

A FEW TWILLS

By MARY M. ATWATER

SUCCESS in weaving, it seems to me, depends very much on the choice of weave for the project in hand. We used to go blithely along honeysuckling everything—rugs, dress-fabrics, upholstery fabrics, scarves, linens—often quite unaware that there was any other weave besides the “four-harness overshot” or any pattern but “Honeysuckle.” Those simple-minded days are gone forever, thank goodness! Instead of one weave we have many weaves, and our patterns are legion.

Among the most useful, varied and interesting weaves are the twills. Somebody should write a book about the twills. It would have to be a big, thick book to hold all that might be said to advantage on the subject, and within the limits of a magazine article all one can do is to present a few selected specimens and indicate the possibilities.

The twills, and the allied “Dornik,” “Herringbone” and “Bird-Eye” group of patterns, are pre-eminently weaves for dress-fabrics, coat-fabrics, blankets and linens. This is their field, and though they might be used to advantage in other ways—such as for hangings—this should be done in the spirit of experiment and adventure.

The twill weave produces a thicker, softer, more durable fabric than plain tabby, but should always be woven firmly. It is not a suitable weave for thin, loosely woven fabrics—for light-weight summer scarves or window-curtains, for instance. The weaves are small in detail and produce a texture rather than a pattern, so that they are not highly decorative for the covering of large, plain surfaces, as for a coverlet. To use the twill for everything would be almost as bad as using the overshot weave for everything. But for many kinds of fabric no weave is as certain to give satisfactory results.

The twills belong to the class of weaves I have suggested calling the “Fifty-fifty” weaves—those weaves in which warp and weft are alike and play an equal part in the fabric. The warp-yarn may be harder twisted than the yarn used for weft, but should be of the same grist and of the same material; and the number of weft-shots to the inch should be the same as the number of warp-ends to the inch in the reed.

Twill on the lowest terms is the “Two-one” three-harness twill, known as the “Jeans” twill. This weave was much used in the old day for the making of a very solid, hard-wearing fabric used for work-clothes. Sometimes the warp was of cotton or linen and the weft of wool, to produce a “linsey-woolsey” fabric. The jeans twill in its simple three-harness form is little used by modern weavers because the fabric that results is too stiff and hard for modern ideas of dress. However, when used for pattern weaving in double-face twill, the jeans twill is an excellent weave for blankets and also for linens. A six-harness two-block pattern of alternating squares in this weave is shown on Diagram Four, sample No. 16.

The four-harness “Two-two” twill is much more familiar to most weavers than the jeans twill. When carried out in rough homespun yarns it produces the fabric known as “tweed,” and is used also for serges—done in fine worsted yarns. When correctly woven, with exactly the correct number of weft-shots to the inch, the “twills” or

diagonals run at an exact 45° angle. The fabric may be woven to twill in either direction, and both sides of the fabric are exactly alike.

This weave is illustrated on Diagram One, sample No. 1. The material used in weaving the samples, by the way, is Bernat’s “peasant” yarn both for warp and weft, the warp set at 15 ends to the inch. This material at this setting makes an excellent fabric for light blankets, though it is too coarse and harsh for clothing. It should be noted that for any of the twill weaves the warp should be set closer than for plain tabby weaving.

But the four-harness twill threading may be woven in many ways besides the plain two-two twill. Some people dislike the strong diagonal rib and prefer the “broken twill” or other variation. Some of the ways in which the four-harness threading may be varied are illustrated on Diagrams One, Two and Seven. Of course many more variations are possible.

The double three-one twill, No. 10, Diagram Two, is not, properly speaking, a fifty-fifty weave as there is twice as much weft as warp, but it is included as it belongs to this group of weaves. It is a useful weave for heavy blankets, automobile robes, steamer rugs and the like.

The “Corkscrew” twills, Diagram Three, produce a particularly firm fabric with an interesting texture, making these weaves very desirable for suitings.

Diagram Four shows a few six-harness twills. The plain “Three-Three” twill, sample No. 13, Diagram Four, is an excellent weave for coat-fabrics. It is thicker and softer than two-two twill, with a bolder diagonal.

The eight-harness twills are more varied, of course, than either the four-harness or the six-harness twills. A plain “Four-Four” twill is sometimes used for heavy coat-fabrics, but for lack of space is not illustrated. It is bolder, thicker and softer than the three-three twill. The weave illustrated by sample No. 17, Diagram Five, is better for most purposes as it is firmer and more closely combined, and shows an interesting texture.

The other eight-harness variations illustrated are excellent for sweaters and blankets, and are also much used for linens. No. 22, especially, is a favorite weave for linens, especially when woven in two colors, on a warp of two colors in a bold checked or plaid arrangement. The photograph, unfortunately, does not show the effect as clearly as it should.

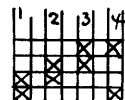
Diagram Six shows the eight-harness three-one double-face twill in a pattern of alternating blocks. This is similar, of course, to the six-harness jeans twill arrangement, but the effect is bolder. This is a very handsome weave for linens.

Sample No. 24, Diagram Six, is not a fifty-fifty fabric, as two kinds of weft are used, one much heavier than the other. It is an interesting and unusual weave, suitable for drapery and upholstery. The warp may be set in alternating threads of two colors, but the colors should both be fairly light shades, not too different in “value.” The coarse weft should be black and the fine weft like the warp, all in one color—either of the light shades used for warp or a different color.

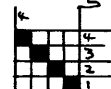


Diagram One

tie-up

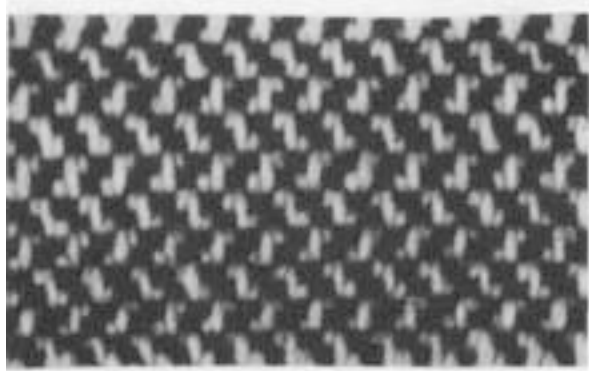


threading



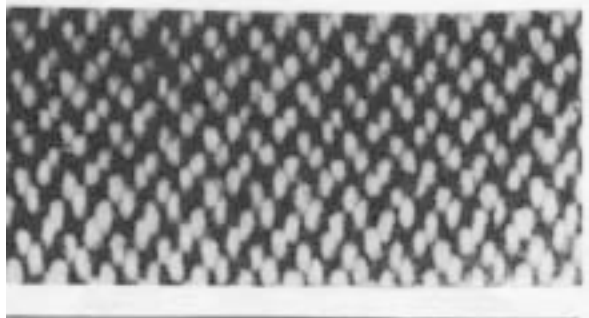
(1)

No. 1. Two-two twill
Weave the treadles in order:
1, 2, 3, 4 (or 4, 3, 2, 1) and repeat
this fabric is the same on both sides.



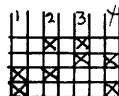
(2)

No. 2. Broken twill
Tie-up as for No. 1.
Weave the treadles in the following order:
1, 2, 4, 3, and repeat
this fabric is the same on both sides.



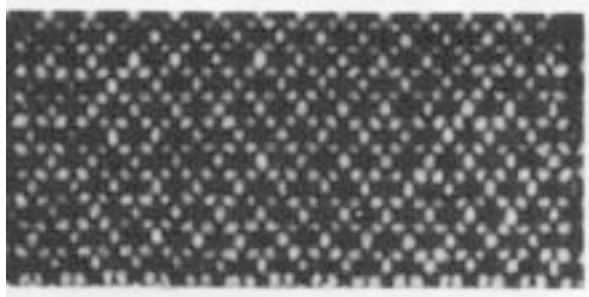
(3)

No. 3. Variation of Broken Twill



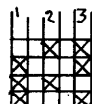
Special tie-up.

Weave the treadles in order:
1, 2, 3, 4, and repeat.



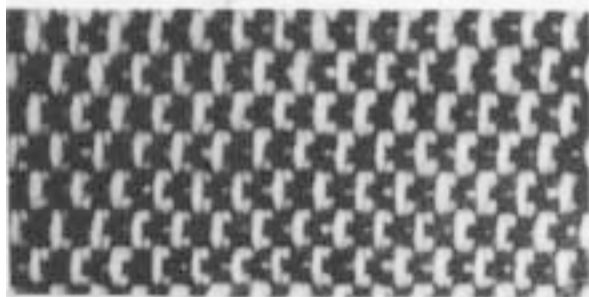
(4)

No. 4. A "fancy" weave on the twill threading



Weave: 1, 2, 3, 2, Repeat

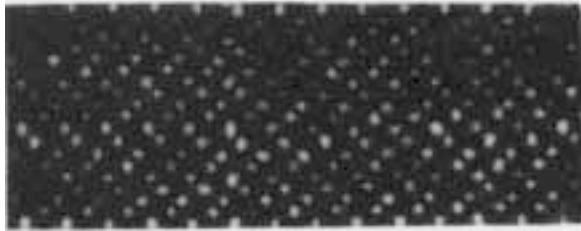
Special tie-up



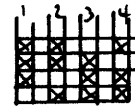
(5)

No. 5. a "fancy" weave
Tie-up as for No. 1.
Weave the treadles in the following order:
1, 2, 1, 3, 4, 3, Repeat.

Diagram Two

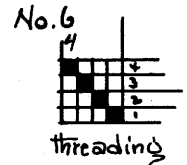


(6)

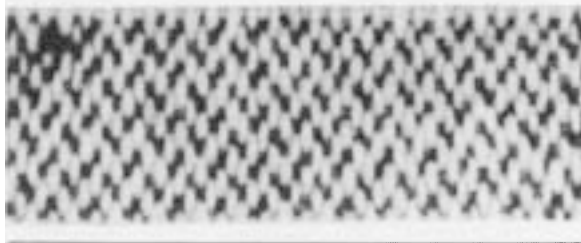


tie-up

Weave: 1, 2, 3, 4, Repeat

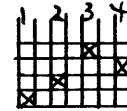


threading



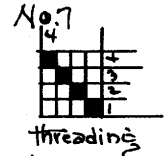
(7)

(No. 7 is the reverse of No. 6)

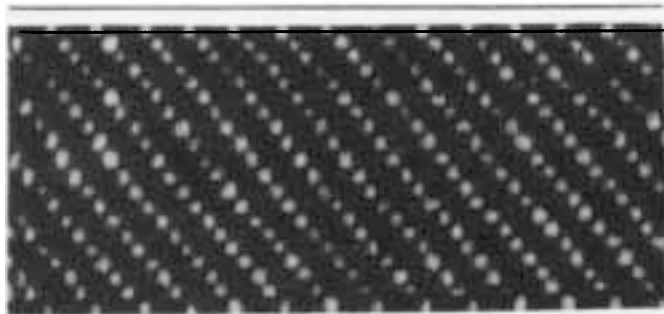


tie-up

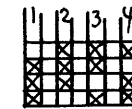
Weave: 1, 2, 3, 4, Repeat



threading



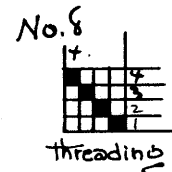
(8)



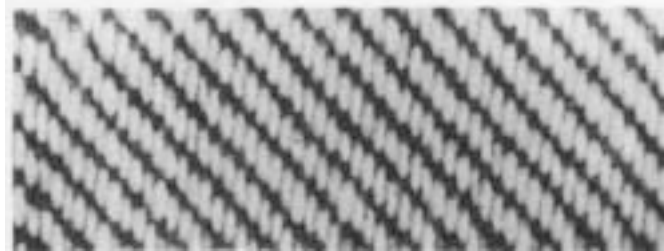
tie-up

the three-one twill

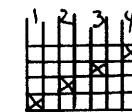
Weave: 1, 2, 3, 4, Repeat



threading



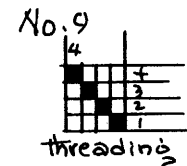
(9)



tie-up

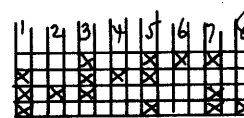
the One-three twill

Weave: 1, 2, 3, 4, Repeat



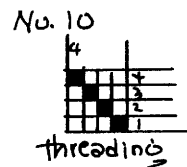
threading

No. 10 is Double Three-one twill. It makes a thick fabric, like No. 8 on both sides. If the weaving is done in alternate shots in two colors the fabric will be one color on one side and the other on the reverse.



tie-up

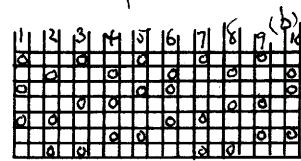
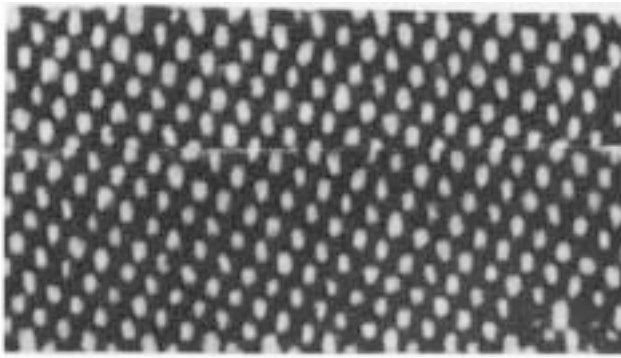
Weave: 1, 2, 3, 4, 5, 6, 7, 8, Repeat



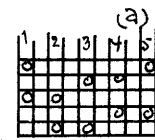
threading

Diagram 3, the Corkscrew Twills

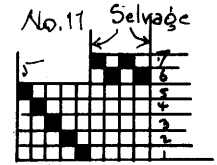
No. 11



tie-up with selvage

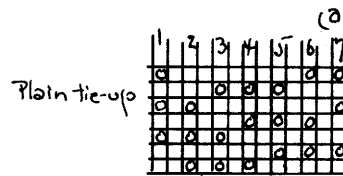
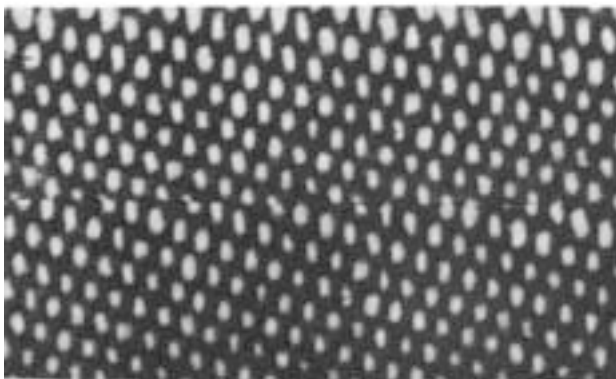


plain tie-up

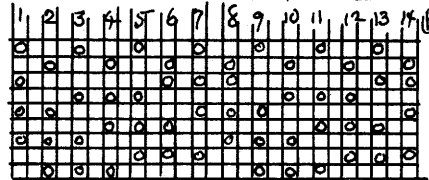
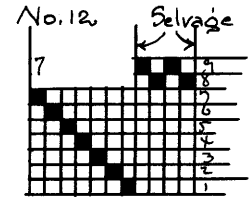


The tie-ups are written for the rising shed, as these weaves are not practical on a counter-balanced loom. In order to make the correct tabby alternation for a separate selvage it is necessary to use a double set of treadles as at tie-up (b). Weave the treadles in order from left to right—or from right to left. No tabby is possible in these weaves.

No. 12



Plain tie-up



tie-up with selvage

Weave: 1, 2, 3, 4, 5, 6, 7, (a)
or: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10,
11, 12, 13, 14, (b). Repeat
(the two sides of these
fabrics are not alike.)

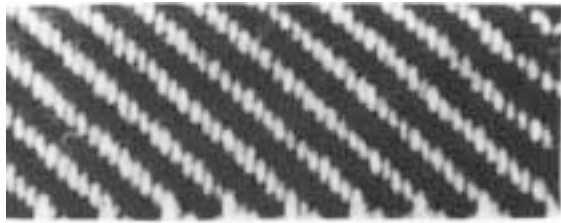
A word should be said about the selvages in twill weaving. Many people find it difficult—in fact impossible—to keep a good edge in these weaves. The most satisfactory method of handling the selvages is to use two extra harnesses to carry the selvage threads and arrange the tie-up to weave tabby across these threads. Unfortunately this is not always possible. The most practical make-shift is to weave with two shuttles—both carrying the same weft-material, of course. Start these shuttles from opposite edges, and handle them so that the two threads interlock along the edges. This is a simple trick, easily acquired, and works fairly well for most of the weaves. The manner of using separate harnesses for selvages is illustrated on Diagram Three. With the corkscrew twills it is necessary, as shown, to tie a double set of treadles for the weave in order to get a correct tabby al-

ternation in the selvage, because these weaves are woven on an uneven number of sheds. However for any of the other twills one set of treadles is enough, the selvage treadles being tied alternately to the pattern treadles.

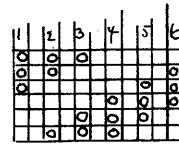
All the weaves so far considered are illustrated with a warp of one color and weft of another. A whole series of twill weaves depends on special effects through threading the warp in two colors and weaving in the same two colors. A few of these weaves are illustrated on Diagram Seven. These weaves are much used for sport coats and also for blankets. Unfortunately space does not permit showing more weaves of this type, but these will give an idea of the possibilities. Perhaps at some future date it will be possible to pursue the subject of twills and the allied weaves a bit further.

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Diagram Four

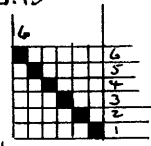


(13)



tie-up - rising shed

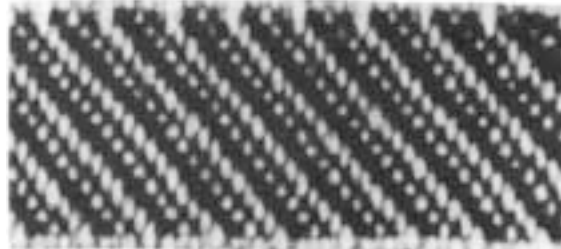
No. 13



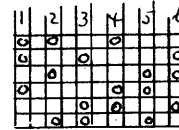
threading

No. 13, Three-three twill

Weave: 1, 2, 3, 4, 5, 6, Repeat.

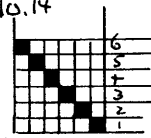


(14)



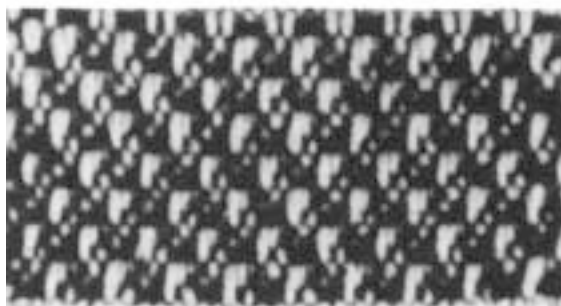
tie-up - rising shed

No. 14

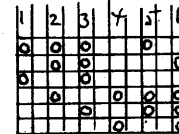


threading

Weave: 1, 2, 3, 4, 5, 6, Repeat

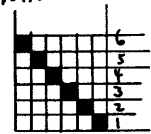


(15)



tie-up - rising shed

No. 15

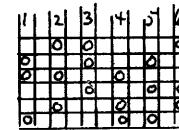


threading

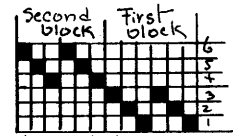
Weave: 1, 2, 3, 4, 5, 6, Repeat



(16)



tie-up - rising shed



Repeat as desired



Draft - Short form

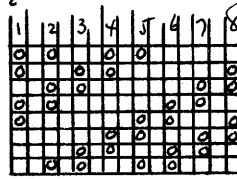
Weave: 1, 2, 3, - repeat as required for square
4, 5, 6, " " " " "

Patterns in double-face two-one twill require three harnesses for each pattern block. Two-block patterns may be woven on six harnesses as above. A three-block pattern requires nine harnesses, and so on. there is no tabby in this threading.

Diagram Five

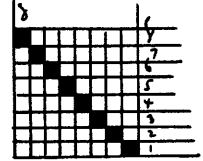


(17)



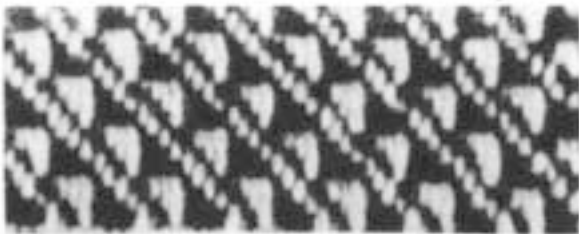
tie-up — rising shed

No. 17

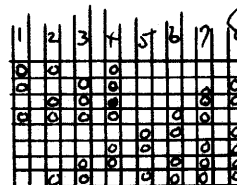


threading

Weave: 1, 2, 3, 4, 5, 6, 7, 8. Repeat

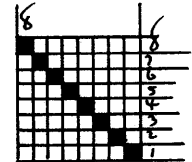


(18)



tie-up — rising shed

No. 18

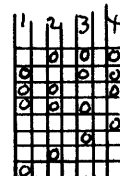


threading

Weave: 1, 2, 3, 4, 5, 6, 7, 8. Repeat

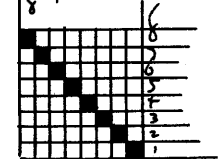


(19)



tie-up — rising shed

No. 19

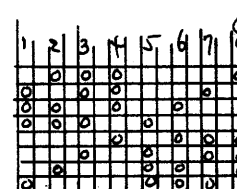


threading

Weave: 1, 2, 3, 4, 5, 6, 7, 8. Repeat

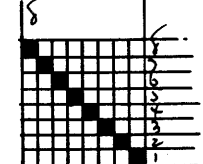


(20)



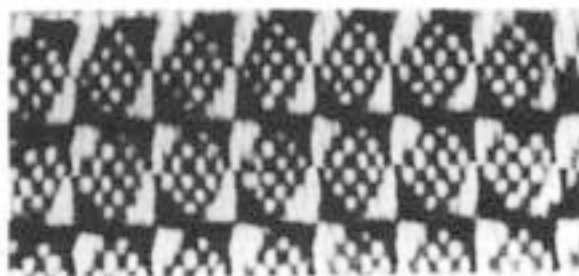
tie-up — rising shed

No. 20

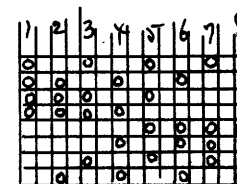


threading

Weave: 1, 2, 3, 4, 5, 6, 7, 8. Repeat

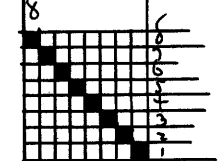


(21)



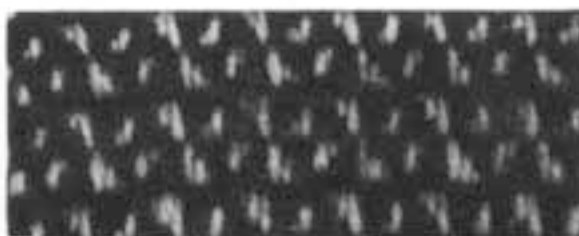
tie-up — rising shed

No. 21

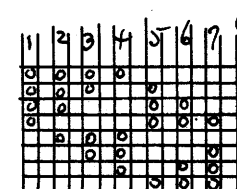


threading

Weave: 1, 2, 3, 4, 5, 6, 7, 8. Repeat

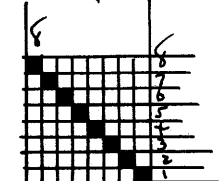


(22)



tie-up — rising shed

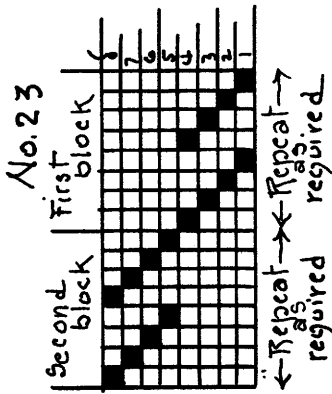
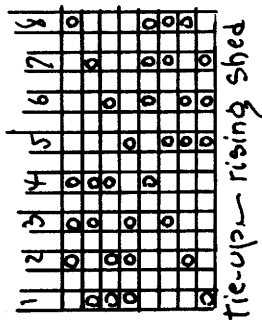
No. 22



threading

Weave: 1, 2, 3, 4, 5, 6, 7, 8. Repeat

Diagram Six

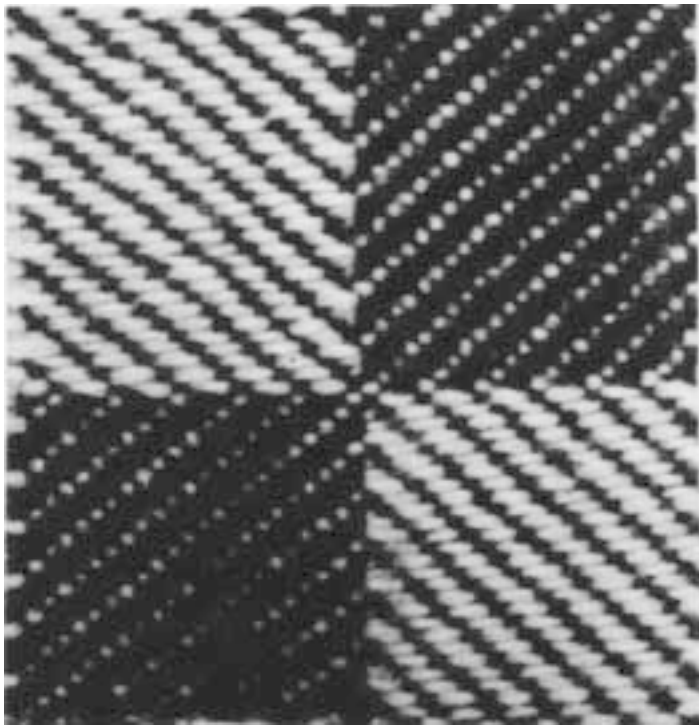


(23)

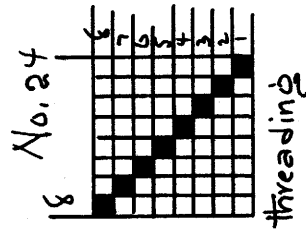
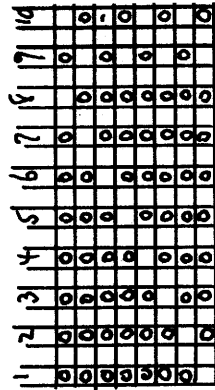
Double-face three-one twill

Weave: 1, 2, 3, 4, repeated as required for first block
5, 6, 7, 8, " " " Second "

Any two-block pattern may be woven in this weave on eight harnesses. A three-block pattern requires twelve harnesses. Short draft as for sample 16.



A "Fancy" Twill



(24)

Weave: 1, 10, 9, 2, 9, 10, 3, 10, 9, 4, 9, 10, 5, 10, 9, 6, 9, 10, 7, 10, 9, 8, 9, 10, Repeat. Weave all shots on treadles 1 to 8, in a very coarse black material; all shots on treadles 9 and 10 in yarn like the warp.

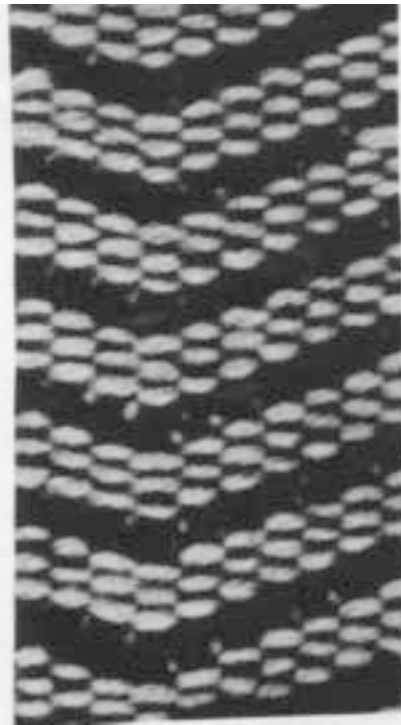
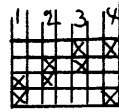


Diagram Seven

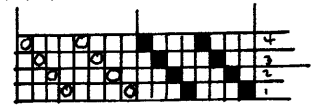


(25)

tie-up - sinking shed



No. 25



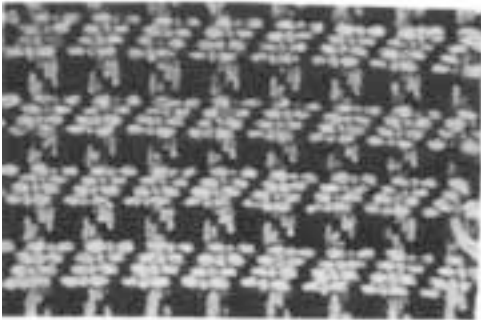
■ Dark threads
□ Light "

Two-two twill in an 8-thread check

Weave: 1, 2, 3, 4, twice - in dark weft

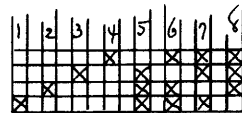
1, 2, 3, 4, " " light weft

Repeat

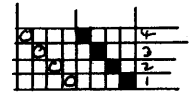


(26)

tie-up - sinking shed



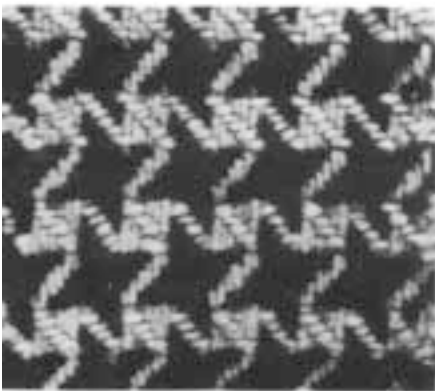
No. 26



■ Dark threads
□ Light "

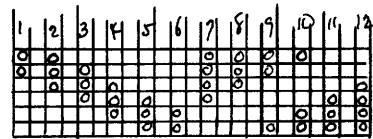
Weave 1, 2, 3, 4, - Dark weft

" 5, 6, 7, 8, - Light " Repeat

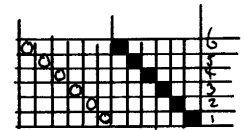


(27)

tie-up - rising shed



No. 27

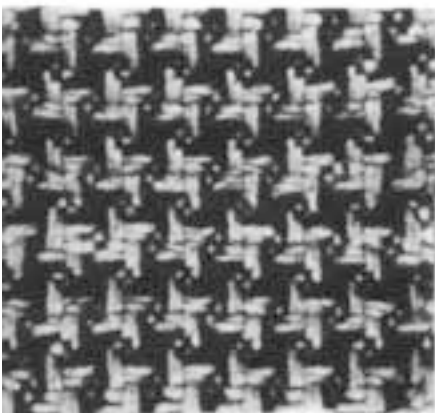


threading
■ Dark threads
□ Light "

Weave: 1, 2, 3, 4, 5, 6, - Dark weft

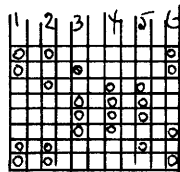
7, 8, 9, 10, 11, 12 - Light "

Repeat

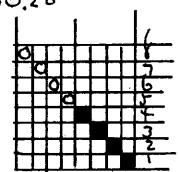


(28)

tie-up - rising shed



No. 28



threading
■ Dark threads
□ Light "

Weave: 1, 2, 3, 4, Dark weft

4, 5, 6, 1, Light "

Repeat