TO INCREASE WEIGHT AND BULK OF FABRIC BY MEANS OF BACK FILLING.

(*Continued from page 7.*)

Arrangement 2 picks Face : 1 pick Back.

This arrangement of face and back filling in the construction of a fabric permits the use of a lower count of backing as compared to the arrangement 1 : 1 explained in the July issue, with its advantage to be able to use a cheaper grade of stock (shoddy) in the backing. At the same time a closer woven face will result.

Its disadvantages are found in the appearance of the back; the heavy yarn used will show ridges, compared to the smooth 1 : 1 arrangement, a feature which the most careful gigging or napping can not overcome.

Rules for constructing these weaves are the same as those referred to in the July issue, and will be readily explained in connection with weaves Figs. 32 to 52, in which *full* type shows face picks and *cross* type the back picks.

Ribs and Basket Weaves.

Fig. 32 is the 2 by 4 warp rib.

Fig. 33 shows its arrangement with a backing, the latter interlacing with the 8-leaf satin; repeat of weave 8 by 24.

Fig. 34 is the common 4-harness basket weave.

Fig. 35 shows a back filling added to it, the latter interlacing with the 4-harness broken twill; repeat of weave 4 by 12.

In both weaves, Figs. 33 and 35, we used every warp-thread to interlace once in one repeat of the weave, a desired feature whenever possible to do so in order to retain a uniform tension to the warp-threads, since interlacing or not interlacing around the heavy back pick must affect the take-up, producing in turn tight and slack ends. For this reason, whenever it is possible to use every warp-thread in the repeat of the weave uniformly for interlacing with the backing, do this, and only resort to missing warp-threads where such an affair is the only way left to add a back filling. Figs. 37, 39, 42 and 50 illustrate such cases.

Twills.

Fig. 36 is the 4-harness even sided twill.

Fig. 37 is the same arranged 2 : 1, showing that only every other warp-thread is used for hitching the back filling, with its consequent disadvantage previously referred to. Using two repeats of the face weave for one repeat of the complete weave will not help matters, since only every other warp-thread would permit stitching. We then, in connection with $^{7}{}_{1}$ for the back picks, would have to arrange the interlacing in the shape of a twill (missing every other warp-thread) with the result of showing this stitching on the face of the fabric. If stitching alternately in one and next in the other face twill (in the repeat of 8 threads) will result in a cross twill effect on the face of the fabric, a feature which is not desired; hence in the present instance the arrangement of 1 : 1 as shown in weave Fig. 6 in the July issue is the arrangement to use to produce a perfect fabric.

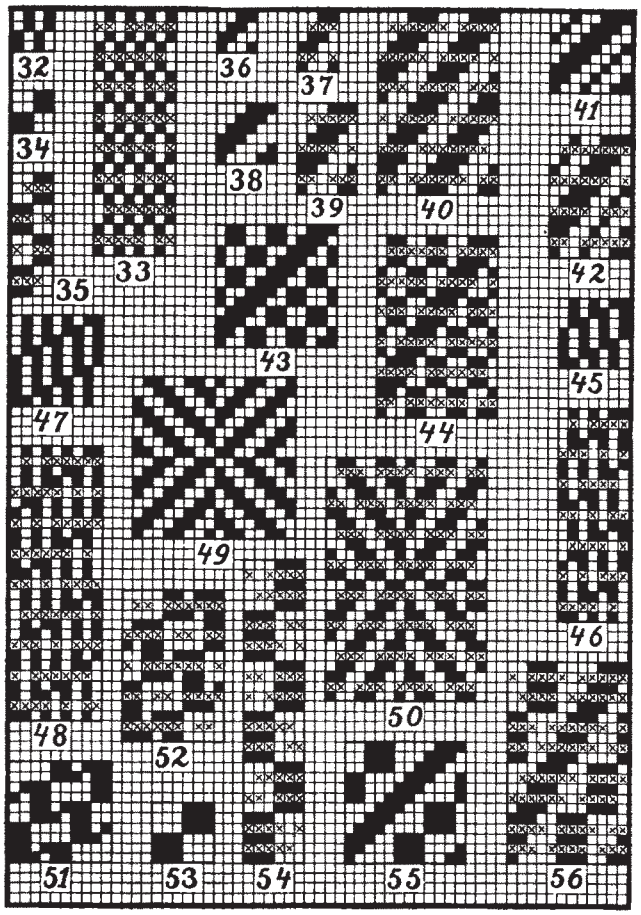
Similarly will the 6-harness twill (see Fig. 38) act, as is shown in weave Fig. 39.

Fig. 40 shows in this instance how to overcome the trouble, by using two different floats for every back pick in the repeat of the weave, *viz:* alternately under 6 and under 4 warp-threads. Repeat of weave 12 by 18.

Fancy Twills.

Fig. 41 is the face weave (8 by 8) for

Fig. 42 which shows the same arranged for back picks, using every other warp-thread only for interlacing the latter by $^{7}{}_{1}$



Changing the latter to $^{4}{}_{1}{}^{2}{}_{1}$ would give us a chance to stitch every warp-thread once in the repeat of the weave. Repeat of either combination is 8 by 12.

Figured Twills.

Fig. 43 shows such a figured twill, a combination of twill and basket effects; repeat 12 by 12.

Fig. 44 shows this figured twill arranged for a back filling, using every warp-thread once in the repeat of the weave for hitching on the back picks. Two different floats for the latter are used, *viz:* alternately under six and under four warp-threads. Repeat of weave: 12 by 18.

Corkscrews.

Weaves Figs. 45, 46, 47 and 48 illustrate the subject.

Fig. 45 is the 7-harness corkscrew, and

Fig. 46 its arrangement for backing, using every warp-thread twice in one repeat for hitching on the back picks. Repeat 7 by 21.

In a corresponding manner

Fig. 47 shows the 9-harness corkscrew and

Fig. 48 its arrangement for back picks. Repeat 9 by 27.

Hitching the back picks as shown in Figs. 46 and 48 is the only way to get a perfect face, *i. e.*, perfect fabric structure in connection with these corkscrew weaves.

Broken Twills.

Fig. 49 shows the single cloth weave of such a twill, 8 ends twill in one direction to alternate with 8 ends twill in the reverse direction, both warp and filling ways. Repeat of weaves 16 by 16.

Fig. 50 shows its arrangement for back picks, using every other warp-thread only for hitching the backing to the face *i. e.*, single cloth structure. This as explained in connection with weaves Figs. 36 and 37 is the only way the 4-harness twill can be handled for adding back picks by the arrangement of 2 : 1. Repeat 16 by 24.

Granite Weaves.

Fig. 51 is the face weave, and

Fig. 52 the same arranged with backing picks. Every warp-thread is used once in the repeat of the weave for hitching the back picks to the face structure. Repeat of weave 10 by 15.

Arrangement 2 Face : 1 Back : 1 Face : 1 Back.

If the arrangement of 1 Face : 1 Back results in a fabric structure too heavy, and that of 2 Face : 1 Back in one too light, we may combine both arrangements, *i. e.*, use 2 Face : 1 Back : 1 Face : 1 Back. Again the nature of the interlacing of the surface weave may be such that this arrangement is the only one at our disposal for perfect stitching of the backing.

Weaves Fig. 53, 54, 55 and 56 explain the subject.

Fig. 53 is the common 6-harness twill and

Fig. 54 shows the arrangement of the latter for back picks, using every warp-thread uniformly for holding the back picks. Repeat 6 by 30.

Fig. 55 is a fancy twill, repeating on 12 by 12 and

Fig. 56 shows the latter arranged for back picks. In the same, warp-threads 1, 4, 7-10 are hitched twice and the remaining warp-threads only once in the repeat of the weave. Repeat: 12 by 20.

(To be continued.)

Dyeing Artifical Silks.

Customarily, artificial silk is dyed in much larger baths than for cotton, in order to lessen the difficulties met with in producing level dyeings. The solution of the dyestuff should always be added to the dyeing liquor by passing it through a sieve so as to catch any undissolved particles that may be present. Add the solution of the dyestuff in several portions. When it is intended to dye light shades the material should be wetted-out beforehand.

Recipe for Grey Thread Polish.—16 gallons of water, at 170 deg. *F;* 9 lbs. starch, mixed in cold water, and 1 lb. yellow wax. If a bright polish is required, 1 more gallon of water, at 170 deg. *F.* should be added.

JACQUARD TERRY PILE FABRICS.

In the March 1908 issue of Posselt's Textile Journal, we gave a thorough description of the construction of these fabrics, accompanied with weaves and sections of fabrics, executed on the harness loom, and to which the reader is referred to, the object of the present article being to explain the designing and card stamping as practiced with figured, *i. e.*, Jacquard fabrics, used for bath-robes, scarfs, etc.

In the manufacture of these fabrics two systems of warp (on two beams) are necessary; the pile warp for the formation of the loop, and the ground warp for forming the body of the fabric. Only one system of filling is used.

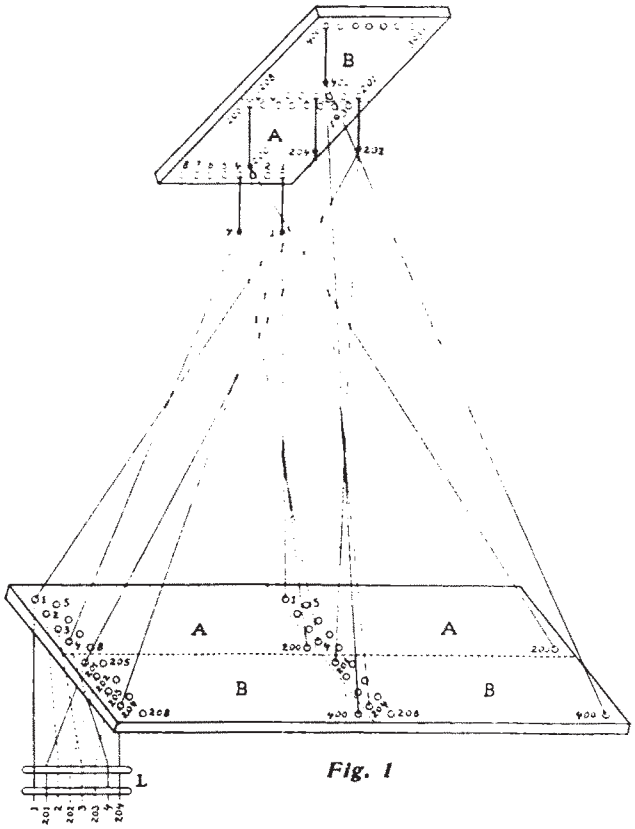


Fig. 1

In the process of weaving these fabrics, the terry series of the warp is weighted looser than the ground or body series, or its warp beam arranged to let off the proper length of pile warp required at every third (the tight) pick; in either case allowing the loops to be formed on the face or back of the fabric, as desired by the weave, by the lay swinging or being driven fully up to the fell of the cloth every third pick, the two previously inserted picks having been but partially beaten up. The three picks so interwoven slide on the ground warp, which is held under a tight tension during the entire process of weaving.

Making of the Jacquard Design Using One System of Pile Warp Only.

The same is very simple, they closely resemble the designs for damask fabrics executed with compound harnesses. In other words, the figure (design) is simply painted in red on the point paper, without