

MANUFACTURE OF NARROW WARES

Ribbons, Trimmings, Edgings, etc.

(Continued from page 9.)

Rib-Fabrics, Formed With Two Systems of Filling.

This system of weaves is extensively used for the body portion of narrow ware fabrics, and closely resembles in their construction the half hollow selvages previously explained.

Two picks of any one of these weaves always act as companion picks, *i. e.*, when one of them, for a

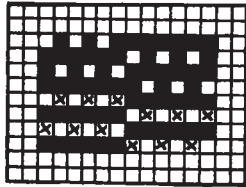


Fig. 64

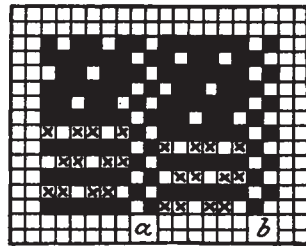


Fig. 66

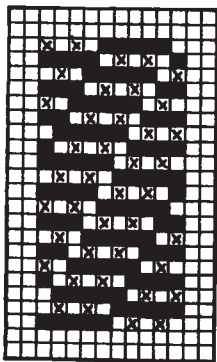


Fig. 65

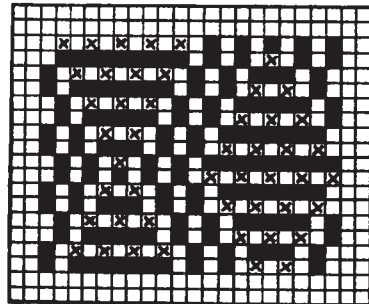


Fig. 67

certain number of warp-threads, interlaces as face pick, the other floats on the back of the structure, and vice versa.

This exchanging of the picks results (at the places where the same occurs) in indentations in the fabric structure, which, if so desired, may be made more pronounced by having two or three warp-threads interlace at these places as single cloth in the fabric.

Four weaves are given to explain the subject. In the same, *cross* type indicates the interlacing of the filling with the warp as a face pick.

Cross type and *full* type indicates warp up, *i. e.*, the floating pick rests on the back of the fabric structure.

Weave Fig. 64 shows the plain weave (see *cross* type) used for the interlacing of the face of the fabric structure. The cut lines in the fabric run with the direction of the warp. Two repeats of the weave filling ways are given.

Weave Fig. 65 shows again the plain weave (see *cross* type) used for the interlacing of the face of the fabric structure, the cut lines in the fabric in this instance being arranged to run in an oblique direction.

Weave Fig. 66 shows the 3-harness twill, warp effect, used for the interlacing of the face of the fabric structure. In order to increase the *cut* effect in the fabric, we used in this instance two series of warp threads (see *a, b*) in the repeat of the weave to interlace in single cloth, *i. e.*, the pure, plain weave in this instance.

Weave Fig. 67 shows a figured effect, showing again the plain weave used for interlacing the rib-fabric structure as figured (diamond pattern) upon by a single cloth warp rib effect ground.

Hollow-cord Weaves.

In connection with fabrics interlaced with these weaves, the filling intersects alternately in the lower and then in the upper fabric structure. The filling, in passing at the edges from one structure into the other, is the only connection made in uniting the two structures into one fabric.

The weave for the warp threads must be carefully planned to correspond to the insertion of the filling, *i. e.*, the back pick must connect perfectly onto the preceding face pick on one edge of the fabric, and vice versa, the face pick onto the back pick on the other edge of the fabric; for which reason the side from which the shuttle is to be entered, must be taken into consideration by the designer when planning a new weave and be correspondingly marked on the weave plan for reference by the weaver. For instance, in connection with satin cords, the filling must interlace with the face and back warp so that in the woven fabric it is impossible to distinguish face from back structure.

This feature makes it not possible for the designer to use any number of warp threads, but, he must according to weave to be used and the entering of the shuttle (whether this is done from the left or the right) first ascertain the *foundation number* for the respective weave, adding to the latter any number of repeats of the weave, to suit texture and width of fabric to be made. This *foundation number* is the lowest number of warp-threads possible to be used in the formation of a hollow-cord, in which the weave runs out perfectly in the filling.

If severing such a hollow-cord fabric in the direction of the warp, *i. e.*, cutting the filling, such a structure, if then opened out flat, must present a perfect single cloth structure. Treating the fabric in this way, every pick then consists of one face and one back pick of the original double cloth structure—appearing in the single cloth structure as if inserted all in one direction, *i. e.*, either from left to right or from right to left. This characteristic position of the filling in turn serves for the ascertaining of our *foundation number* previously referred to.

To obtain the latter by theory, paint one repeat of the single weave you intend to use and indicate on the point paper from which side the first pick is to be entered. This single weave consider now as the fabric obtained by cutting the hollow-cord structure as before referred to, *i. e.*, that the picks are all entered from one side. If considering the entering of the filling by the first edge from the left, the interlacing of the next pick must then connect from the left onto the right hand side of the preceding pick. If, however, considering the entering of the pick from the right hand side, then the interlacing of the next pick must connect from right onto the left hand side of the preceding pick. Add to the repeat, or take away from it, as many warp-threads as necessary, until a proper connection is obtained; the number of warp threads of one repeat thus required is the *foundation number* previously referred to.

Fig. 68^a illustrates one repeat of the single weave, the 8-harness satin, warp effect, interlacing 7 up 1 down; *i. e.*, after one end down, seven warp threads are raised. Considering pick 1 (entering the pick from the left) shows us warp thread 1 down, and warp threads 2 to and inclusive 8, raised. In the second pick, warp thread 1 is up and warp thread 2

is down. Considering then the down of both picks (see Fig. 68^b) shows us 8 warp threads up (7 on pick 1 and 1 on pick 2—both shown in black circles) in place of the required standard 7, or one too many. To remedy this trouble, strike off one warp thread from the single weave (see Fig. 68^c), and when the foundation number then is $(8 - 1 = 7)$ seven.

If, however, considering the entering of the filling from the right hand side, we then find only 6 warp threads up between the two sinkers and when consequently one warp thread must be added to the repeat of the weave. The foundation number then is $(8 + 1 = 9)$ nine.

Fig. 69 shows us the 5-harness satin, warp effect, used as the single weave. The interlacing of this

2 up 1 down, for the double cloth weave 2 outside 1 inside.

Considering the first pick of the weave (back pick from left to right) shows the first two back warp threads outside (down); the third, inside (high); the next two back warp threads outside (down).

With the second pick (face pick from right to left) the first face warp thread must (from the right) consequently rest inside (down), the two next outside (up), the fourth face warp thread inside (down) etc.

Filling ways, build up the weave as explained in the chapter on hollow selvages (*i. e.*, double cloth, minus stitching).

In connection with complete weave, Figs. 70, 71, 72 and 73, empty squares indicate sinkers, all others, risers.

Fig. 71 shows us a 5-harness, warp effect satin, hollow-cord weave, showing two repeats, plus the foundation number $(2 \times 5 + 2 = 12)$ ends). The weave plan, 4 outside 1 inside, is then (according to the insertion of the picks) on the back pick placed in the back warp threads and at the face picks in the face warp threads. Provided the correct foundation number is obtained, the satin weave will then connect properly.

Fig. 72 shows us a hollow-cord weave, interlacing with the 4-harness even sided twill, having stuffer ends in the centre.

Fig. 73 is a hollow-cord weave, showing the 5 up 3 down 8-harness 70° steep twill. One repeat plus the foundation number $(8 + 3 = 11)$ ends) is given. The filling interlaces after the following formulæ: 2 up 1 down 2 up 1 down 1 up 1 down and which, considering the fabric structure, means: 2 outside 1 inside 2 outside 1 inside 1 outside 1 inside; this arrangement is then indicated onto the warp threads.

Not every weave can be as successfully used as a hollow-cord weave, for instance, no perfect edge can be designed in connection with the warp effect rib weave.

Faults in the Carbonizing of Woolens.

A great proportion of all-woolen goods, especially those to be dyed in the piece, are carbonized after the scouring, and it is a stage of the treatment at which the material may be made faulty in one way or another. As the impregnation with the acid, as well as the neutralizing, is mostly carried out on the washing machine, it is here that some faults are caused. Also the influence of the acid and the heat may be such as to bring out defects, particularly when the material is not properly manipulated, and when burnt places and holes may be caused by concentration of the acid solution locally through carbonizing at too high a temperature. Damage of this sort may not make itself apparent right away, but will likely come into evidence at a later stage in the succeeding courses of treatment and when the material is handled more energetically—perhaps in the fulling or giggering process.

Burnt places originate from various causes. Splashes of small amounts of strong acid in the cloth will cause them, or they may arise from the material being passed into the solution of acid before it has been properly stirred up. The fault is likely to be formed by allowing the goods impregnated with the acid solution to lie about for a time in the wet state, the acid in these circumstances concentrating on one

weave is 4 up 1 down. Considering the entering of the filling to be done from the left, we then find if reading from the first to the second sinker, 7 risers in the place of 4 (see Fig. 69^b). For this reason, we then have to cross off three warp threads from the repeat of the weave, obtaining in this manner the foundation number $(5 - 3 = 2)$ two.

However, if entering the filling from the right hand side, the foundation number then would be three.

The most often used arrangement of face and back is 1: 1, although others may be called upon.

Fig. 70 is a hollow-cord weave interlacing with the 3-harness twill. The foundation number is 2. The design shows three repeats of the single weave plus the foundation number $(3 \times 3 + 2 = 11)$ ends). The weave formation for the single 3-harness twill is

