

C R E P E .

The purpose of crepe weaving is to produce an uneven surface of the fabric, or a surface which appears to be uneven, as if the fabric were crumpled in a very irregular manner. There is not even a suggestion of a pattern.

The difference between the three-dimensional fabrics such as described in MW No.17, and crepe is that the latter has a uniform thickness. In case of a 3D fabric the variations in thickness produce the desired effect, when in case of crepe it is the whole fabric which undulates. Fig.1 gives cross-sections of both fabrics. The difference is obvious.

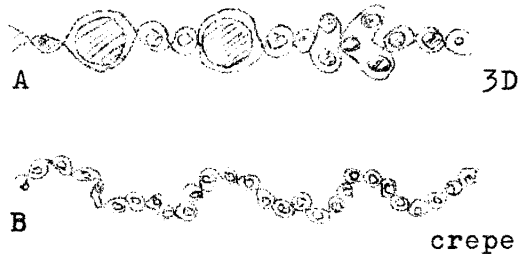


Fig.1

As an example of the first method of making crepe we can take the following one. A finely woven and smooth fabric is passed between two metal cylinders with slightly uneven surfaces. They "iron" the fabric in presence of moisture and heat, and under a high pressure, so that the fabric becomes stamped with the impression of the uneven metal surface. The distortion of the fabric may be not quite permanent but it will last reasonably long.

A better method is the chemical one. A smooth cotton fabric is mercerized, but only in spots. Let us imagine that we sprinkle

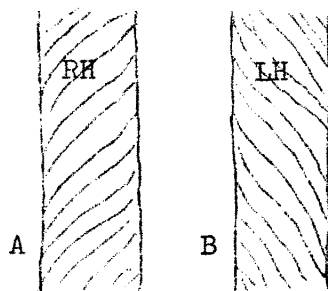


Fig.2

the fabric (lying flat but not stretched) with the solution of caustic soda. The spots affected by soda will shrink when the rest of the cloth will remain unchanged. This will produce a permanent distortion of the fabric, which will remain crumpled regardless of washing and ironing.

In weaving we can get either real distortion as in fig.1 B, or an illusion of this distortion. In the first case we speak about

crepe, in the second - about crepe effect. We shall describe first methods of producing real crepe.

It is a fact that many beginners weave crepe without realizing that they are doing it, and sometimes they are disappointed at the unexpected results.

To get good quality smooth cloth of any kind, but particularly in case of wool woven in tabby, we must have two kinds of yarn: the one used for warp must have the direction of twist opposed to the one used for weft. For instance the right hand twist for warp (fig.2 A), and the left hand twist for weft (B). If we enlarge one repeat of

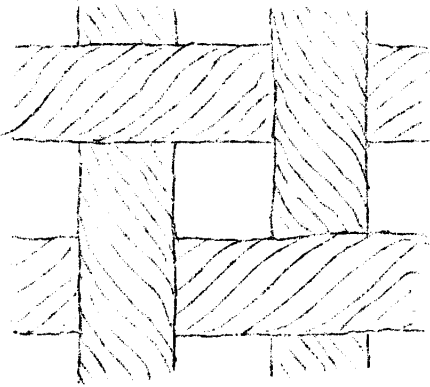


Fig.3

tabby as in fig.3 we shall see that with the same direction of twist in both warp and weft the fibers on the surface of the fabric go in two different directions at an angle to each other, which does not make the fabric to look smooth. But even worse than this is the fact that inside of the cloth, whenever a warp end crosses a pick of weft, the fibers lie parallel and interlock each other. This interlocking prevents the fabric from being smoothed out by ironing it later on.

Thus whenever we use the same direction of twist for warp and weft, we produce involuntarily a crepe fabric. This effect is negligible in coarse weaving of cotton, rayon and linen, and not too obvious in woolen twills. But if we take two ply wool of a rather hard twist, and use it for warp and weft, we can hardly miss the peculiar appearance of the finished fabric. And hard as we try, no amount of ironing will smooth out the surface.

In case of plain tabby woven all in one colour it may be an advantage. The cloth has an interesting texture. But with different colours in both directions it may look untidy. At any rate, whether intentionally or not, this is the easiest way of producing crepe in weaving.

When a more pronounced effect is desired, we can use both twists RH and LH, alternating them in warp and weft. Thus the warp may have one RH twist end, and then one LH twist end, and so on. Or 2 RH followed by 2 LH. Or 3 RH by 3 LH. The same order which has been used in warp should be followed in weft. The warping, beaming, and threading will be a little more difficult than usual, because when two threads of opposite twist touch one another, they usually wind around each other, and stay that way. The only remedy is to work always under tension (warping mill) except for threading of course, where we have to pull the twisted ends one after another before getting them free.

Another method based on a different principle is to use two warps for the same simple weave. One of them will have a higher tension than the other. Therefore the amount of the take up on both will be not uniform, not only in warp but in weft as well. Let us take as an example a fabric woven entirely in tabby with 16/2 cotton set at 32 ends per inch. We shall alternate the two warps every quarter of an inch or every 8 warp ends. Where the warp is tight, the take up will be all in the weft; where the warp is slack - it will be in the warp. Consequently we shall have stripes of fabric parallel to the warp alternately tight and loose. The loose part will wrinkle after a while and thus produce the crepe.

Working slowly we could get the same effect in weft. Make 8 shots of very loose weft, leaving in the shed as much yarn as possible without producing loops. Then another 8 shots keeping the weft very tight. Both methods (different tension in both warp and weft) combined should produce a fabric evenly wrinkled in all directions.

Still another method does not require two warps, but a single one made of two very different yarns, like linen and cotton. We can make a warp of alternate stripes of single linen No.20 and cotton 16/2. The stripes should be about 1/2" wide. Then in weaving we shall use the same sequence in weft: 1/2" of cotton, and 1/2" of linen. During weaving the warp should be kept very tight. This will make the linen stretch, when cotton which is elastic will remain unaffected. This method can be used alone or in combination, e.g. the linen in the last case may have the twist opposite to the cotton.

The difference of tension in warp may be produced not only by using two warps on two warp beams, or two different yarns, but also by weaving alternate stripes in two different weaves. One of them must be rather loose and the other very firm. A classical example is tabby and satin. This is however not very easy to weave since it requires 10 treadles (fig.4). We shall get similar results by weaving at the

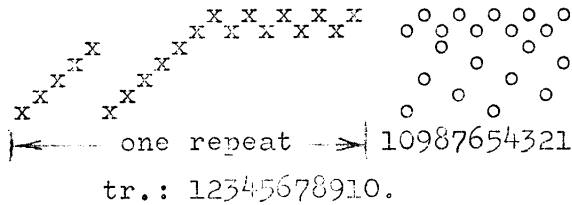


Fig.4

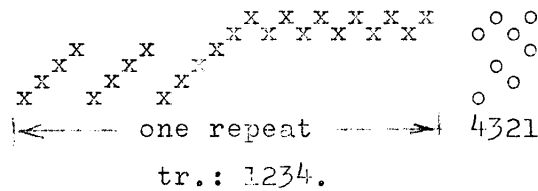


Fig.5

same time tabby and satinnet (broken 1:3 twill). This requires only 6 harness-frames and 4 treadles, as in fig.5. At first it does not produce any crepe. It takes a few inches of weaving before the difference in take-up between tabby and satinnet becomes visible. With elastic warp and high tension during weaving it may not show until the woven piece is taken off the loom. If the yarn used is not elastic, then the weaving should be done at a very low tension of the warp.

Crepe effect as well as real crepe require as a rule a large number of frames. There is only one satisfactory draft for 4 frames which gives a large number of variations (fig.6). It is based on the principle that one half of the draft produces slightly different

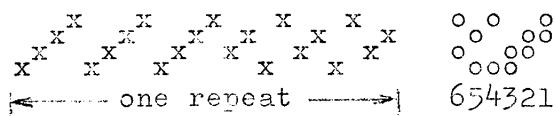


Fig.6

Treadlings:

- 1) 5656165613131313;
- 2) 1234123452645264;
- 3) 1243124352465246;
- 4) 1526453621436153;
- 5) 5615631613513613;
- 6) 1526152635463546;
- 7) 123123123546546546;
- 8) 4625462541234123;
- 9) 1526152645364536;
- 10) 1526453615264536;

floats than the other.

To get good results with any crepe weave the yarn used must be fine and set very closely. For instance about the coarsest yarn for the draft in fig.6 will be 16/2 cotton set at 36 ends per inch, better 20/2 cotton at 40 ends/in. There may be a slight difference in colour between warp and weft, but only slight. Still better is to have mercerized warp and plain weft.

As far as multiharness weaving of crepes is concerned there is quite a choice. Oelsner gives about 350 different crepe weaves for any number of frames from 6 to 40. Here are a few examples.

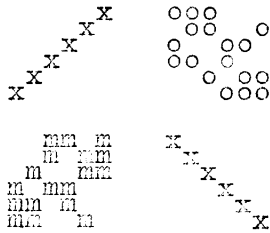


Fig.7

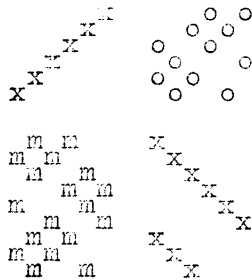


Fig.8

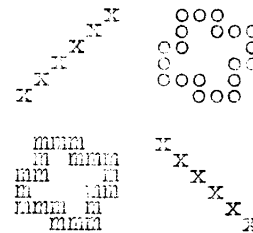


Fig.8

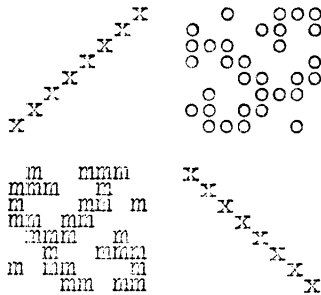


Fig.10

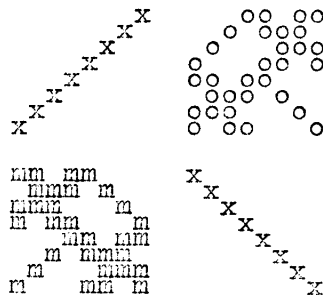


Fig.11

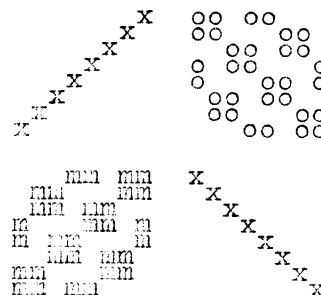


Fig.12

In each case only one repeat of threading and treadling is given (even in fig.8). The same general principles of weaving apply here as in case of the draft No.6. Fine yarn, closely set; similar colours in warp and weft.

BOOKS.

"HANDWEAVERS' REFERENCE" by Mary E.Black.

An excellent subject index of English weaving literature. It classifies all technical terms in nearly one hundred books, pamphlets and periodicals. The index is alphabetical and larger subjects are again subdivided alphabetically. Thus in matter of seconds one can find everything written on any particular weaving subject in modern times.
