

H A N D W O V E N F U R C O A T

Needless to say, that the "fur coat" should not be taken literally. The fabric described here ressembles fur inasmuch as it has pile on one side and a solid surface on the other. Incidentally it is much warmer than any fur. Also it does not need any lining because lining is woven at the same time as the pile. It is not washable but it can be dry cleaned. It is more hygienic because it is not airtight. All in all it is the ultimate in woolen fabrics for cold weather.

On the other hand the fabric is not as strong as good fur, it is not quite easy to weave, and presents problems in tailoring. We shall take up these difficulties later on.

We start with corduroy. This gives us pile but very little foundation. We could use a 4-shaft corduroy all in wool, but the fabric would be too flimsy, even with lining. The only type of lining which can make it practical is one stitched all over to the pile fabric.

Thus we have three problems in drafting: pile fabric, lining, and stitching. The best pile fabric will be the one shown in fig.1 A.

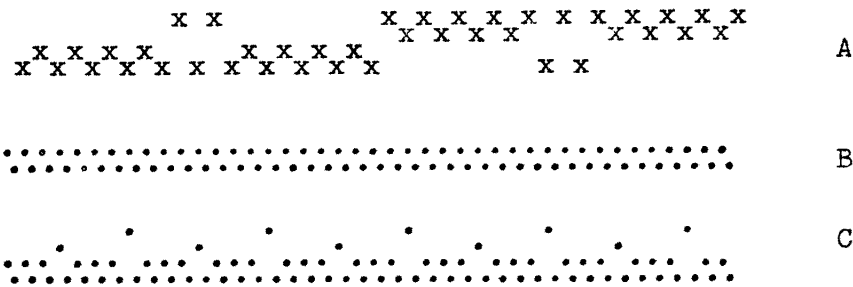


Fig.1

The lining is tabby, and much finer than the pile. Thus the draft in fig.1 B would be suitable with twice as many ends per inch as the pile fabric. Still it cannot be stitched to the pile very easily except in horizontal rows. Fig.1 C shows a draft for lining which can be stitched at will, that is either heddles on shaft 3 or 4, or both can be used for stitching in any order and as often as necessary.

The combination of 4-shaft corduroy and 4-shaft lining looks more or less as in fig.2 which is only a part of one repeat.

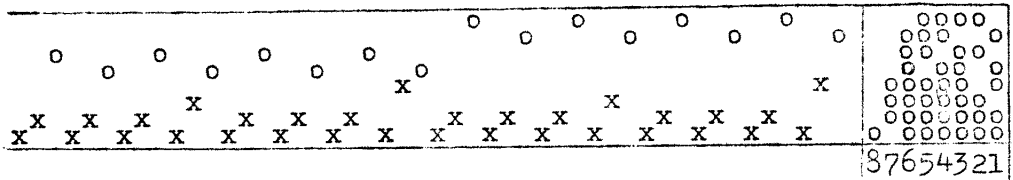


Fig.2

treading: 876875874873872876875874873871. Heavy yarn on treadles 1,2,3,4,5, and 6; fine yarn on treadles 7, and 8.

Shafts 1 and 2 are the lining; 3 and 4 - stitching; 5, 6, 7, and 8 - the pile. Treadles 7, and 8 weave lining; 3, 4, 5, and 6 - the pile; and 1 and 2 are stitching both layers.

Having two stitching shafts is a luxury, because stitching should be invisible anyhow, and it matter little whether we stitch in squares: :: , or diamonds: .'. alhtough the latter stitching may have some influence on the softness of the fabric. Thus we could easily cut down the number of shafts to 7, but we do not gain much by doing it - we must still use an 8-shaft loom. If we could make it on 6 shafts it would be another matter. But can we?

Since we need at least 3 shafts for lining with stitching, we can use only 3 shafts for the pile fabric. A 3-shaft corduroy can be woven on a Bronson draft, but it gives a less satisfactory pile than the 4-shaft one. Still here is the draft:

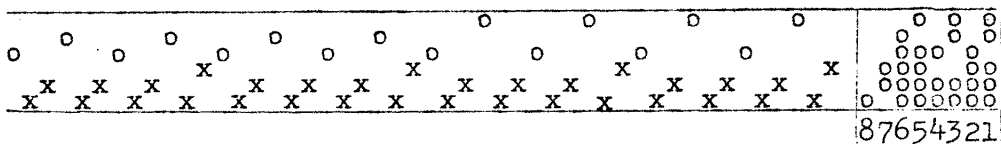
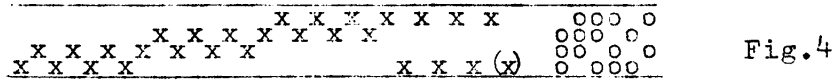


Fig.3

This is the most economical solution of the problem. It will work only when pile, lining, and warp for both are of the same colour because ground will show between rows of pile. Treadles 7 and 8 weave the lining; 5 and 6 - the pile, which must be fastened to its ground by treadles 1 and 2 used alternately every few shots of pile. Treadles 3 and 4 are stitching treadles and can be used as necessary - treadle 3 instead of 1, and treadle 4 instead of 2. For instance: 876875876875872876875876875871 etc.

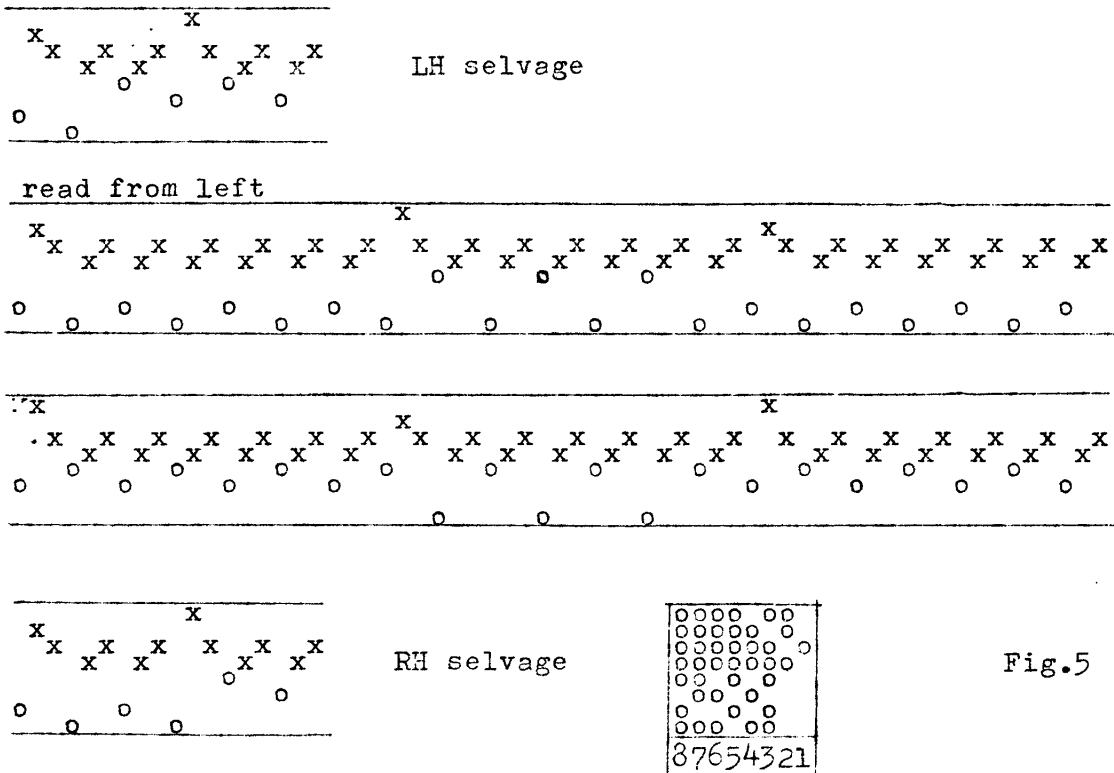
With 4 shafts for pile, we have quite a choice of different pile fabrics. When we mentioned before that fig.1 A shows the best corduroy we meant that the fabric is at the same time good looking

and easy to weave. Its disadvantage is comparatively low strength of pile, that is the floats are longer than the part of pile weft fastened to the ground. A better corduroy is the one in fig.4. Here the floats are of the same length as the tabby part, but then the cutting of floats is much more difficult, because they overlap each other.



Thus if we want a spectacular and easy to cut fabric we should stick to the draft in fig.1 A; if the pile is supposed to withstand heavy wear fig.4 is better. Whichever is adopted it does not affect the remaining 4 shafts which weave the lining. However the right tie-up for the corduroy in fig.4 will be the one in fig.2, when fig.1 A needs only two treadles for the pile.

Fig.5 gives a complete draft for the first type (fig.1 A) of corduroy. Here the first four shafts are used for pile, and the remaining four - for lining and stitching.



Treadles 1 and 2 weave the lining; 7 and 8 - the pile; 5 and 6 - the ground for the pile, and 3 and 4 are stitching treadles. The order of treadling is not easy to establish on paper, because it depends a lot on the yarn used.

All tie-ups given so far are for sinking shed. In most cases it does not matter too much which side of the fabric is on top. Here however, particularly if we cut the pile during weaving we must have pile on top. Therefore with jack-type looms the tie-up must be reversed, that is we tie the empty spaces instead of the marked ones.

For purely practical reasons it is advisable to use the same yarn for both warps: lining and pile. It makes warping much easier, and saves us from tangled sheds later on. It must be either hard-twist single, or two-ply warp yarn, e.g. # 2 single, or 2/4. It should be set 18 ends per inch for lining, and 9 ends per inch for pile. In all 27 ends per inch (reed No.9, 3 ends per dent). The weft for lining may be of the same count but of softer twist, and the weft for pile - a much heavier 2 or 3 ply wool, for instance domestic coarse two-ply.

The threading draft being rather complicated, it is very likely that we shall have some mistakes. The ones in the upper layer (pile) are visible and therefore easy to correct. But the lower layer can be seen only in a mirror and locating a mistake is a problem. Here are two suggestions: weave one inch of lining without the upper layer at all - then the lower layer will be visible through the warp; or better tie two extra treadles exactly opposed to treadles 1 and 2. These will bring the lining to the top, and make correcting quite easy.

The treadling can be established only when the loom is set up and the weaving started. This is because pile must be beaten very hard to bind it to the ground; otherwise the pile will pull out. If we weave too much lining the beating of the pile is ineffectual.

Thus even if theoretical treadling on paper is: 127128127
128125127128127128126 for two independent layers woven at the same rate, we may find out that the pile is not tight enough, and that we must treadle: 127812781275127812781276; or even 1278512786. Weave one inch of each, then cut the pile and see how firmly it is bound

to the ground by trying to pull single yarns. They can be pulled out no matter how the fabric is woven but they should offer certain resistance. This resistance may increase in finishing.

The pile can be cut on the loom or later. Cutting on the loom (every 6" or so) is easier, but then the fabric becomes bulky which means that we may have to cut off the fabric from time to time.

Tailoring depends to a certain extent on finishing, and we shall speak about these problems later on.

FROM THE CLASSICS

HARMONIOUS COLOURING

(from "The Art of Weaving")

By Clinton G. Gilroy 1844.

"Harmonious arrangements of colours are such combinations as by certain principles of our nature produce an effect on the eye similar to that which is produced by harmonious music on the ear; and a remarkable conformity exists between the science of colour and that of sound in their fundamental principles, as well as in their effects."

"It is well known to all who have studied music, that there are three fundamental notes, viz. C, E, and G, which compose the common chord or harmonic triad; and that they are the foundation of all harmony. So there are, also, three fundamental colours, the lowest number capable of uniting in variety, harmony, or system."

"By the combination of any two of these primary colours a secondary colour of a distinct kind is produced; and as only one absolutely distinct denomination of colour can arise from a combination of the three primaries, the full number of really distinct colours is seven, corresponding to the seven notes in the complete scale of the musician. Each of these colours is capable of forming an archus or key for an arrangement to which all the other colours introduced must refer subordinately. This reference and subordination to one particular colour, as in the case in regard to the key note in musical composition, gives a character to the whole."

"This characteristic of an arrangement of colour is generally called its tone; but, this tone is more applicable to individual, as it is in music to voices and instruments alone. The colourist, like the musician, notwithstanding the extreme simplicity of the fundamental principles upon which his art is founded, has ample scope for the production of originality and beauty, in the various combinations and arrangements of his materials."
