inconvenient, but it is the only way, short of a Jacquard or dobby. A direct tie-up won't be of any use because treadles 1, 3, and 5 for instance can not be operated at the same time with two feet only. A small sample can be made on a table loom, but it will take time.

Even at this stage it becomes obvious that the main difficulty is the tie-up, and not the threading draft which is very simple in all cases, except in turned diamond twills. How then do we go about designing a tie-up?

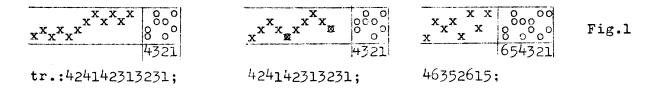
We shall answer this question in the next issue.



## ODD WEAVES

## UNSYMMETRICAL HUCKABACK LACE

The number of small texture weaves even for four shafts is parctically unlimited. Most of them can be easily recognised. Any classical pattern weave may be made into a texture weave simply by alternating two small blocks of the pattern. Overshot, crackle, summer-&-winter can be made in this way into texture (that is "no pattern" weave). Fig.l gives examples of the three above weaves:



All three of them can be easily placed because of the threading tie-up and treadling, even if they do not produce any pattern.

But there are many cases when one hesitates how to call a particular draft. The threading may look like overshot, but the treadling is more like M's-&-O's, or the other way around. Ot the tie-up usually associated with huckaback is used with an overshot draft. What then?

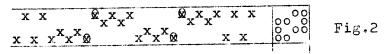
In many cases it does not matter too much what we call it.

The weaves are not completely separated one from another. They often merge, and the "borderline" cases are difficult to diagnose.

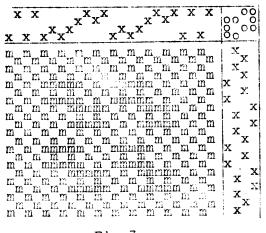
Today we shall speak about such a case, where although the principle is simple, yet the fabric woven does not look too familiar.

This is the unsymmetrical huckaback.

Many weavers must have wondered at the numbers which designate all classical huckabacks:  $6 \times 6$ ,  $10 \times 10$ ,  $14 \times 14$ . What about  $8 \times 8$ ,  $12 \times 12$ , or  $16 \times 16$ ? Let us have a look at the traditional huck:



The length of one repeat both in threading and treadling is ten, and this is why we call it  $10 \times 10$  huck. To make it into  $8 \times 8$  we must eliminate 2 heddles from each repeat. These heddles are circled in fig.2. The new draft must be still a huckaback because we did not spoil the tabby order, and therefore we can use the same tie-up.



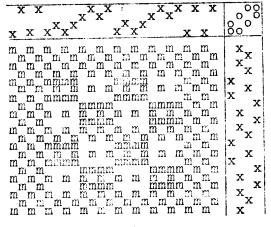


Fig.3

Fig.4

But this time it is an 8 x 8 huck. What we did in threading must be repeated in treadling since huck is positively a 50:50 weave. The result is not particularly encouraging. Turned huckaback (not showh) looks better but not very convincing. Finally we change the tie-up and make an experiment with huckaback lace (fig.4). This time we are getting something new.

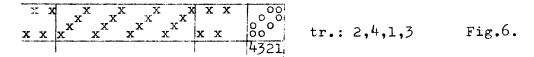
It is new because the repeats in the draw-down do not follow each other as in a 6 m 6, or 10 m 10 huck lace, but are separated, and each seems to have a clockwise movement. The weave is balanced yet not symmetrical.

It seems then that we can change any huck lace (but not plain huck) into an unsymmetrical huck of a lower order simply by eliminating two heddles from the center of each repeat of threading, and two picks from each repeat of treadling.

Let us see now how this principle works with a  $14 \times 14$  huck changed into  $12 \times 12$  huck - lace. This is shown in fig.5:

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One may ask then: what about the  $4 \times 4$  huck? Can it be done at all? The answer depends on our definition of huckaback. The draft in fig.6 will surely give a texture weave, but hardly a lace.



The fabric will have a faint crepe effect, and if used for yardage it has the interesting possibility of giving tabby selvedges.

PRACTICAL PROJECT Cotton place mats in 12 x 12 huck lace.

Warp: 20/2 mercerized cotton, cream or ivory; 40 ends per inch; Reed No.20; 2 ends per dent; No.of ends: 558.

Threading draft:

x x x	xxxxxxxxx	x	x <sup>x</sup> x <sup>x</sup> x <sup>x</sup> x	<b>x x</b> x	000
20 <b>x</b>	20x	13x	5x	20 <b>x</b>	4321

Weft: the same as warp, or softer of the same count and colour.

Treadling: tabby - 2,3; lace - 2,4,2,4,2,4,1,3,1,3,1,3.

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