The background features several overlapping technical diagrams and weaving patterns. At the top left, there are handwritten notes: "33", "5K-8", "5P-8", and "5T-8". In the top center, there is a handwritten note in Finnish: "loimi- ja kudel- valtaista pomsia yhdistetty." To the right of this, there are vertical labels: "2x", "2x", "2x", "8x", and "8x". Below these, there is a diagram with the label "Tie-up". In the middle, there are several lines of text: "Thread from A to C times 5", "Thread from B to C times 5", "Thread from C to D times 5", "Thread from D to E times 5", and "Thread from E to F times 5". Below this, there is a diagram with the label "P C". At the bottom left, there is a diagram with the label "D". In the bottom right, there are two diagrams with labels: "Oikeanpuoleisen rakenne." and "vasemmanpuoleisen rakenne." The main title "MASTER WEAVER" is centered in large, bold, serif capital letters. Below the title, there is a star symbol and the text "BI-MONTHLY BULLETIN FOR HANDWEAVERS". At the bottom, there is the text "Z-HANDICRAFTS FULFORD, QUE., CANADA".

# MASTER WEAVER

BI-MONTHLY BULLETIN  
FOR HANDWEAVERS



Z-HANDICRAFTS  
FULFORD, QUE., CANADA

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# MASTER WEAVER

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Z - HANDICRAFTS - FULFORD - QUEBEC - CANADA

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January 1956

No.25

## STANDARDS FOR TEACHERS & CRAFTSMEN.

We explained already our point of view (MW 24) where teachers of handweaving are concerned, and we shall return to this problem presently. But why do we bother with craftsmen who are not teachers?

The answer is that there are many craftsmen who after years of study and work would not mind to have some sign of recognition of their skill coming from a more or less objective source. The exhibitions are not always the answer, because each exhibition has a different standard for judging, and the jury is often biased by the local likes and dislikes, so that to get the first price in one place you have to send an article in blue overshoot, when another jury prefers copper on nylon in "texture". Thus one may collect easily several prizes in one locality, being completely ignored at the same time in another one.

Therefore an objective national jury, not influenced by personal prejudices would be an ideal answer to this problem. Instead of boasting that I got three first prizes in Smallpox Creek, I could show a diploma from the "Guild of North America's Weavers" stating that I am an advanced weaver, or if you prefer the traditional language - a "Journeyman", or an "Apprentice", or a "Junior Master", or whatever it is.

A Guild of American Weavers may be a dream of the future, but there is no reason why all existing Guilds could not accept the same standards for their members. And of course the same standards would go for the teachers as well. The latter would require an additional test of their ability to teach.

The idea is to become first a member of a guild, and then to send samples of one's weaving to a special committee, which will decide to what category the new member will belong.

Should the idea be adopted on a national scale, here are our suggestions as to the requirements for the different stages of the membership. One starts of course as a plain member of the guild. We may call him a "candidate". If he wants to become an Apprentice, he has to prove to the guild, that he can:

1. Weave a sample of plain tabby in any yarn, with good edges, even beating, and proper sett of warp to get a 50:50 fabric. Use different colours for warp and weft.

2. Make a sampler on plain threading (1234) and a standard tie-up with the following samples: tabby, 2:2 basket, RH twill, LH twill, wave (123432), stockinet (1232), dornick in weft (123412432143), brocken twill, any fancy twill (e.g.: 121314), mixed twill and tabby (e.g.: 1A2B4A3B). Yarn suitable for yardage of any kind. Samples at least 3" by 12".

3. Weave a sample of traditional overshot woven as drawn-in.

4. Weave a sample of inlay in any technique.

5. Describe step by step any method of warping.

6. Make a draw-down on graph paper of any traditional draft with at least 30 warp ends and 30 picks of weft.

#### Journeyman (advanced weaver):

1. Weave a sample in any simple weave (tabby, basket, brocken twill) using at least two different yarns both in warp and weft. Explain in a note the reason for your choice of yarns.

2. Weave an article in single linen in Bronson (spot, or Lace), Barley Corn, Swedish Lace, or M's-&-O's.

3. Weave at least 3 yds of wool in any weave.

4. Weave one article in warp-face effect in any weave.

5. Make a sampler in overshot with all traditional variations: as drawn in, two roses, three different borders for place mats in any treadling, italian overshot, one shuttle overshot (the same yarn for warp, pattern and binder).

6. Describe the following weaves: crackle, summer-and-winter, Bronson, M's-&-O's, Huckaback, Waffle. Give in each case complete data for one project (draft, draw-down, yarn to be used, sett of warp, finishing).

#### Junior Master.

1. Weave an article with a 3D effect, not in any traditional weave, which gives this effect. Use different counts of yarn, novelty yarns, or any other methods to obtain the irregularity of texture.

2. Weave an article in turned twill (6 to 10 frames).

3. Weave an article in double weave (8 frames).

4. Weave a sample of fine fabric in any yarn and any weave with at least 48 ends and 48 picks per inch.

5. Make a sample of tapestry (flat) or of a knotted pile rug with your own pattern.

6. Describe the following weaves: doup leno (gauze), corduroy, warp pile (velvet), crepe, dropped tabby. Give in each case complete data for one project.

7. Describe 5 different free techniques (inlay, lace, tapestry).

8. Make analysis of three samples (complete data).

#### Senior Master.

1. Make a sample from your own draft for effects in texture and colour. Explain steps taken in designing the sample.

2. Weave an article in satin or in true damask.

3. Make a rug not less than 30" by 45" in chenille, with a pattern of your own design.

4. Make samples (12 by 12") in any weave of the coarsest and finest yarns available: in cotton, wool, linen, silk, metal (or imitations), and synthetic yarns. E.g. one sample in cotton No.2/4, and one in No.30; linen No.1½, and No.50/2, etc. At least one sample must have 80 or more warp ends per inch.

5. Describe the following techniques: double harness, draw-loom, net weaves, lappet, tissue weaves - from the point of view of a hand-weaver.

6. Describe your own weaving technique, improvement of an old one, or adaptation of a power-weaving method to handweaving. Give the history of the method, detailed instructions and samples.

7. Analyse a sample of traditional multi-harness or draw-loom weaving. Complete data.

8. Write an essay on designing as applied to modern handweaving; give the historical background; explain the present trends (social, economical, and psychological factors).

Unless otherwise specified all samples must be at least 12 by 18 inches. The same sample may be used any number of times. For instance No.1 apprentice may be used again for No.3 journeyman, No.4 junior master, and No.4 senior master.

The candidate must start with the grade of an apprentice regardless of his professional standing, but he may send at the same time samples and papers covering several grades.

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The above requirements are of course just suggestions open to discussion and criticism. But in our opinion they are the lowest possible. More free techniques, more texture weaves can be added, but we must always bear in mind that the tests should not take too much time (in weaving), and that they should not be too expensive. Therefore the samples do not need to be very large, and if more material for examination is included there should be a possibility of selecting it.

The jury. Once we have a dozen or so of Masters this problem will be easy to solve. Until then the jury must be elected by all the members of a Guild. It should never be nominated by the officers of the Guild. The decision of the jury is final, until we have a national or an international guild, to whom the candidate could appeal.

In our opinion the members of the jury, whenever possible, should be selected from the outside. The jurymen should judge the entries (which of course must be anonymous) independently from other members of the jury, i.e. he must not be aware of the previous marks the candidate has obtained. The number of the jurors should be three or more. The jurors in the future must have a higher degree than the candidate, but in the initial stages the vote of the members of a guild will be a sufficient proof of their competence.

## MULTI-BLOCK TURNED SWIVEL.

We have explained the principle of the Turned Swivel in MW, No.16, page 10. Therefore we are not going to repeat the theory of the weave, advising however the reader to have a look at the article in question.

The first problem in multi-block weaving is to establish the number of blocks in our project, and then figure out the number of harness-frames needed. Here each different vertical line, as well as each different horizontal line count as a block. If two horizontal lines overlap one another - it is another block. If there is plain ground such as borders in tabby or spaces between figures in the vertical direction, this counts as a block also. To the total number of blocks we add one, and this gives us the number of frames.

For instance in fig.1 (page 5) we have two different vertical lines (1 and 2), and two horizontal ones (a and b). Besides these we have plain ground all around the woven piece. This makes 5 blocks in all ( $2+2+1$ ), and therefore it can be woven on 6 frames.

In fig.2 there are 3 vertical blocks (each of them of two lines), and 3 horizontal ones. But there is also tabby ground around the borders and between the figures. Thus we have:  $3+3+1 = 7$  blocks, and they can be woven on 8 frames.

Fig.3 presents a new problem. There are two vertical lines, and two horizontal ones; no ground. Then 4 blocks so far. But what about the solid squares "a" and "b"? Are they vertical or horizontal? They could be made both ways i.e. the colour could be either in warp or weft, but it is much more convenient to weave them in weft. Since a square or a rectangle in swivel is nothing else but a repetition of a line, then we shall have not 2 but 4 horizontal lines and two vertical or 6 blocks, which require 7 frames.

So far our patterns had only independent lines, i.e. two lines going in the same direction did not overlap each other. But in fig.4 the blocks in weft overlap from "a" to "b", and the blocks in warp overlap from "c" to "d". What does this mean? Unfortunately it means an additional frame for the overlapping in weft, and an additional treadle for the overlapping in warp. The total number of blocks is: 2 lines in weft + 2 squares (also in weft) + 2 vertical lines + 1 overlapping + 1 ground = 8 blocks, or 9 frames.

Fig.5 has "only" two squares and two lines, but since the sides of the squares are made in a different colour than the square itself, we must count: 2 vertical lines, and 2 horizontal ones, plus 2 horizontal ones to make the squares, plus ground = 7 blocks in all, or 8 frames. If we eliminate the projections at each corner of the squares, the pattern can be woven on 6 frames.

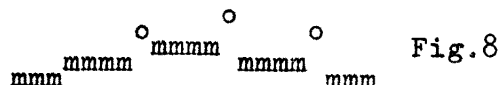
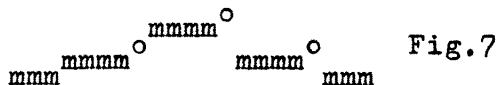
Finally fig.6 has 3 vertical and 3 horizontal lines, which gives us 6 blocks, but there are two overlappings, and one block for the ground which makes in all 9 blocks or 10 frames.

The above examples should have convinced us that the apparent simplicity or complexity of a pattern is very misleading. Fig.6 looks



simpler than fig.1, but it requires 4 frames more.

Therefore, unless one wants to remember the rules about the number of vertical, plus the number of horizontal, plus overlappings, plus ground, plus one - the best way is to analyse the pattern as explained in MW 3, page 1, or Vol.2 page 4. But it will help us here if in the profile we shall use a different symbol for the vertical lines since they contain only one thread, and not a whole unit of the weave. For instance the profile for the pattern in fig.1 will be as in fig.7, and it may be rearranged as in fig.8 to make it more practical for actual threading.



The threading draft developed from fig.8 will be then:

x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	o o o o o
x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	o o o o o
3x	4x	4x	4x	3x	654321

The most difficult part of the draft is the tie-up. To find it we must take into consideration all elements of the woven piece one after another. Thus we start with plain tabby in the ground (A, fig.1), but the coloured warp ends are not woven - they should remain underneath or on top of the fabric, whichever we like better. Let us suppose that all the floats in warp and weft will be left on top, and that we have a rising shed loom. Then our first tabby treadle (no.6 in the draft above) will be tied to frames: 1,5,6; and the second to: 2,3,4,5,6.

Then comes part B. It contains one shot of colour and two of tabby. The colour must correspond to the second line of the profile (frame No.3). Thus the pattern treadle (No.4) will be tied to the frames: 3,5,6, and the tabby treadles as before.

In part C we have tabby, but the colours in warp threaded on frame No.5 will weave also. The corresponding treadle No.3 will be tied to frames: 2,3,4,6, and used alternately with treadle No.6.

Part D has again only one shot of pattern weft, this time on frame 4. Then the treadle (No.2) must be tied to frames: 4,5,6. Tabby as in part B.

Part E is tabby with vertical line in colour on frame 6. Thus the treadle (NO.1) will be tied to frames: 2,3,4,5, and used alternately with treadle No.6.

F is the same as B; G - the same as C; and H - the same as A.

The treadling is easy once the tie-up is figured out:  
 A) 6,5 - 15 times; B) 4,6,5 - once; C) 6,3 - 20 times; D) 2,6,5 - once; E) 6,1 - 20 times; F) 4,6,5 - once; G) 6,3 - 20 times, H) 6,5 - 15 times. The shots of weft which are underscored are in colour.

By the way, the sample will be rather small. To make it more practical in size we would have to double the number of warp-ends, and of picks of weft. As it is it is ideal for a smaple loom.







# DRAFTING.

## Variations of 3-block patterns.

There is only one weave for 4 frames which can give all the variations of a three-block pattern. This is swivel. It may produce as many as 64 different symmetrical patterns on the same threading. But since we discuss here the variations of a pattern, and not the weave, therefore whatever goes for swivel on 4 frames, will go also for Bronson lace on 5, summer-and-winter on 5, huckaback (plain or lace) on 8, dropped tabby (MW 10/3) on 8, turned 1:2 twill on 9, dornick on 12, double weave on 12, and damask on 15 to 24.

To show all these variations we had to use the simplest possible profile with only one square in each block (fig.1).

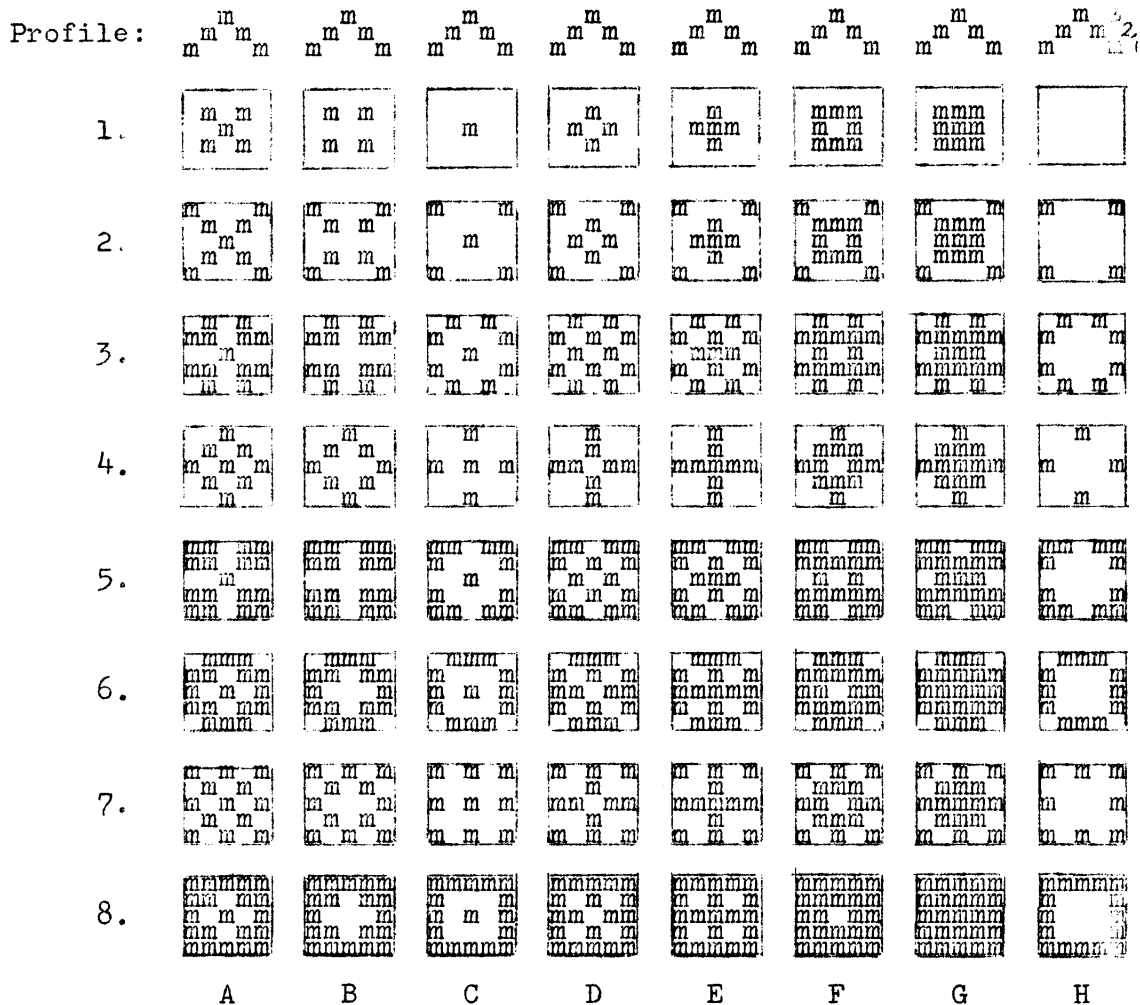


Fig.1

But the number of variations is independent from the profile as long as it has the same number of blocks (horizontal lines in the profile).

Regardless of how involved the draft is, the number of variations is always 8 for two blocks, 64 for three, and 1024 for four blocks. If the ground is present as for instance tabby in lace, it may make the pattern more interesting or more practical even, but the number remains the same.

There is one apparent exception. Such weaves as summer-and-winter, turned twills and damasks produce at the same time two patterns - one on each side. For instance when we weave variation 2F, we shall have 6H also. Therefore we need only 32 samples to get all the patterns.

To find all variations with a 3 block profile, we start by making the 8 variations of the two central blocks (first row of fig.1). We include here both cases: when there is no pattern whatsoever (1H), and when the two blocks form one solid square (1G). By the way: these two cases may be impractical in pattern weaving, but they may be of some interest when only the texture is concerned.

These 8 initial variations will be repeated in the center of all figures which follow. Thus: all figures in column A have the same center, and the same happens in all other columns. But in each row they will be surrounded by a different combination of blocks: in the second row we use block No.1; in the third - block No.2; in the 4-th - No.3; in the 5-th No.1 and 2; in the 6-th - 2 and 3, in the 7-th - 1 and 3; in the 8-th - 1,2, and 3.

But if we simply added these blocks in the first and last line of each variations, some of the patterns would be not symmetrical. Therefore what takes place in those two horizontal lines, must be faithfully repeated in the first and the last vertical line of each pattern. Column H in fig.1 shows how this is done. There is nothing in the center, and only surrounding blocks are shown. Thus in 2H we have block No.1 in the corners. In 3H we have block 2 in the 1st and the 5th line, but to compensate for this addition, we must also use block 1 in lines 2 and 4. In 4H we have block 3 in the center of the first and the last line - therefore we use block No.1 in the 3rd line. And so on. All other variations from 2 to 8, and from A to G are obtained by adding or superimposing one figure from the first row, to one figure from the last column.

As a practical example let us take the profile in fig.2,

$$\begin{array}{ccccccc}
 & & mm & & mm & & mm & & 3 \\
 mm & & m & & mmm & & m & & m & 2 \\
 & & & & & & & & & 1
 \end{array}$$

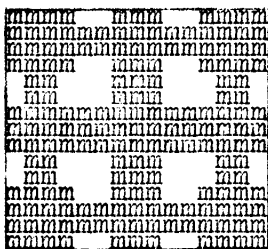


Fig.2

and make the variation 5F. In the first line we have replaced the ground by a combination of blocks 1 and 2. The second line (taken twice according to the profile) is composed of blocks 2 and 3. But to make the pattern symmetrical we add also block No.1 (because block 2 was used in the first line). Then comes the repetition of the first line. Then block 2 alone, twice. After that: 2 and 3 with the addition of 1 for symmetry's sake. From now on the pattern is simply reversed.

We realise that the process is not clear as yet, and we shall return to it in the following (and last) lesson about the variations of patterns.

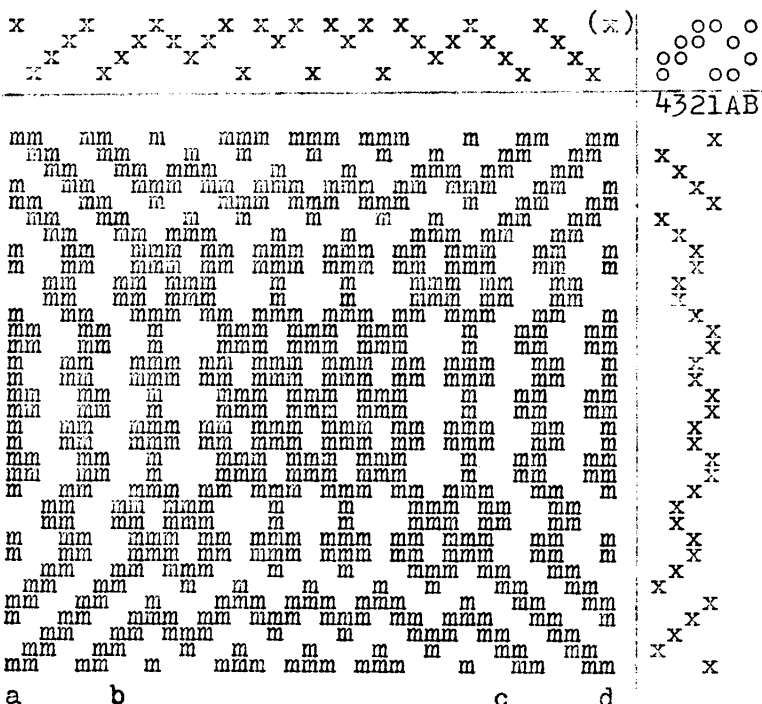
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# CRACKLE & TWILL.

There are weaves which can be mixed in the same draft, and there are other weaves which should not. The general rule is, that two weaves which produce about the same structure of the fabric can be used together. For instance: summer-and-winter and crackle (they are nearly the same weave), plain overshoot and overshoot on opposites, Bronson lace and spot, Bronson lace and barley corn, diamond twill and summer-and-winter, and finally crackle and diamond twill.

But why should we mix two different weaves in the same draft? The answer is that there are certain patterns which cannot be woven in any other way for one reason or another. For instance many traditional patterns originally woven in overshoot cannot be used for upholstery, table linen and so on, because they have too long floats. When they are transcribed entirely into crackle, the floats are short, but the pattern becomes too large (usually four times as large as the original). When we try to reduce the pattern to a more reasonable size, we find out that we must either distort the design or weave a part of the draft in diamond twill instead of crackle. This is because the smallest possible block of pattern in crackle is 5 (one unit of four plus one incidental), and it cannot be subdivided.

The need of replacing one part of the draft with twill is still more obvious when we draw so called miniature patterns, which may be reduced from traditional ones, or of an original design. In all such cases diamond twill will be used for drawing the small blocks of the pattern and crackle for the large ones. Twill blends with crackle very easily since both have the same length of floats (2 and 3) and the demarcation line between the two does not show in weaving. Fig.1 shows a draft written in twill from a to b, and from



c to d, and in crackle from b to c.

The treadling here is "as drawn in", and whenever a mixture of crackle and twill is used, this is the only treadling. Any other would destroy the twill part of the draft.

We shall get still better results if both the twill and the crackle are longer in the threading draft. Unfortunately we can not give here the draw-downs of such patterns since they would take a whole page or more. But here are a few suggestions (fig.2, 3, and 4).

Fig.1

begin:→

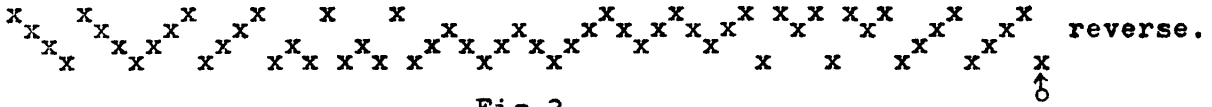
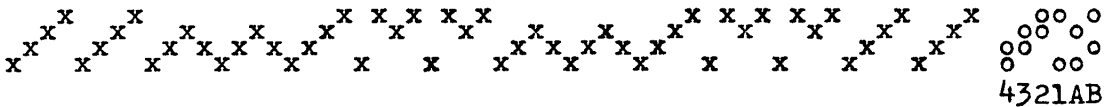


Fig.2

The tie-up here is the same as in fig.1. The treadling should be: 23412344321432144114411433443344322332233211221122143214321 and reverse. It must be remembered that in reversing the threading draft the central heddle (marke "o") is not repeated, but in treadling we do repeat the last treadle.

Another draft of this kind is shown in fig.3:



This draft is not symmetrical and the threading shows one repeat. The treadling is:

43214321433443344321122112214334433443211221122143214321.

A practical project:

Table cloth 45 x 72. Warp: 10/2 white cotton, 24 ends/". 1080 ends. Weft: 10/2 ivory cotton; binder 20/2 white cotton.

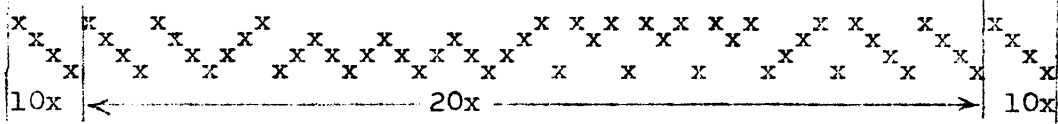


Fig.4

The tie-up as in fig.1 or 3. The treadling:

2341 - 10x; 234123443214334433443344321122112211221432112342341 - as many times as necessary to make the whole length; 2341 - 10x.

The weaving may be easier if instead of 20/2 cotton, we shall use for binder single linen No.25.

One must remember that, when weaving rather involved patterns in twill and crackle, mistakes are easy to make and difficult to detect. But they show very well when the piece is finished and ironed. To avoid them, we may write down the whole treadling of one repeat with binder, e.g.: 2A3B4A1B... and so on. Never stop weaving except at the end of a repeat. In case of emergency (broken warp end etc) mark the place on the treadling draft. At the end of each repeat check it carefully in oblique light (strong flashlight). Avoid strong light during weaving. It is worse than useless, because nobody can focus the eyes on a small pattern for hours anyhow, and the eyes tired by the constant glare do not see the mistakes any more.

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