

## BACKING IN WARP.

All drafts we had so far were for backing yarn in weft. This means one additional shuttle, and sometimes a lot of treadles.

If the face is woven with two or more shuttles, the extra one for backing is of no importance. But if we use only one shuttle for the face, than the second one slows down the work by some 50%.

The number of treadles required for some of the fabrics is rather awkward. When the number exceeds 6 for a 4-shaft draft, we must use a skeleton tie-up, or a compound one: partly skeleton and partly standard, which means pressing two or more treadles at a time. This practice is perfectly all right for samples, but not for longer projects, particulalry yardage.

Therefore it would be to our advantage if we could have the backing in warp only. In theory this is quite simple: we "turn" the draft by  $90^{\circ}$ , use the threading draft for treadling, and the treadling draft for threading. The warp is now made of both: face yarn and backing, but the weft is now only face weft, and in all cases we have only 4 treadles which can be arranged so that a perfect treadling is made possible.

Since we have now two yarns in the warp and they are widely different, we have every reason to expect trouble. The warp ends may twist in pairs or bunches difficult to untwist, particularly when threading.

The sett of warp must be figured as if only the face warp existed. The backing warp is added to the sett of the face fabric. Thus if a fabric without backing needs 24 ends per inch, we must add to it the sett for backing. If the latter is 12, the total is 36.

We can warp both yarns together provided that we do it under tension. The same applies to beaming. Chaining a warp of this type is asking for trouble. Thus either sectional warping, or a warping mill are indicated. Never release the tension, not even when threading. Take a bunch of warp ends corresponding to about one inch of warp and tie them at the lower end with an elastic. Hang a weight on the elastic. When threading, do not try to straighten out the ends, but simply pull the required end from the bunch with the hook.

If the elastic is not too tight and the weight right, it will come up easily. The last few ends in each group will be the worst. Move them to the next group.

The second problem, the number of shafts, must be dealt with in a different manner. If we use drafts from the former articles on Backing we shall run into as many as 12 shafts. Therefore we must use a multishaft loom, or simplify the drafts.

Fig.1 shows a draft for backed 2:2 basket weave. Treading requires only 3 treadles, but we must use two shuttles. After turning it (fig.2) we need 3 shafts and 4 treadles, and only one shuttle. Three shafts do not seem to be very practical, but we can do it on four (fig.3).

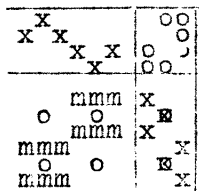


Fig.1

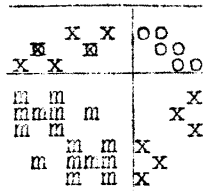


Fig.2

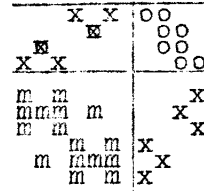


Fig.3

In fig.4 we have a fabric which would be impossible without backing. It has a texture similar to Summer-&-Winter, and it could not be woven without a binder because of floats in warp. The backing replaces the binder, and both sides have the same texture, but not the same yarn.

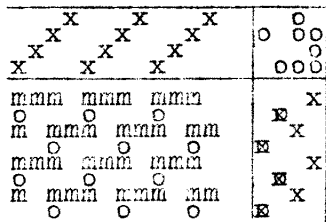


Fig.4

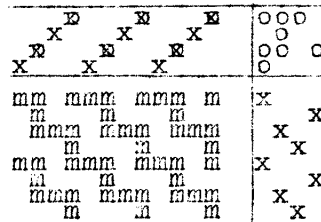


Fig.5

If we simply turn the draft we have an awkward threading, and poor treading. After rearranging the shafts and treadles we have a draft as in fig.5.

In the same way we can deal with drafts requiring a higher number of shafts. We shall take up this subject in the next issue.

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PLEASE RENEW YOUR SUBSCRIPTION AS SOON AS POSSIBLE OR SOONER !!!  
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