

MASTER WEAVER

BI-MONTHLY BULLETIN
FOR HANDWEAVERS



Z-HANDICRAFTS
FULFORD, QUE., CANADA

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*54-8
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*12 11 10 9 8 7 6 5 4 3 2 1
THREADING D.
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*Thread from A to B
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Handweaver & Craftsman



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MASTER WEAVER

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January - February 1961

No. 55

TEACHING •

All teachers can be divided into four classes: 1. Those who know the subject, and know how to teach. 2. Those who know how to teach, but are not too familiar with the subject. 3. Those who know the subject, but not how to teach it. 4. Those who do not know either.

In handweaving only very few teachers are to be found in the first group; the majority belong to the third. This is only natural, because most weavers have taken up this craft as a hobby, without any intention of teaching.

Yet many weavers are called upon to become instructors, amateur or professional. They start by demonstrating their skill to guests particularly children; continue by helping a beginner, having a talk in their Guild, and before they realize it, they are involved in real teaching.

Since this is a fate hanging over most of us, we might as well learn how to make our teaching efficient, yet painless for both the instructor, and the student.

The first thing to do, when we approach a new student is to find out exactly how much he already knows, and very approximately: what is it that he wants to learn.

This first step is extremely important. We must never take the student's word as to his previous experience. Better give him a few problems on paper, examine samples of his weaving, and observe him in action when he is weaving simple cloth on a good loom.

Then regardless of what the student wants to learn we must make a plan of lessons with the view of filling gaps in his basic education, that is: elementary drafting, general knowledge of weaving equipment, of weaving operations, and particularly of the coordination of movements during weaving itself.

The lack of basic training is much more common among the handweavers than one would expect, and the more advanced the weaver, the more reluctant he is to admit his shortcomings. Yet it is of primary importance to complete this basic training before going any further.

So this is the answer to "what to teach?".

Another question is "how to teach?".

When teaching theory we must be sure that the student is following. Asking him from time to time whether he understands is absolutely useless. Each step must be illustrated by examples, and problems made by the student. Next step comes only after the previous one is thoroughly mastered.

During demonstrations of practical weaving the student must take notes. Then he repeats the operation which was demonstrated, consulting his notes. For instance each step of warping and beaming is started by the instructor, and finished by the student. As soon as possible the student performs the whole set of operations entirely by himself.

When explaining anything at all we use as few words as possible. We speak slowly, stop at each term which may be new to the student, and see to it that he makes a note of it.

It happens quite often that a student may be brilliant in the theory, that is he will make beautiful draw-downs from any draft suggested by the teacher. He may also be quite proficient in practical weaving. Yet he may not see any relationship between his paper work, and the reality of the loom.

If the repetition of the first lessons of drafting does not help, about the only thing we can do is to supply the student with a small sample frame, and to show him how to make samples of very heavy yarn, such as rug filler (white for warp, and black for weft) with a darning needle. Let him make samples of several basic weaves, and then let him compare these samples with his draw-downs of the same weaves. Finally let him make the same samples in finer yarns on a loom, and again compare all three.

In the early stages lessons of theory must be parallel in time with the lessons of practical weaving. Only a very experienced weaver can take advantage of lessons of theory alone.

What about the time necessary to teach a beginner enough to

reach the stage when he can proceed more or less by himself, when he can learn from weaving literature, observation, and from his own experience? What should be the ratio: theory to practice?

An average beginner will need about 100 hrs of supervised work: about 20 hrs of theory and 80 hrs of practical weaving.

Here is a suggested time-table for these lessons, all of one hour duration. Also the correlation of the lessons.

THEORY	PRACTICE
1. Yarns, their origin, properties, count.	1. Collecting samples of yarn. Estimating the count.
2. Principle of weaving,	2. Getting acquainted with the loom & equipment.
3. Warp, figuring out.	3-5. Warping on a frame.
4. The Draft: threading, tie-up, treadling, draw-down.	6-10. Beaming, threading & Sleying.
5. Basic weaves: Tabby.	11-13. Tying-in. Correcting mistakes. Adjusting the loom.
6. Basket. Tabby edges.	14-15. Throwing the shuttle. Tabby.
7. Biased twills & variations.	16-20. Weaving a sampler of basic weaves (tabby, basket, biased twills, wave, dornick in weft. stockinet, broken twills, Satinet, mixed twill & tabby, fancy twills).
8. Broken twill & variations.	21-22. A short project in twill.
9. Herringbone & variations.	23-26. Re-threading the loom for diamond twill.
10. Diamond twill.	27-32. Sampler in diamond twill.
11. Principle of woven-as-drawn-in treadling.	33-36. Projects in diamond twill.
12. Overshot. Theory of drafting.	37-39. Second warp made on a warping mill.
13. Overshot, Variations.	40-45. Beaming and threading for Overshot.
14. Short drafts & analysis.	46-50. Sampler in Overshot.
15. Modern Overshot.	51-55. Projects in Overshot.
16. Crackle. Theory of drafting.	56-60. Re-threading for Crackle.
17. Crackle. Treadlings.	61-68. Projects for Crackle.
18. Summer-&-Winter.	69-72. Re-threading for S-&-W.
19-20. Review.	73-80. Projects in S-&-W.

We are aware that opinion differ as to how to proceed after the basic weaves are taken care of. In our opinion the traditional approach is best, at least in this country. Thus after Twills we take Overshot, Crackle, & Summer-&-Winter. The student may never have much use for them in his future career, but their study involves a variety of theoretical problems which give the student a solid base for the theory of pattern weaving of any kind. The theory of Overshot and later of Crackle is much more involved and instructive than for instance the theory of Damask.

The above schedule applies only to individual lessons, or to small groups with all members of about the same ability to learn. With larger or less uniform groups the progress will be slower.

A student who is decidedly not interested in pattern weaving, and intends to specialize in yardage, may substitute to the lessons 11 to 20 (theory), and 40 to 80 (practice) the following sequence: 11 - texture overshot; 12-13 - huckaback and variations; 14 - waffle; 15-17 - Bronson; 18-20 - irregular textures. Not all of it can be taken in the 41 lessons of practical weaving, because of the variety of warps required.

This amount of knowledge is the absolute minimum for any beginner regardless of his interests. There can be no question of "creativity", self-expression", and of other fashionable pursuits unless and until the student acquires a fair degree of self-assurance based on his familiarity with the technology of weaving.

It should be obvious from the above what are the requirements for a certificate of Instructor Weaver. Besides passing the appropriate test in weaving, one grade higher than the level on which the candidate is supposed to teach, he must be able to plan lessons, or courses for individuals, small and large groups, and schools. He must be able besides teaching the theory, to demonstrate in slow motion if necessary all weaving operations. He should also be familiar with weaving literature, and weaving organizations.

IT IS TIME TO MAKE YOUR RESERVATIONS FOR OUR WEAVING LESSONS in 1961

HUCK & LACE

COMBINED

In this issue we are going to present a solution of problems which involve weaving areas of tabby, huckaback, and huck-lace, all in one project. Although we divide this subject into two parts: four-shaft projects, and multishaft projects, the first article should be read as an introduction to the second.

To make the presentation clearer we shall adopt a different type of drafting the huckaback. The type we have used so far may be called American, when the one we shall adopt now is Scandinavian. For four shafts the American method is better, but for multishaft drafts the Scandinavian one is clearer. Thus to be able to use the four-shaft drafts as an introduction to the higher techniques we must adopt the same way of drafting for both. Fig.1 shows the relationship between the two drafts:

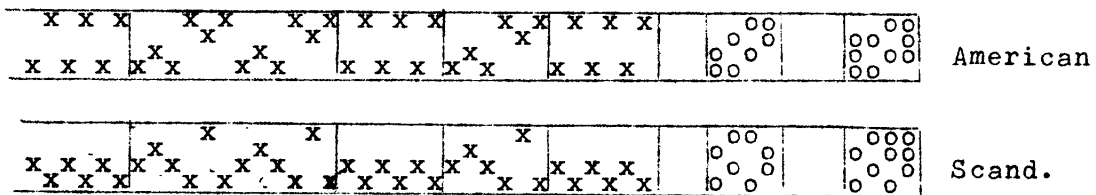


Fig.1

The difference between these two drafts is: 1) that the shaft No.1 becomes No.2; shaft 2 - 3; shaft 3 - 4; and shaft 4 - 1; and 2) that the order of treadles is also changed, so that tabby is on the left. Such order of treadles would not be very practical but it helps with the theory.

Thus the shafts 1 and 2 are now "ground shafts", and the remaining shafts: "pattern shafts". Exactly the same order will be observed regardless of the number of shafts and treadles, that is: shafts 1 and 2 will be always ground shafts or tabby shafts, and the last two treadles counting from the right will be tabby treadles.

Each complete block of pattern (lace, or huck) takes two extra shafts, and two extra treadles, but there is also a possibility of weaving half-blocks, which makes the whole problem more interesting but also more complicated.

treadling, with the tabby adjusted as may be necessary. Fig.3 shows an example of such a small pattern in which all four textures were used: half-a-unit of vertical huck, half of horizontal huck, and half of lace.

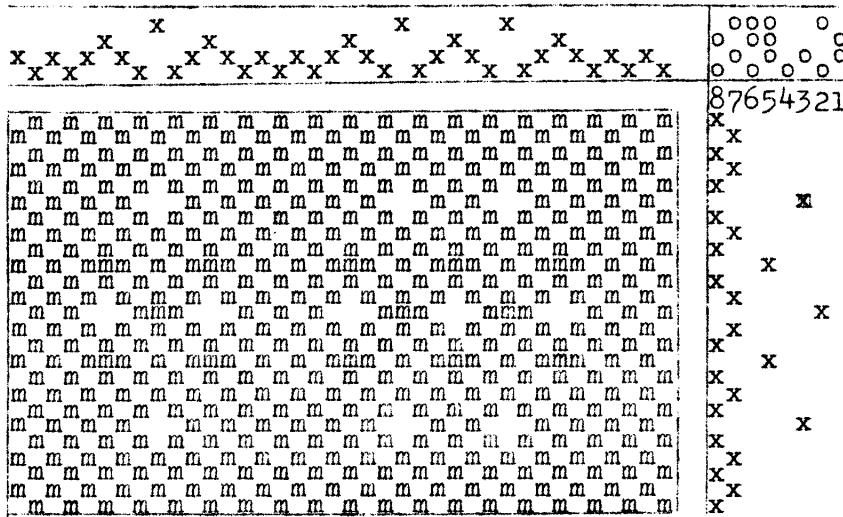


Fig.3

There is a large number of possible combinations of these textures, and experiments should be done on the loom rather than on graph-paper.

We shall give drafts for two PRACTICAL PROJECTS. The yarn, sett of warp etc. are as usual for huckaback. Fig.4 shows a draft for large blocks, and fig.5 a draft for small patterns.

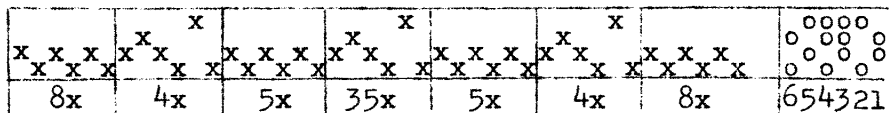


Fig.4

Treadling: 656565 - 12x; 636545 - 4x; 656565 - 5x; 616525 - 50x; 656565 - 5x; 636545 - 4x; 656565 - 12x.

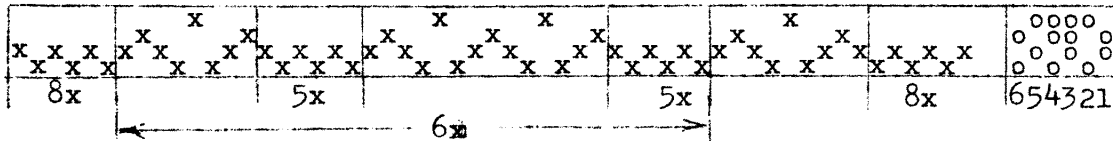


Fig.5

Treadling: 565656 - 12x;
 (525616525616525; 656565 - 5x; 6; 525636545616525616545636
 525; 656565 - 5x;) - 9x;
 525616525616525; 656565 - 12x.

Here as in all huckaback project it is very important to weave an exactly 50:50 fabric.

MULTISHAFT HUCK & LACE

With a higher number of shafts we have not only a higher number of blocks of pattern, but also the possibility of having independent areas of huck or lace in both directions, and not only in the vertical, as is mainly the case with four shafts. Figs.6 and 7 illustrate some of these possibilities.

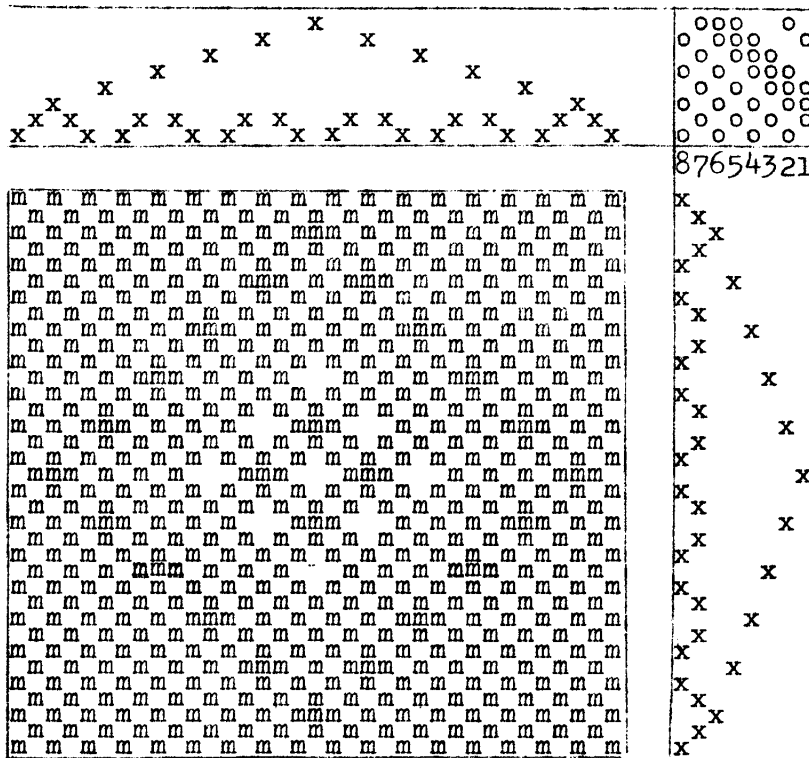


Fig.6

In fig.6 we have a large diamond of horizontal huckaback, a small diamond of vertical huck inside, and 1½ unit of lace right in the centre. Actually the lace and vertical huck merge. The tie-up except for tabby looks more as a high twill than a huckaback. This is because we are not using here both treadles of each block of pattern.

How do we arrive at the tie-up then?

The method used for large blocks is comparatively easy, and we shall describe it first. Patterns shown in fig.6 must be handled in a different way.

When working with large patterns written in full units of huckaback, we first make a sketch of the pattern desired, and then a short draw-down on graph-paper. We use four different symbols for the four textures. For instance blank spaces for tabby, "-" for horizontal huck, "o" - vertical huck, and "x" - lace.

Drafts with small blocks and intricate design must be symmetrical as in fig.6. This means that we are using normal units of huck (in threading) when the diagonal on pattern shafts goes up from left to right, and reversed units when the diagonal goes down. This is not quite precise description however of what happens, because the central unit is always deformed. Thus we can say that we make the first half of the draft from left to right in the usual way, and then reverse it from the centre.

The tie-ups are tricky because we do not need all treadles required for all combinations of blocks and textures. For instance draft in fig.6 has six such combinations, and should have $2 \times 6 = 12$ plus 2 (for tabby) = 14 treadles. Yet, since we are using only one half of each unit, we need only 8 treadles tabby included.

The best way to establish the tie-up for small patterns is to make a complete draw-down, and then analyze it.

For larger patterns of the same type we make a short draw-down, and also analyze it. But this time a square of the profile represents one half of a unit. Thus the first line of the profile corresponds to tabby, and has an even

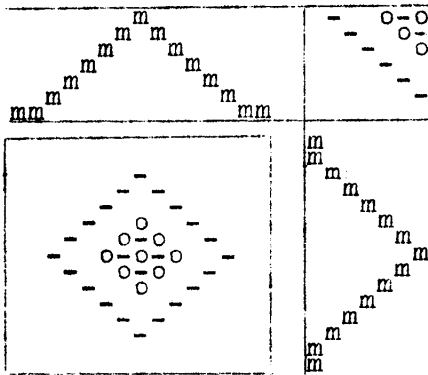


Fig.10

number of squares. Each two squares mean either: 121212 or 212121, whichever fits the next half-unit of huck. The second line (one square) is: 232; the third: 141; the 4-th: 252; the 5-th: 161; the 6-th: 272; the 7-th: 181.

The short tie-up (fig.10) is the result of analyzing the draw-down, but this time the symbols indicate only the directions of floats: "-" for horizontal float, and "o" for vertical float. When the two floats alternate in both directions we have lace, so that there is no need to introduce a third symbol.

To produce a horizontal float, we must add one tie to the tie-up of a tabby treadle, and to produce a vertical float we must remove one tie from a tabby treadle.

To start translating the short tie-up into a full one, we first mark tabby tie-up on all treadles (fig.11 A). Then we fill the

tabby treadles and the ground shafts (fig.11 B). The next step is to add the ties for horizontal floats (fig.11 C), and then to remove the ties for vertical floats (fig.11 D). Finally we replace the remaining dots by circles (fig.11 E).

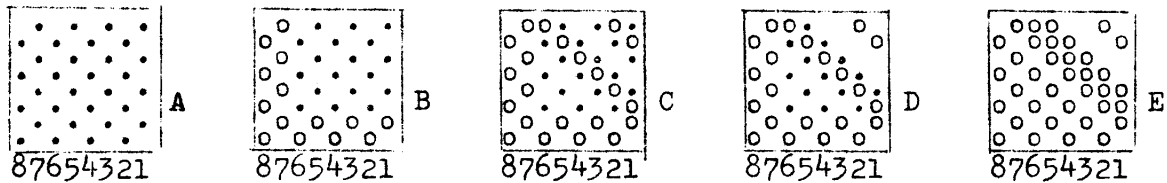


Fig.11

When we compare this tie-up with the one on fig.6 we find that they are identical, which is as it should be, because the short draw-down in fig.10 represents the same piece of weaving as the draw-down in fig.6.

There is one more question we must answer: what if we have in the same project large areas of huck and/or lace, as well as small symmetrical patterns?

Here we cannot use the method shown in fig.7. We must proceed as if the whole project were of the second type, that is as in fig.10.

QUIZZ IN OVERSHOT.

I believe that it is Saturday Evening Post which publishes short quizzes under the provoking title: "So you think you know baseball?". The same could be done with Overshot. There is no end of puzzling problems. Here is one.

If we consider a very small pattern of four blocks, all of the same size, the question is: how many symmetrical variations of this pattern can we weave?

There are three traditional variations (A,B,C fig.1), and the three variations which appear at the back of the fabric (D,E,F).

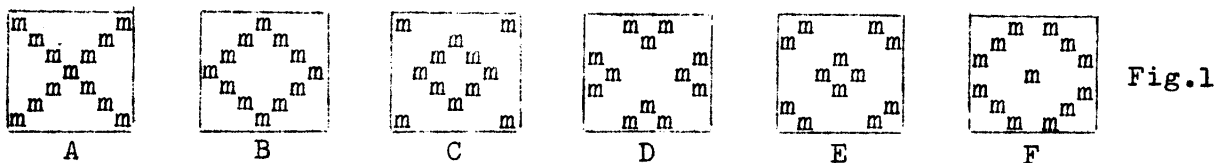
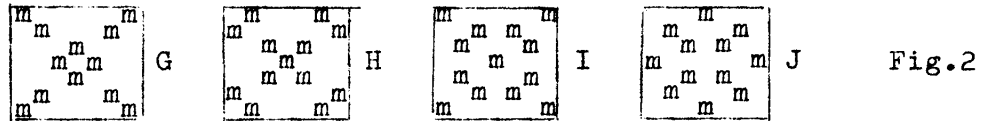


Fig.1

But in theory there should be two more variations with four blocks of

pattern. What happened to them?

One answer may be that the formula (MW 54/7) for the number of variations does not apply here, because besides the blocks of pattern we have the half-tones, which are not independent. Let us then disregard the halftones. If we do so we should have the following symmetrical patterns in addition to the traditional six: G and H in fig.2.



But then what about the variations "I" and "J"? It is true that here the pattern is so scattered that it looks more like broken twill than anything else, but it is still a pattern, and it is symmetrical as long as we disregard the half-tones.

Can these patterns be actually woven? Yes; here is the draft:

<pre> x </pre>	<pre> o o o o o o o </pre>	Fig.3
4321		

Treading for variation G: 4 - 5x; 3 - 5x; 1 - 5x; 2 - 5x; 4 - 2x;
 2 - 5x; 1 - 5x; 3 - 5x; 4 - 5x.

Treading for variation H: 3 - 5x; 4 - 5x; 2 - 5x; 1 - 5x; 4 - 2x;
 1 - 5x; 2 - 5x; 4 - 5x; 3 - 5x.

We may disregard "I" and "J" as not very practical, but even so we have two more variations. If they are woven in the same colour both in warp and weft, binder included, the half-tones will not show and the pattern will be as symmetrical as any overshot pattern

Then what is wrong? Why such patterns are not woven, or are they? Can any Overshot threading be treated in the same way, and what will be the result?

The best answer will be published in the Master Weaver. We are sorry that we cannot offer prizes, but since there are thousands of similar problems in handweaving, we would get broke if we did.

ERRATA Please add on the front page of the former issue, under the title: November-December 1960 No.54. Thank you!

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IS

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FULFORD. P. Q.