

loimi- ja kudel-
vallaista pomsia
yhdistetty.

2x
2x
2x
8x
9x

Tie-up

12 11 10 9 8 7 6 5 4 3 2 1

TREADING D.

3457

MASTER WEAVER

-26-

Threads 380
Inches Wide In Reed 12.5
72D

D C

Thread from A to C times
Thread from B to C times
Thread from C to C times
Thread from C to C times
Thread from C to C times

3-752 K

Oikeanpuoleisen
rakenne.

muoleisen rakenne.

3-752 K

BI-MONTHLY BULLETIN
FOR HANDWEAVERS



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FULFORD, QUE., CANADA

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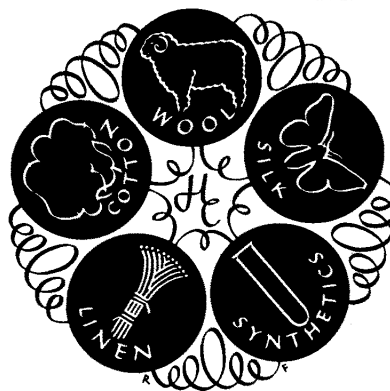
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MASTER WEAVER

BI-MONTHLY BULLETIN FOR HANDWEAVERS

Z-HANDICRAFTS - FULFORD - P.Q. - CANADA

March, April, 1961

No.56

FULL SWIVEL

All variations of the Swivel Weave have one characteristic in common: the colour appears always in one shed of tabby, when the other shed must be considered as ground or binder. The only exception is Overshot woven-as-drawn-in in Swivel effect.

A much better contrast between pattern and ground could be achieved if both tabby sheds were used to carry the pattern weft. Fig.1 shows the difference: in A we have single-shed Swivel, and in B - the Full Swivel.

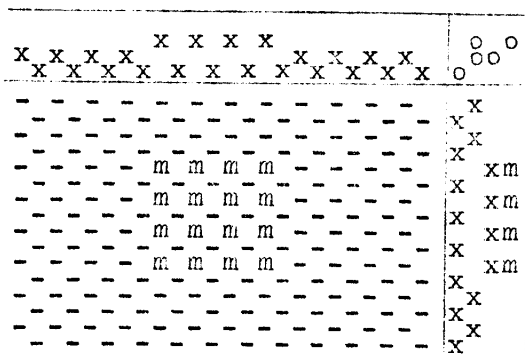


Fig.1 A

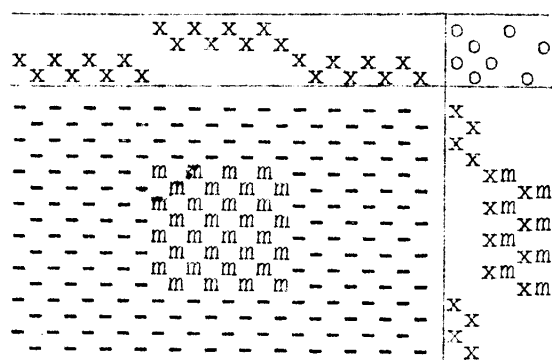


Fig.1 B

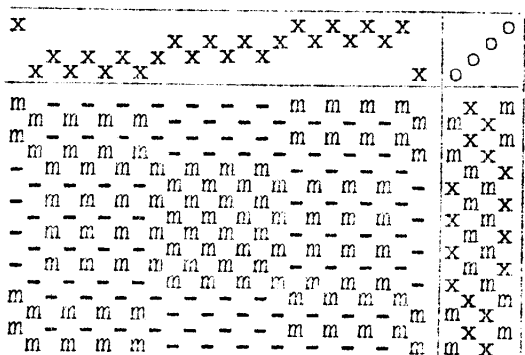


Fig.2

In the latter twice as many squares of colour ("m") cover the same area as in fig.1 A, which of course gives a bolder and clearer pattern. We have a similar situation in case of overshot woven as swivel (fig.2). The central block of pattern is in all respects identical with the block in fig. 1 B,

but we cannot have this block on plain background: there are half-tones, and other blocks of pattern.

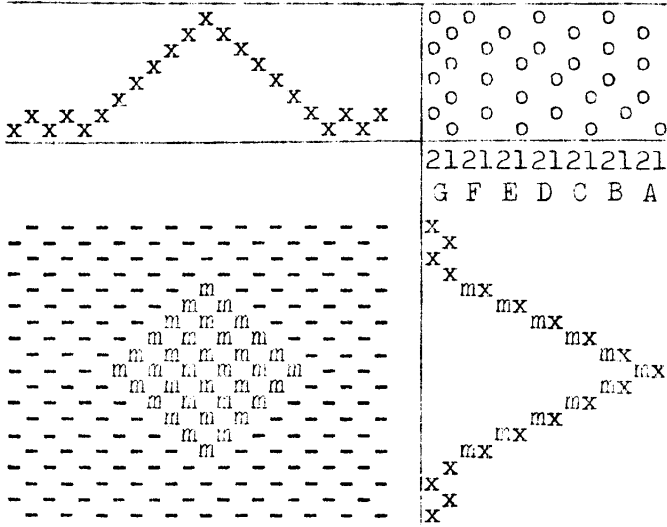


Fig.3

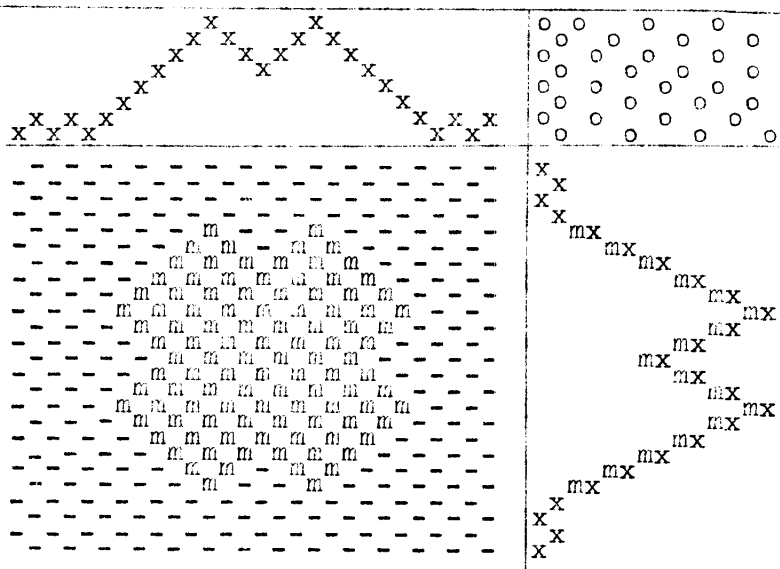


Fig.4

Actually there is very little we can do with this technique on four shafts. The blocks must be either square or rectangular, and very small. This is because with larger blocks we shall have slits along the vertical sides of each block. These slits will become holes if we cut the floats at the back. If we do not cut

the floats, and keep the fabric flat and stretched, the slits will not show.

The only practical application of Full Swivel on four shafts we can think of is described in the first Practical Project at the end of this article.

The situation is completely different

with a higher number of shafts. To avoid the slits we must use patterns of the diamond type, that is outlined by diagonals rather than by horizontal and vertical lines. Fig.3 shows a small diamond woven on 8 shafts. It is small indeed, but it shows how the Full Swivel is constructed on any number of shafts. The threading is simple, and corresponds closely to the shape of the pattern; compare figs.: 1B, 3, and 4. The tie-up is divided into pairs of treadles. The pair G

is plain ground without any pattern. The pair F gives just one single dot of colour, followed by the remaining tabby of the same shed. The pair E has two such dots plus ground, etc. Each pair gives just one shed of tabby. Thus if we press both treadles: F2 and F1, the effect is the same as if we pressed treadle G2; and treadles E2 plus E1 are the same as treadle G1. This goes for all remaining pairs.

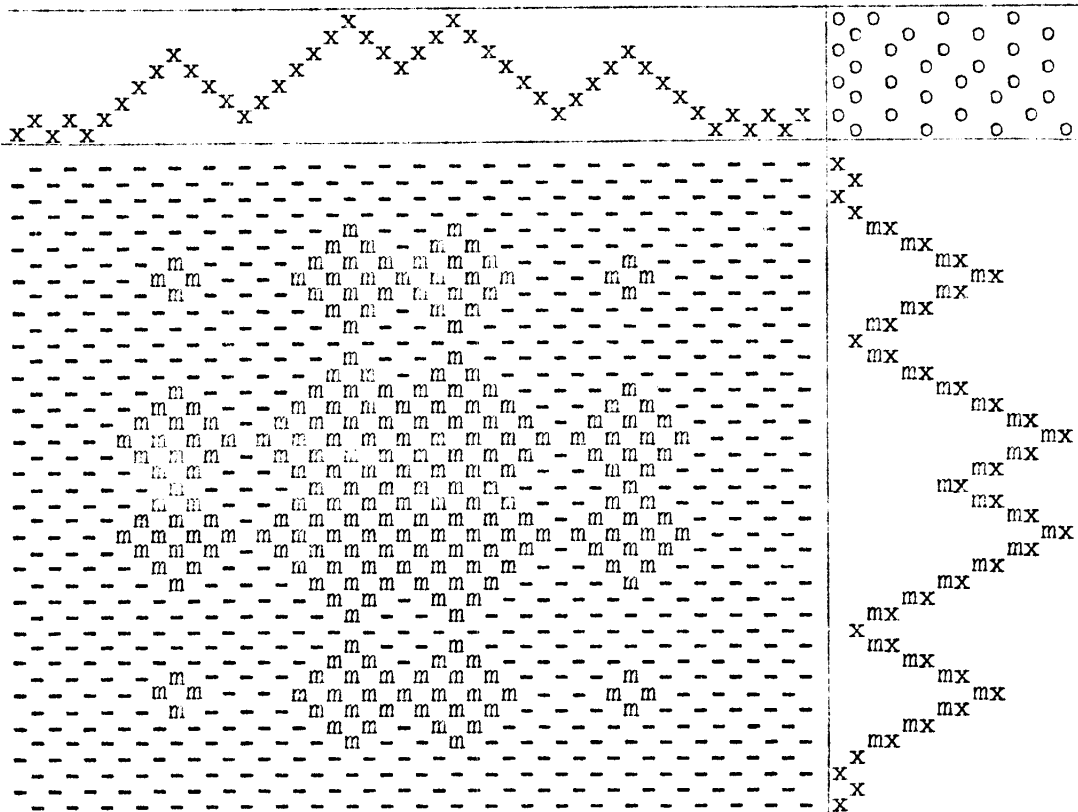


Fig.5

Larger patterns on the same number of shafts can be woven as in fig.4. There is no limit as to their size and shape (fig.5). The tie-up with 8 shafts remains always the same, and the treading follows the threading if we consider each pair of pattern treadles (A to F) as one element of treading.

But the tie-up is still a problem. Fourteen treadles are not common with an 8-shaft loom. If we have 12 treadles there is not much to worry about. We simply eliminate the tabby treadles (G), and when plain ground is required we press two treadles at a time: for instance F for one shed of the tabby, and E for the other. But if we have only 8 or 10 treadles the situation is serious.

Here we must use a skeleton tie-up, and compound treadling, that is pressing two, three or even four treadles at a time. This skeleton tie-up is shown in fig.6 A. It applies to a loom with only

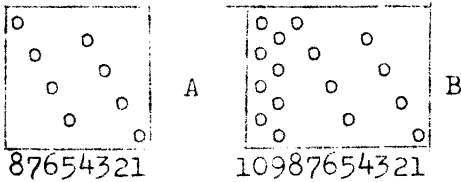


Fig.6

8 treadles. With 10 treadles we can have a better tie-up as in fig.5 B. Here, besides the skeleton tie-up we have two tabby treadles (9, 10), which make weaving much easier particularly when small patterns are woven on a predominant tabby ground.

The conversion table from the tie-up in fig.3, 4, and 5 to the skeleton tie-up in fig.6 is as follows:

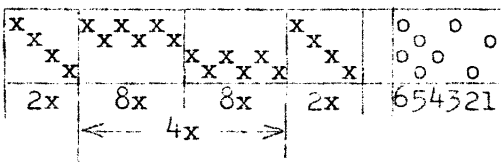
- | | |
|-------------|---------------|
| A 1 = 1 | D 2 = 7+8 |
| A 2 = 2+3+4 | E 1 = 1+2+3 |
| B 1 = 2 | E 2 = 4 |
| B 2 = 6+7+8 | F 1 = 5+6+7 |
| C 1 = 1+2 | F 2 = 8 |
| C 2 = 3+4 | G 1 = 1+2+3+4 |
| D 1 = 5+6 | G 2 = 5+6+7+8 |

It is impossible to describe in a short article Full Swivel woven on 10, 12, or 16 shafts. There are too many different variations. But the principle remains the same: the same type of threading drafts and tie-ups.

PRACTICAL PROJECT for four shafts.

A Chess-board 12" x 12".

Warp: 14 single, or 30/2 linen, natural. Sett: 30 ends per inch.
No. of ends: 400. Reed No.15; 2 ends per dent.



Weft: No.14 or 30/2 linen
L - bleached,
D - any dark colour.

Treadling: (treadles 5, & 6 are used only for hems)

- 4D 3L 2D 1L 4L 3D 2L 1D - twice;
- 4D 3L 2D 1L - 24 times; 4L 3D 2L 1D - 24 times; this group 4 times;
- 4D 3L 2D 1L 4L 3D 2L 1D - twice.

try to get an irregular effect by the treading alone, because the regularity of the threading draft will show. To find an appropriate threading we can either make it up, or use one half or one third of a long, complicated, traditional draft as a repeat, taking care of course that the beginning and the end of this repeat will match. An example of a made-up draft is shown in fig.3:

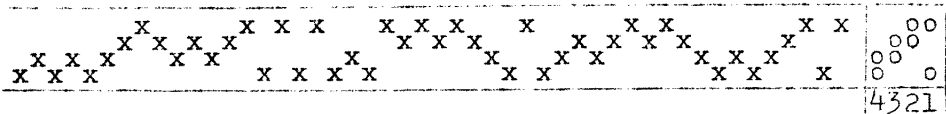


Fig.3

The treadingling must not follow the threading, because then it would produce at least one diagonal, regardless of how irregular the rest of the fabric would be. It must however follow the directions for weaving the blocks of pattern given on the last page. The blocks may be woven in any order but they must match each other.

The technical requirements of the texture overshoot are few: the warp should be set as for normal overshoot with binder, although no binder is used in this case. In the threading draft very long floats must be avoided, because they would produce untidy bunches of weft. Also very deep blocks in treadingling are not indicated, because then the floats in warp would be too long. The borders, if any, must be threaded in plain twill, and woven accordingly.

PRACTICAL PROJECT.

Yardage for bedspreads, curtains, drapery etc.

Warp: 10/2 mercerized cotton, beige. No.of ends: 696. Sett: 20 ends per inch. Reed No.10, two ends per dent.

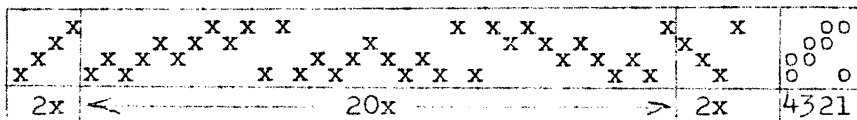


Fig.4

Weft: 10/2 soft rayon, beige, and 10/2 soft rayon, light brown loosely twisted together on a doubling stand.

Treadingling: 43434323232121214141.

Weaving: Beat hard with normal rhythm. The edges may climb a little, but should eventually even up. A slight change in rhythm may correct this tendency to climb.

TWO-WARP WEAVES • 3

INTRODUCTION TO TWO-WARP DOUBLE WEAVES.

By pure coincidence we are approaching a new problem from two different angles. The problem are the Tissue Weaves, and the two angles are: Full Swivel, and Two-Warp Double Weaves. The first will give a new insight into polychrome weaving; the second makes possible a planned relief (3D) of design: blocks of pattern which are raised or sunk at will.

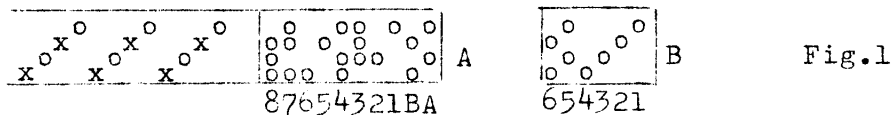
We shall say more about Tissue Weaves as soon as we converge on the same area of interest in the two series of articles. For the time being we are still working with four shafts, and we shall experiment with the possibilities of two layers of fabric woven at different tensions of the two warps.

This time we shall make two sample warps in two different colours, but both of the same count of yarn. In threading we shall simply alternate the colours. Let us then start with the warps.

The first warp, that is the one which is beamed on the normal or first warp-beam, has 280 ends of 8/2 or 10/2 soft cotton of any neutral colour (white, grey, black, ivory, cream). Do not make it very long: a few yards will do.

The second warp, to go on the second, additional warp beam will have the same number of ends (280) but will be about 50% longer and should be made of 8/2 or 10/2 mercerized cotton, or hard twist rayon in any bright colour at all.

The threading draft as in fig.1: "o" - the first warp, "x" - the second warp. Sett of warp: 40 ends per inch (20+20). Reed No.10; 4 ends per dent. Width in reed: 14 ".



The tie-up is designed in such a way that either warp can be on top, and both can be woven in tabby; we have also two stitching treadles: A & B. Since obviously such a tie-up (A) is out of the question on a 4-shaft loom, we must use a skeleton tie-up (B),

exactly as we did in our Double Weave sampler in MW 49, page 5. All treadlings will be given for tie-up A; the reader is requested to translate them for the skeleton tie-up B.

We shall start with a warp-face tabby fabric. Treadling: AB. If we keep both warps under the same tension, nothing remarkable happens. But if we release warp 2, we have a ribbed fabric. If the tension of warp 2 is kept very low all the time we shall have a double-weft fabric (two layers of weft). But if we release the 2-nd warp occasionally we shall have an uneven ribbed effect. We can also use two wefts: one very fine, and another very heavy (as in Rep). By alternating them, and changing the tension, we shall have a variety of textures. Several samples should be made on this treadling.

The next experiment involves two independent layers of fabric. Either of them can be woven on top. Treadling: 8765 gives the second warp on top; treadling 4321 - the first warp on top. Use separate shuttles for each layer, and avoid crossing them at the edges. The weft about the same as the warp.

We release the tension on the second warp, and then treadle 878765. After a while we shall have twice as much of the second fabric as of the first fabric. Let us have one inch of the top fabric, and therefore half an inch of the bottom fabric. Then we change the treadling to 121234. Keep this latter for also one inch. Then start from the beginning and repeat several times. What we have now is a double fabric with one layer very loose on one side, or the other. This demonstrates an exaggerate effect of raised patterns.

We can have also the loose layer all on one side. We start as before: 878765. After one inch we stitch the two layers with one shot on treadle A. Repeat several times. This sample may be later on ironed one way only along the warp, and will give a pleated effect.

The treadling in the last two samples does not need to be exactly as suggested. The weaver may find it easier to weave first one inch of the loose fabric under normal tension, then release the tension on the second warp, and weave half an inch of the first fabric.

Plenty of experiments with different wefts, different tensions, and different ratios of the two layers should be made at this stage. The reader will find them useful later on.

SHED REGULATORS

FOR COUNTER-BALANCED LOOMS

We wrote already twice on this subject (MW 1/12, 10/9), but we have still demands for more information, and there is one application of shed regulators which we did not discuss so far.

A four-shaft counterbalanced loom when equipped with a shed-regulator is the most versatile, most efficient, and most universal weaving loom ever devised. By simply stopping (not removing or dismantling) the shed regulator we have the traditional counterbalanced loom, the fastest loom on earth for balanced tie-ups. When using the shed regulator in the usual way, we have a loom which can handle all possible tie-ups, as long as only six treadles are needed. It is then very much like a double-tie-up loom. The action is not as fast as with balanced tie-up, but faster than with a jack type.

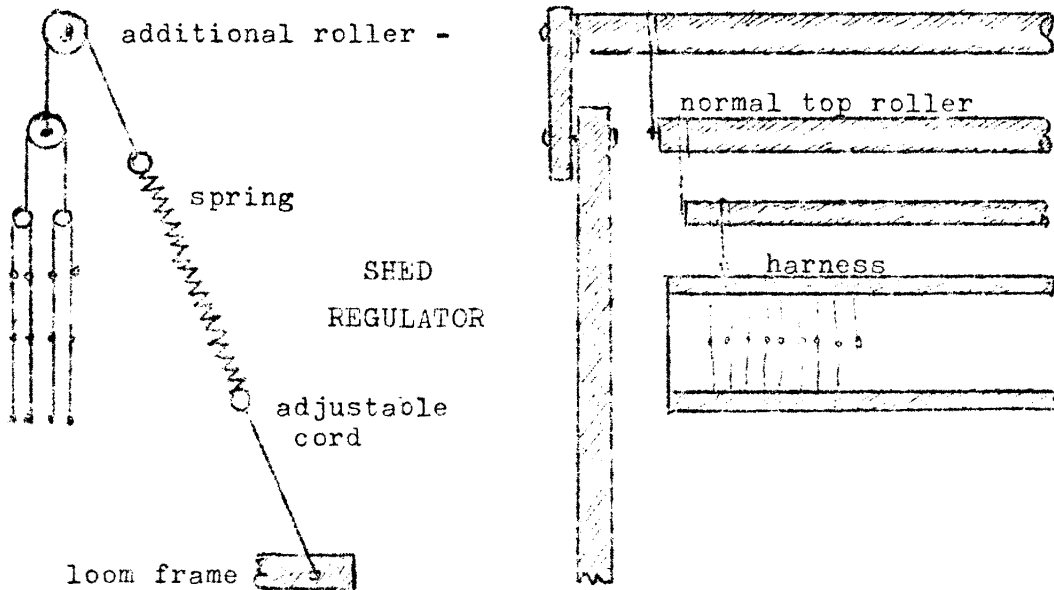
Finally when more than 6 treadles are needed, and we have to use a skeleton tie-up, that is to press more than one treadle at a time, neither of the former arrangements is satisfactory. When we press two treadles on a counterbalanced loom with or without a shed-regulator, the sheds won't open in the proper position.

But with a shed-regulator a counterbalanced loom may be turned in a matter of half a minute into a reversed jack-type: much better than the standard jack-type. Whereas in a standard jack-type all shafts are sunk, and must be raised to open a shed by the sheer force of the foot which presses the treadle, in the reversed jack-type all shafts are raised by spring action, and it requires a very slight effort to bring them down. What is more, the pressure is easily adjustable to meet all requirements such as sticky warps, when in jack-type looms it cannot be adjusted short of tying weights to shafts.

The principle of this third arrangement is actually simpler than the principle of the normal action of the shed-regulator.

The harness (all shafts and rollers) is suspended from an additional rollers at the top of the loom. The cords which support the harness are wound around the additional roller and tied to a

wooden bar, dowel, or lath. At each end of this lath a screen door spring is attached, and its other end is tied to the lower part of the loom frame. There are no additional ties to the treadles. The only adjustable parts are the two cords which tie the springs to the loom frame. The shorter they are the stronger is the raising action of the two springs.



When we do not need the shed-regulator, we use by-pass cords instead of springs. The by-pass cords are of such a length as to keep the shafts in their normal neutral position, that is half way up the reed. The by-pass cords may be also adjustable for very precise control of the shed.

When we do use the shed-regulator, we adjust the springs so as to raise all shafts to the upper position, when the warp just clears the upper part of the reed. Then we can use all treadles independently or in groups of two or three.

A shed-regulator can be made at home with very simple tools for about \$ 2, or it can be bought. As far as we know the only manufacturers of shed-regulators are: Nilus Leclerc Inc., L'Isletville, P.Q., Canada. They fit only Leclerc's looms, but can be modified.
