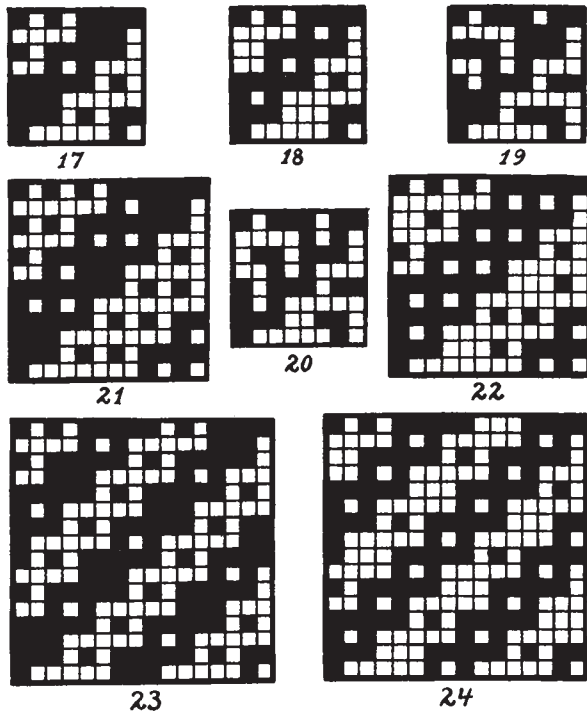


With reference to finishing, after a slight fulling and a thorough washing, the fabric must be freed from wrinkles so as to avoid any appearance of streaks due to gigning. Gig thoroughly on both sides. Should the conditions admit of it, the piece should be cropped, the nap straightened and then dried. After drying, the nap should be softened up, and the fabric then sheared. In the latter process, instead of the ordinary raising brush, the same as was done with the chinchilla finish, a wire brush is substituted, which more thoroughly and evenly raises the nap for the action of the revolver. When the required closeness



of shearing has been attained, one or two runs are given to the fabric with laying brush off, after which the fabric is ready for inspecting, measuring and rolling.

**REVERSIBLE-BLANKET-CLOTH:** These are made on the regular double cloth principle, either with single or two ply twist yarn. As will be readily understood, they are made of a more solid construction than the previously explained types of Polo Cloth structures.

Figs. 17 to 24 show a collection of these weaves.

Weaves Figs. 17 and 18 have for their face and back structure the 4-harness even sided twill. The stitching of the two plies is done in weave Fig. 17 by the back warp interlacing (not visible) with the filling of the face ply, whereas in weave Fig. 18 the face warp is stitched (not visible) to the filling of the back ply. The repeat of either weave is 8 warp-threads and 8 picks.

Weaves Figs. 19 and 20 have for their face structure the 4-harness even sided twill, and for their back structure the plain weave. Fig. 19 is stitched back warp to face filling and Fig. 20 face warp to back filling. Repeat of both weaves 8 warp-threads and 8 picks.

Weaves Figs. 21 and 22 have for their face and back structure the 6-harness even sided twill. Fig.

21 is stitched back warp to face filling and Fig. 22 face warp to back filling. Repeat of both weaves 12 warp threads and 12 picks.

Weaves Figs. 23 and 24 have again for their face and back structure the 4-harness even sided twill, and correspond to weaves Figs. 17 and 18, the difference being that in the latter weaves we had used the stitching arranged after the plain weave principle, considering every other warp-thread and pick only, whereas in connection with weaves Figs. 23 and 24 we arranged the stitching by the 8-leaf satin principle, considering in this instance every warp thread and pick of the respective ply under consideration.

In some instances, we may come in contact with 2-ply structures where a special binder warp is used to combine the two plies. This extra binder warp is generally a fine count of 2-ply cotton yarn, used to prevent the fibres of one structure working through onto its mate face during weaving. This, as will be readily understood, refers more particularly to fancy-backs showing large, pronounced check patterns.

The same as the construction of these fabrics differs from that of Chinchilla and Plain-Face Polo Cloth, so differs the finishing process of these fabrics. A regular, clear face finish is, in most instances, desired for both sides of the fabric, showing the twill weave distinct on its face, and a clear pattern in connection with the plaid effect of the back structure.

#### GAUZE OR LENO WEAVING.

(Continued from December issue.)

We will next explain and illustrate the combination of both styles of crossing of the whip-threads used in the same fabric. Drawing-in draft Fig. 9 explains the subject, *i. e.*, the drawing-in of the warp in its set of ground-harness, and the arrangement of threading doup, *viz.*,

1st. pair, whip-thread threaded to the left-hand side of standard warp-thread, *i. e.*, using a left-hand doup.

2d. pair, whip-thread threaded to the right-hand side of standard warp-thread, *i. e.*, using a right-hand doup.



Fig. 9

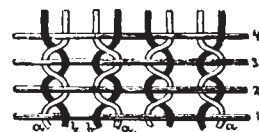


Fig. 10

Fig. 10 shows a sketch of the woven fabric.

Harness chain is similar to the one required and explained for fabric Fig. 4, and illustrated in Fig. 5.

Drawing-in drafts, Figs. 3, 6, and 9, are illustrated for 2 ground-harness and 1 doup. This has been done to simplify explanations given to illustrate the principle of gauze weaving. Guided by the texture of the fabric (number of warp-threads per inch), we may have to increase the number of ground-harnesses to

4, 6 or 8, also the set of doup-harnesses to 2. This feature, however, does not come into consideration when studying the principle of gauze weaving.

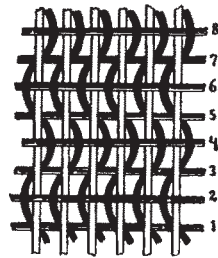


Fig. 11

**PECULIAR CHARACTER OF GAUZE FABRICS.**

Comparing a plain gauze fabric, as shown in Figs. 4, 7 or 10, to any other woven textile fabric in its line, results in not finding one as firm in its method of interlacing, nor as light in texture.

The principles of gauze-weaving, *i. e.*, the twisting of warp-threads, around each other and holding at the same time the filling securely fastened between, will necessarily result in producing a very strong fabric; again, the twisting of the warp-threads between each pick, in plain gauze, will not allow the picks to come close together, resulting in the production of a fabric presenting open meshes on its surface.

Fig. 11 illustrates the plan of a fabric which is actually a combination of plain and gauze weaving, and is technically known as *half-gauze*. Pulling out from such a fabric every uneven numbered pick (1, 3,



Fig. 12

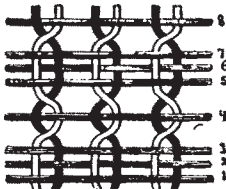


Fig. 13

5, 7) will result in transforming the half-gauze fabric to a regular plain gauze.

**Fancy Gauze.**

The same is a combination of regular and gauze weaving practiced in the same fabric structure.

Fig. 12 shows us the same drawing-in draft as was given in Fig. 3.

Fig. 13 illustrates a fancy gauze fabric produced by this draft, showing 3 picks interlacing on regular plain weaving to alternate with one pick gauze; hence 4 picks to the repeat of the pattern. The harness chain required is thus:

- 1st. pick, Skeleton and Ground 2.
- 2nd. pick, Ground 1.
- 3rd. pick, Same as first pick.
- 4th. pick, Standard and Skeleton.

Fig. 14 shows the same drawing-in draft as used in the preceding example; used in connection with fabric sketch. Fig. 15, another plan of a gauze fabric

combining the regular plain weave with gauze weaving. In this instance the whip-thread is made to interlace  $\overline{1}^{-1}$  alternately for 3 picks on one side of the standard and then for 3 picks on the other side. The harness chain required is thus:

- 1st. pick, Standard and Skeleton.
- 2nd. pick, Ground 1.
- 3rd. pick, Same as first pick.
- 4th. pick, Skeleton and Ground 2.
- 5th. pick, Ground 1.
- 6th. pick, Same as fourth pick.

Fig. 16 shows the drawing-in draft for fabric sketch Fig. 17, illustrating the plan for a gauze fabric similar to the one shown in Fig. 15, the only difference being the using, alternately, left and right-hand douds. Repeat: four warp-threads (two pairs) and 6 picks. We used four harnesses for ground set A, but if so

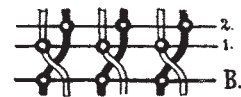


Fig. 14

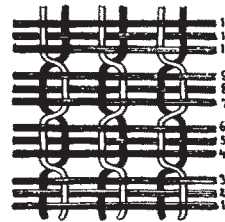


Fig. 15

desired, we may use the drafting and threading shown in Fig. 9, which only calls for two ground-harnesses in set A, producing with that draw and harness chain quoted last (with fabric 15) the same result.

Another plan for producing fancy gauze-effects is in arranging the whip-thread to cross over (face is down in the loom) two or three standard-threads; for example, as shown in drawing-in draft Fig. 18 and sketch of a fancy gauze fabric Fig. 19 produced by it.

In the latter we find the whip-thread, after interlacing in connection with three standard-threads into three successive picks, on regular plain weaving, to cross below the three standard-threads, forming at the

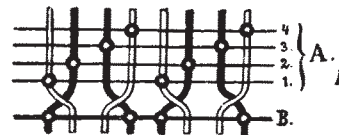


Fig. 16

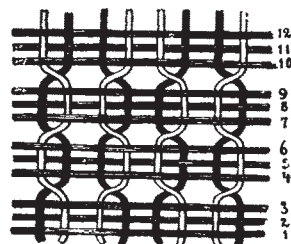
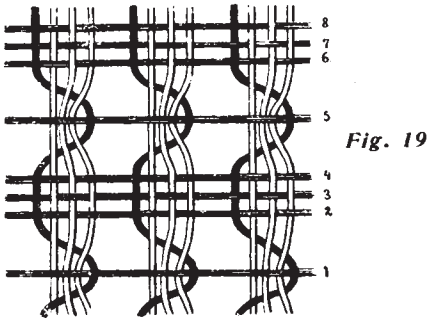
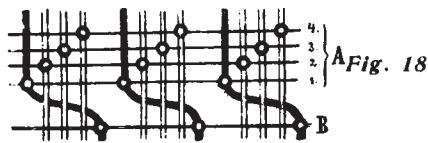


Fig. 17

fourth pick, gauze. Repeat: 4 warp-threads (1 whip, 3 standard) and 4 picks.

The method of drawing-in both systems of warp in the ground-harness set, and directions for thread-

ing whip-threads in the doups, is shown arranged for three repeats (correspondingly to fabric sketch) in diagram Fig. 18. The same reason which compelled us, in plain gauze, to draw each pair of threads (1 standard, 1 whip) in one dent, compels us in the



present example to thread each set of 1 whip-thread and 3 standard-threads in one dent, leaving as many dents empty between the threading of each set, as required by the size of perforations wanted in the fabric.

Harness chain for weaving fabric is thus:

- 1st. pick, Skeleton and Standard.
- 2nd. pick, Skeleton and Ground-harnesses 1 and 3.
- 3rd. pick, Ground-harnesses 2 and 4.
- 4th. pick, Same as second pick.

(To be continued.)

## RIBBONS, TRIMMINGS, EDGINGS, ETC.

(Continued from October issue.)

### Color Effects in Ribbons.

**WARP EFFECTS.** The plainest styles are such as used for the trimming of men's hats, being one shuttle cotton ribbons, woven on taffeta. The fancy effect is produced by dressing the warp in sections of differently colored yarns. Again in connection with figured ribbons we may use a figure warp composed of different colors throughout the repeat, again either system of the figure may be dressed a different color.

Printing the warp is also much used. In this instance, the dressed warps are printed with various patterns, *i. e.*, color effects. Using in connection with such warps a filling not too heavy in count, and interlaced with taffeta, brings out the printed pattern in a peculiar, less pronounced, manner. To increase the effect, weaves technically known as "figuring with the warp upon taffeta ground" are used for the interlacing of these printed warps. Fig. 181 shows us a collection of nine weaves of this character. In the same, white, or *empty* squares, stand for warp up, *i. e.*, shows the floating figure effect of the printed warp, previously referred to. Black, or *full* type, indicates the filling up.

**FILLING EFFECTS.** These are produced by using more than one shuttle, *i. e.*, using different colors in

the filling. Again we may use a printed filling, *i. e.*, have the skein or hank printed in stripes of different colors. Formerly from 2 to 4 colors were printed upon it, whereas now more divisions are made, *i. e.*, more colors printed upon it. Using a fancy color arrangement for warp and filling gives us an unlimited field for a diversity of color effects.

Woven ribbons, both in plain as well as fancy weave structures, are also printed in the finishing process; they are then either printed in solid colors or fancy effects in two or more colors; again watered effects may be desired. Trade marks or names of firms are also printed on ribbons, in imitation of the woven article. Cigar ribbons are always printed.

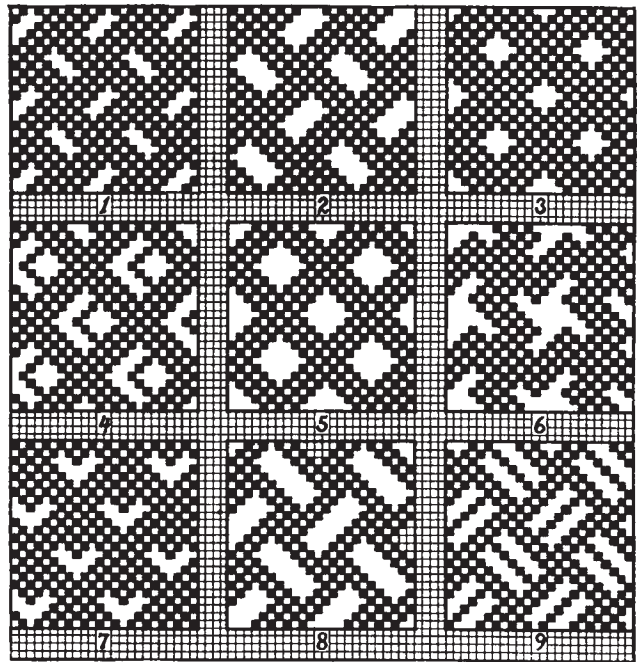


Fig. 181

In imitation of woven printed ribbons, for sake of cheapness, broad woven cloth, after printing, is cut up into the widths of ribbons. The absence of solid selvages will readily show them up, the outside warp threads will have no hold in the fabric, they will easily unravel.

(To be continued.)

### GLAUBER'S SALT VICE VERSA COMMON SALT.

In dyeing with the direct cotton dyes, sulphate and chloride of sodium have hitherto been regarded as equally satisfactory assistants; the sulphate is almost always preferred in dyeing half-wool by the one-bath process. A German authority argues that this is a mistake. Glauber's salt he claims is dissociated in the boiling bath, with the result that the latter contains quantities of caustic soda which cannot fail to have an injurious action on the wool. For this reason he claims that common salt which is not split up at a boiling temperature is greatly to be preferred. He further states that even with direct cotton colors on cotton alone (although the liberated alkali does not act on the fibre) Glauber's salt has a destructive action on many of these direct dyestuffs, for which reason he claims common salt is to be preferred.