, and treadling the pattern in warp-skips for the right side of the fabric. The (a) type of draft, without a tie block, should be used for this. A four-harness draft is given at (c) on the diagram. The woven effect is a figured "rep" — one of the most durable and satisfactory of fabrics for chair-covering and the like.

We have, then, four types of weaving possible in the

Bronson weave: (1), a weave for fine linens; (2) an open-work lace-weave suitable for linens, for window-drapery in fine or coarse linen; and for shawls and scarves, done in fine wool; (3) a weft-effect upholstery weave, suitable also for bags, pillow-tops, and the like; (4) a warp-face patterned rep for furniture covering.

To consider these different forms of the Bronson weave in detail: The linen weave is the ancient and traditional

form. It is a beautiful weave for towelling, table linens, and so on. Warp and weft should be the same thread, or threads the same in grist, and fine linens are best. This is not a good weave for coarse or rough linens. As a rule both warp and weft are used in white or natural, but attractive results may be obtained by weaving a colored linen weft over a white or natural warp. The pattern appears in weft-skips on one side of the fabric and in warp-skips on the reverse. Either side may be considered the "right" side. The warp should be set close as for a firm tabby fabric, and the beat should also be firm, with exactly the same number of weft-shots to the inch as there are warp-ends to the inch in the setting. Drafts of either the (a) or (b) type may be used.

Illustrations 1 and 2 show towels in the linen weave. The warp in both was Bernat's "special" singles linen warp set at 36 ends to the inch. The weft in No. 1 was a fine English "flourishing thread" in pale gold. The hem woven in tabby in material like the warp. No. 2 was woven in Bernat's linen "weaver" in blue. As this material is rather too coarse for the warp the figures are somewhat too long for their width, but the effect is pleasing. A corner of each piece has been turned back to show the pattern effect on the reverse side of the fabric. Both pieces were woven on the threading given at (b-2) on the diagram, though the pattern of No. 1 is a simple figure that might be threaded on five harnesses, and the pattern of No. 2 can also be woven on the (a-2) draft as illustrated on the diagram.

The method of treadling for this weave is the same for all patterns, and is as follows: For patterns in the (a) style, weave the B tabby between all pattern shots. The A tabby treadle is used only in making the plain-weave headings and hems, and tabby intervals between pattern blocks. To weave draft (a-1) for instance, in the figure illustrated at (f-1) weave: 1, B, 1, B, 2, B, 2, B, 3, B, 3, B, 2, B, 2, B, and repeat. A number of variations, even in this simplest of patterns, may be woven. For (f-2) treadle: 4, B, 4, B, 2, B, 2, B and repeat. For (f-3) treadle: 1, B, 1, B, A, B, A, B, 3, B, 3, B, A, B, A, B, and repeat. For (f-4) treadle: 1, B, 1, B, A, B, A, B, 3, B, 3, B, 2, B, 2, B, 3, B, 3, B, A, B, A, B, and repeat. Other variations will suggest themselves to the weaver.

Pattern (a-2) in the figure (f-5) as illustrated is woven in exactly the same manner, on the tie-up as given: 1, B, 1, B, 2, B, 2, B, and so on.

Patterns of the (b) type are treadled in a slightly different manner, as an A tabby shot is woven between each pair of pattern blocks. This way: 1, B, 1, B, A, B, 2, B, 2, B, A, B, and so on. This shot on the A tabby corresponds to the tie-thread threaded on harness 2. It should be noted that when weaving with a colored pattern weft and a tabby in white these "A" shots should be in the pattern thread. To put it differently: weave all B shots in white and all other shots in color.

The openwork lace effect can be produced on any (b)-type Bronson weave draft, provided each pattern unit is repeated at least twice, as shown on the diagram. Set the warp further apart than for the linen weave and beat lightly. The openwork effect does not appear very plainly while the fabric is on the loom but is brought out by washing and finishing. Illustration No. 3 shows the corner of a linen lunch-cloth with borders in lace-weave. This is a four-harness pattern from the Shuttle-Craft Guild Recipe Book. On four harnesses only two pattern blocks are possible, of course, but on eight or ten harnesses quite elaborate and interesting effects are possible. Just how to set the warp for the lace-weave depends to some extent on the purpose of the fabric. For a table piece like the one illustrated the setting should be fairly close as otherwise the tabby part of the fabric will be too "slimpsey", but for window drapery the setting may be a good deal more open. Though this weave is best in fine material, coarse linen — Bernat's linen floss — makes very handsome hangings when woven in this weave. For light scarves and baby-blankets of the shawl variety, Bernat's fine Afghan yarn set at 30 ends to the inch, or Bernat's "weaving special" yarn at 20 ends to the inch work out nicely.

The difference between the Swedish lace-weave and the lace-weave as produced on a Bronson threading is in that for the Swedish weave — done on four harnesses with only two pattern blocks — one block shows the weft-skip and the other the warp-skip effect. It is easy enough to make a tie-up to produce this effect on a Bronson threading if one wishes, but of course for a more elaborate pattern, in which several adjoining blocks may be woven together, it is impractical and would ruin the effect. The Bronson type of threading therefore has more possibilities in the lace-weave than a threading of the Swedish type.

The Bronson lace-weave has found wide use since I introduced it some years ago. As it differs from the Scandinavian practise, and also from the ancient methods of using the "spot" weave, I believe we may claim it as a modern American innovation — a new contribution to the art of weaving.

Caution: the lace-weave is not suitable for cottons, or for a cotton and linen combination, or for silks, or for any hard or slippery material. It is best in fine linens, or fine worsted yarns. And a piece in this weave must always be washed to bring out the lacy effect.

The Bronson weft effect for upholstery is an attractive and practical one. The fabric produced is firm and has excellent wearing qualities. A draft of the (b) type should be used, and a good cotton or a fairly fine linen may be used for warp and tabby with pattern weft in wool, silk, or a coarse cotton. The fabric is nice for large bags and for pillow-tops as well as for furniture covering. Illustration No. 4 shows a piece woven in this technique for a bag. The warp and tabby are Egyptian cotton 24/3 set at 30 ends to

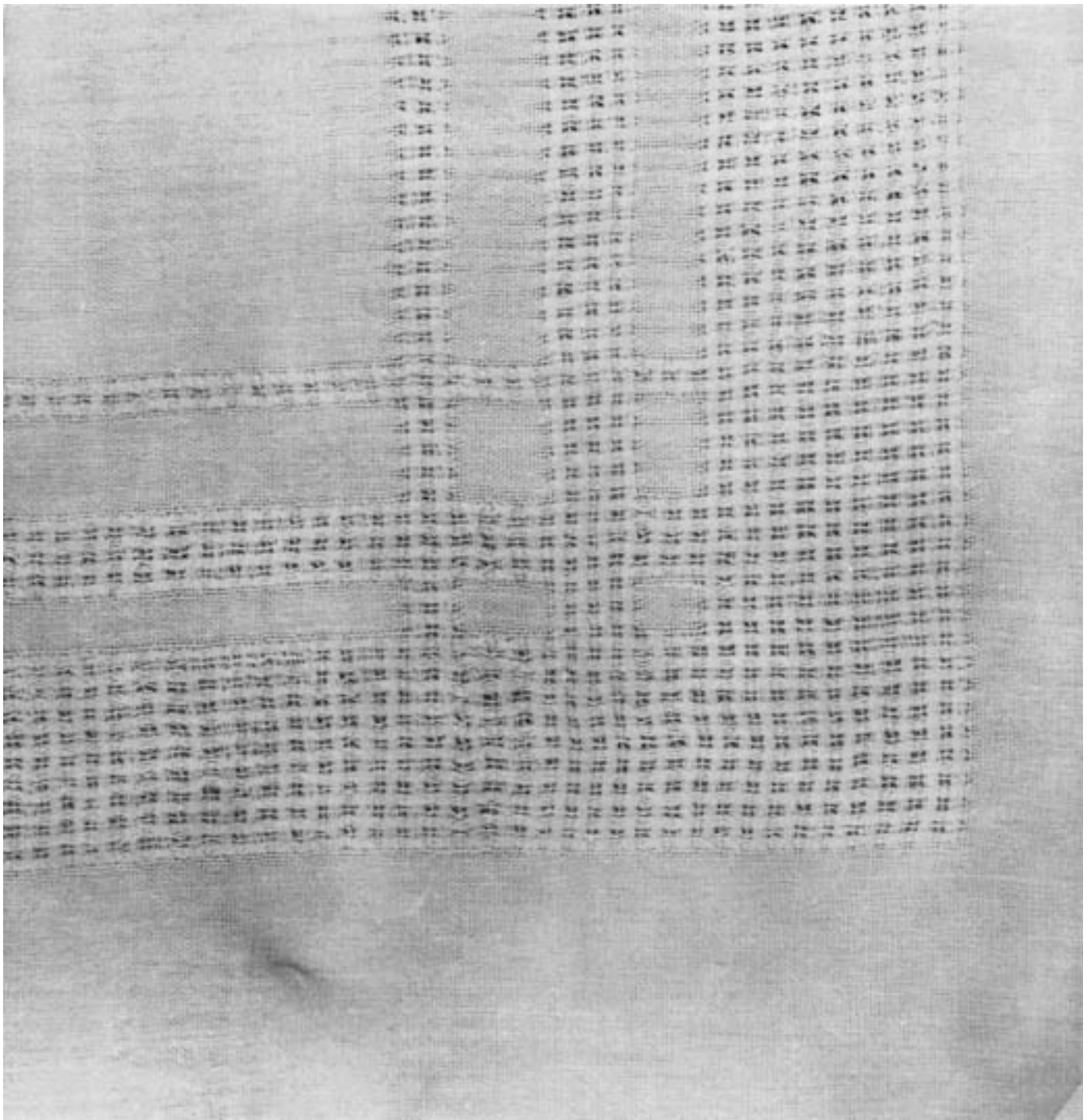


Illustration No. 3
Corner of linen lunch-cloth with borders in Bronson lace-weave

the inch, and the pattern weft happens to be a coarse hand-spun wool in two colors. The threading used was pattern (b-2) as given on the diagram, on the tie-up as shown.

In weaving, throw both tabby shots between pattern shots. This Way: 1, in pattern material; A, B, in tabby material; repeat as required; 2, pattern; A, B, tabby, repeat as required — and so through the pattern.

This method of weaving makes a better wearing fabric than the traditional form of treading, as the warp-skips on the reverse are eliminated. However the wrong side of the

fabric shows very little of the pattern effect and is uninteresting. For bags or chair-covering this does not matter, but the weave is not suitable for drapery where both sides are in evidence. Illustrations 5 and 6 show a small figure in this weave, from the right and wrong sides. A few lines of the lace-weave are also shown with the idea of illustrating the difference between the weft-skip effect and the warp-skip effect. As the warp was cotton, and set too close for the lace-weave, this is not altogether successful, but perhaps it conveys the idea.



Illustration No. 4
Piece of weaving for a bag in Bronson weft-effect in wool over cotton

As far as I know, the above manner of using the Bronson weave is also a modern innovation, first introduced by me some years ago. It has not been as widely used as the lace-weave, but it has very definite values — especially for the weavers who have looms equipped with more than four harnesses.

The Bronson “rep” weave was worked out experimentally last summer and proved interesting to those who attended our summer “institutes”. Rep is a closely woven, very firm ribbed fabric with excellent wearing qualities. It is one of the best and most enduring fabrics for upholstery. And this is an excellent way to make it.

Illustration No. 7 shows a sample in this weave made at one of the institutes. The material used for warp was Bernat’s Shetland set at 30 ends to the inch, and a four-harness threading like (c) on the diagram was used. As the warp was fairly coarse the blocks were threaded with six instead of with ten threads as shown. A finer warp, set closer, and threaded as given on the diagram, produces a somewhat better effect, but the coarse sample shows best in the photograph. The weft was ordinary cotton carpet warp, doubled. If a bolder rib is desired, three or four strands of carpet warp may be used for weft. This weft shows in skips on the wrong side of the fabric, but is entirely covered by the

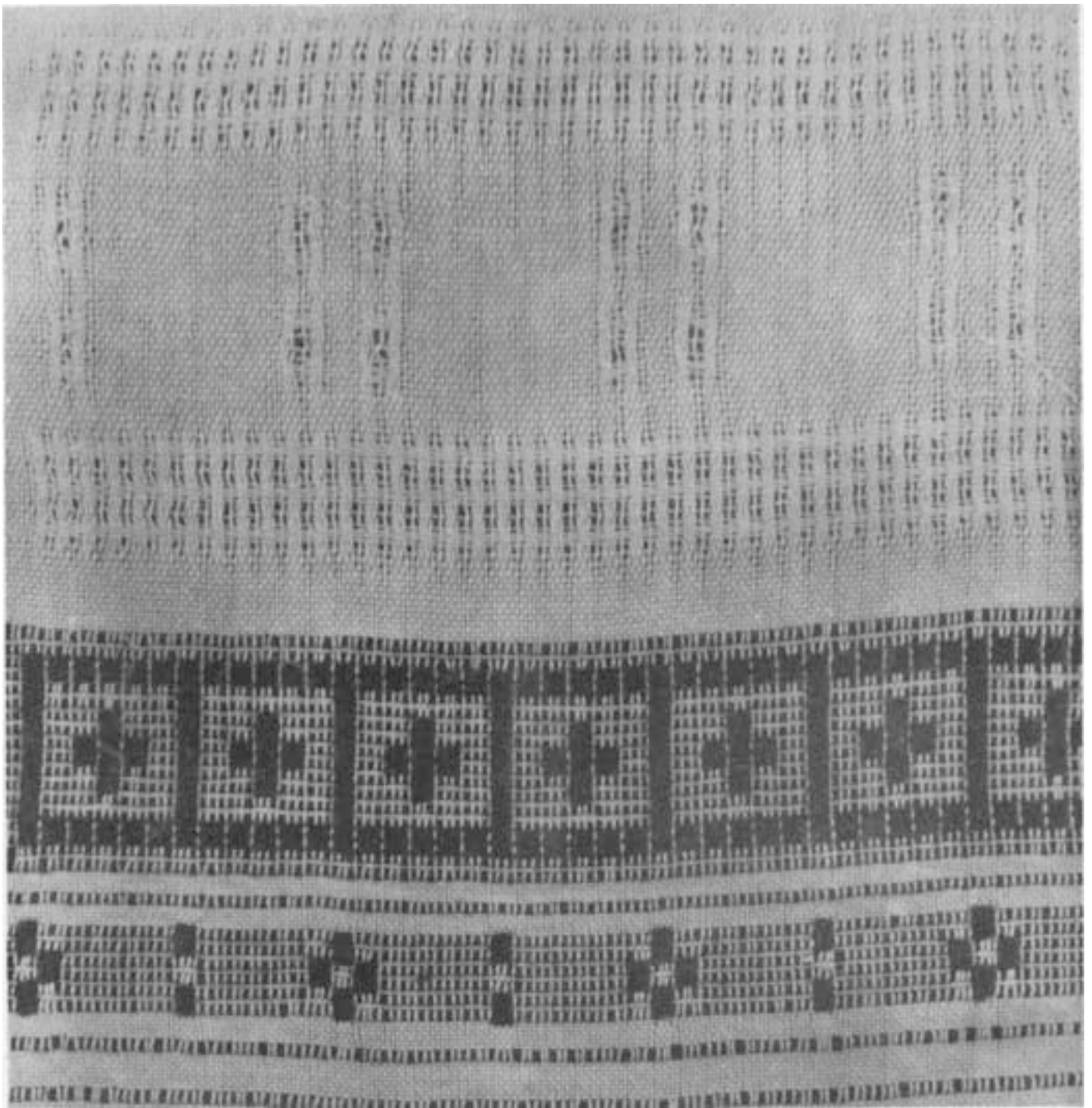


Illustration No. 5
 Bronson weft-effect in coarse cotton
 Also Bronson lace-weave. Right side

warp on the right side, as seen in the photograph. Any Bronson weave draft, with any number of harnesses, may be used for this weave, but I prefer drafts of the (a) type, and the blocks should be threaded with more than the four threads usual in the linen weave.

For this weave it is usually best to make the warp of a solid color. Introducing variations of color simply gives a striped effect to the fabric and does not add anything valuable to the texture pattern of the weave. As the weft does not show it makes little difference what color is used, though it is best to use a dark weft with a dark warp and a light weft with a light warp.

Treadling on the A and B treadles gives the plain ribbed effect. The little variations in pattern are produced by weaving a single shot on a pattern treadle instead of the B treadle as and when desired. For example, the small diamond figure at the bottom of the photograph is woven this way: A, 1, A, 2, A, 3, A, 2, and repeat. The figure of staggered dots next above is woven: A, 1, A, B, A, 3, A, B, and repeat. And so on. The beat should be as firm as possible, for the fabric should be hard and rather stiff.

To the eye of the non-weaver there would appear no similarity at all between a dainty fine linen in the traditional spot weave, a lace-weave shawl, a wool or silk bag fabric,

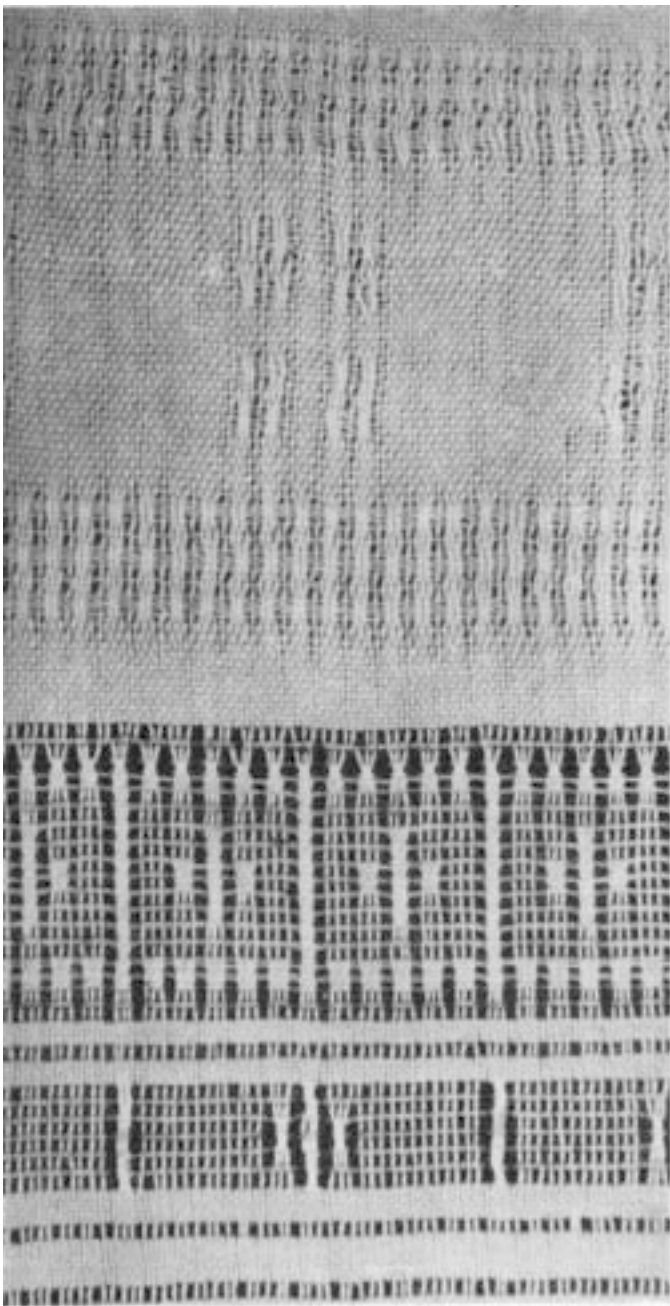


Illustration No. 6
Same piece as in Illustration No. 5
Wrong side of the fabric

and a heavy ribbed material for chair-covering. The weaves are in fact entirely different, and they are classified together simply by reason of the manner in which the fabrics are constructed and the drafts are written. In order to explain this as fully as possible it has been necessary to be rather technical. But after all weaving is a technical project, and we should be willing now and then to examine into the inner workings of our craft. Otherwise it might be better to play at something else.

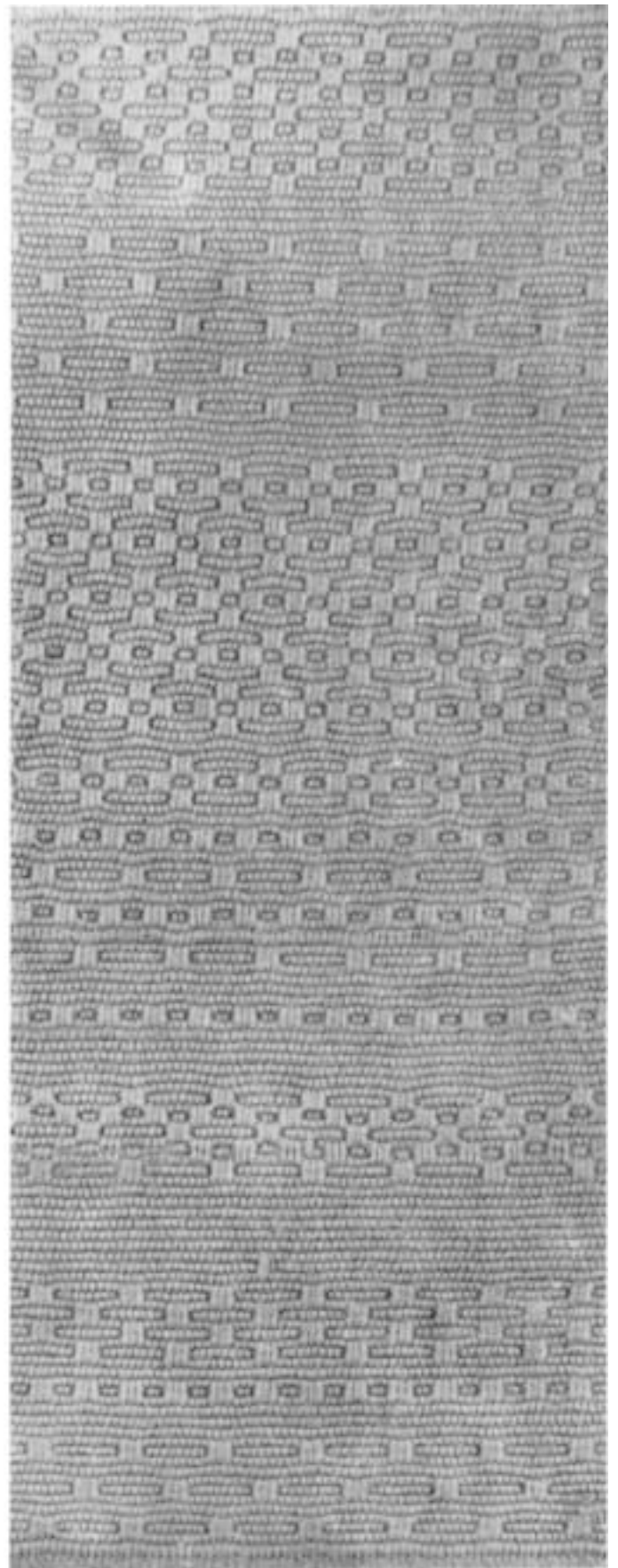


Illustration No. 7
Sample of Bronson "rep" weave in wool, cotton weft