Finishing Blouse Fabrics.

The dressing of cotton fabrics for blouse cloth depends on whether they are to imitate wool, linen, or silk.

If it is wool that is to be imitated, the cotton fabric should be finished so as to present a soft handle and a certain amount of lustre, and therefore it must not be heavily pressed.

If the cotton fabric is to look like linen, heavy pressure is essential.

As regards a silk finish, the best plan is to mercerize the cotton.

The best dressings for blouse materials are dextrine and Epsom salts, but as dextrine is rather expensive, it is replaced in many cases by farina, solubilized by treatment with oxalic acid, or with diastase, which is much the better method.

Cotton blouse stuffs intended to imitate wool in appearance can be divided into two classes, raised goods for winter wear, and smooth for summer wear. The napping machine used for the first sort has thirty-six rollers for the best qualities, fewer for others, but the number of rollers should not be less than twenty-four. After sizing, the goods must be raised again in the usual way to remedy the clinging of the nap caused by the starch. For raising on one side three or four runs through the gig suffice, but, of course, more are necessary if the goods have to be raised on both sides.

The composition of the dressing must be regulated by the nature of the fabric, the counts of the yarn, and its texture; the pressure of the rollers, and the temperature also require attention by the operator.

The following recipe will be found useful for blouse goods raised on one side only.

Water	25 gallons,
Concentrated decoction of	2½ lb. carageen moss,
Softening	¼ pint,
Epsom salt	15 lb.

The ingredients are boiled together.

For goods raised on both sides, the recipe recommended is:

Water	25 gallons,
Solubilized starch	10 lb.
Concentrated decoction	1 " carageen moss,
Softening	¼ pint,
Epsom salt	44 lb.

The ingredients are boiled together.

The reason why the carageen moss is cut down in the case of goods to be raised on both sides is that a large amount of it makes it impossible to get a proper nap in the after-raising, which, as before stated, is requisite in all cases after dressing.

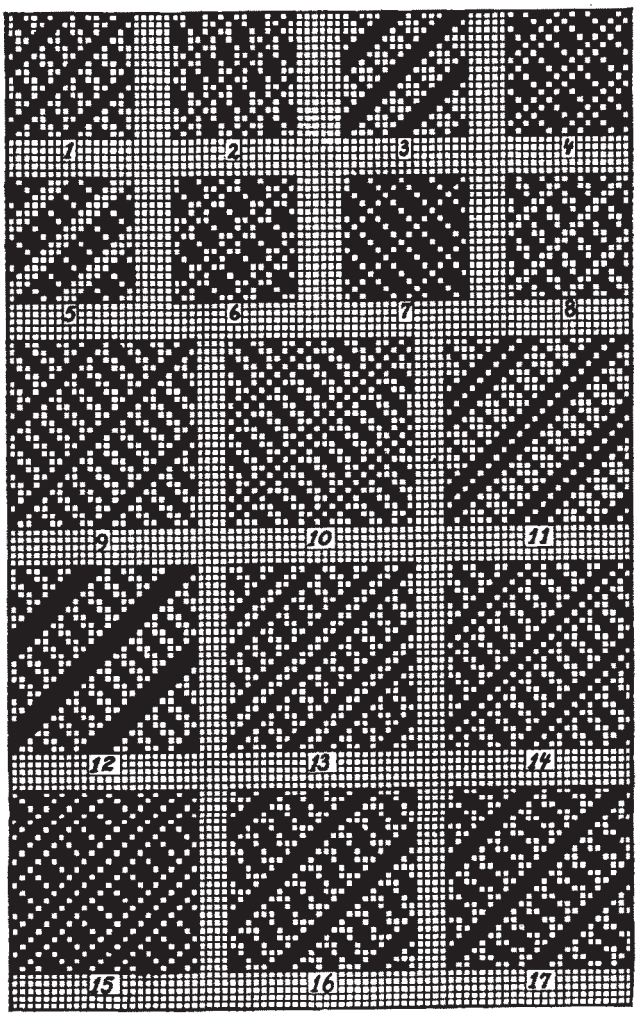
After finishing, whether raised on one or both sides, the gods are calendered cold before the after-raising. To increase the resemblance to wool, emery-rollers can be used on the face of the goods, provided we deal with goods raised on one side only. The goods are next decatized to get a good lay of the nap.

Unraised goods are dressed like those raised on both sides, except that the quantity of softening in the recipe must be doubled. The lustre given by the heavy calendering in a linen-finish is soon hidden by the dressing. Mangling will also give a linen finish in many cases. The use of borax and paraffin wax in the dressing is of advantage for a silk finish, but mercerization is the most important.

DOUBLE TWILL EFFECTS.

The same form one of the neatest class of twills, being extensively used in the manufacture of Cotton, Worsted and Silk Dressgoods; Worsted Suitings; Ribbons, as well as for the weave of the ground or figure effects in connection with Jacquard work, etc.

When planning on your point paper for a new weave of this class, after taking the desired repeat of the new, complete double twill into consideration, paint two repeats of your *foundation* or main twill, side by side, and duplicate both above the ones just painted, obtaining in this manner four complete repeats, joining each other, of this foundation twill, on your point paper.



Next insert pieces of twills or granite effects, running its twill in the opposite direction to that of the foundation twill, and which we will call contra twills or effects between said foundation twill lines previously constructed, being careful that the repeats of said pieces of twills or granite effects are multiples of the foundation twill, or repeat evenly.

Weaves Figs. 1 to 25 of the two accompanying plates of weaves are given to illustrate subject.

Double Twills Repeating on 8 by 8.

Fig. 1: Foundation twill $\frac{2}{6}$ 8-harness twill. Contra twill $\frac{2}{2}$ 4-harness twill. 4 being a multiple of 8 ($2 \times 4 = 8$) indicates that the compound weave in question will repeat on 8 warp thread and 8 picks.

Fig. 2: Foundation $\frac{1}{7}$ 8-harness twill, Contra $\frac{3}{1}$ 4-harness twill; 4 is a multiple of 8 hence compound weave must repeat.

Fig. 3: Foundation $\frac{3}{5}$ 8-harness twill, Contra $\frac{1}{3}$ 4-harness twill.

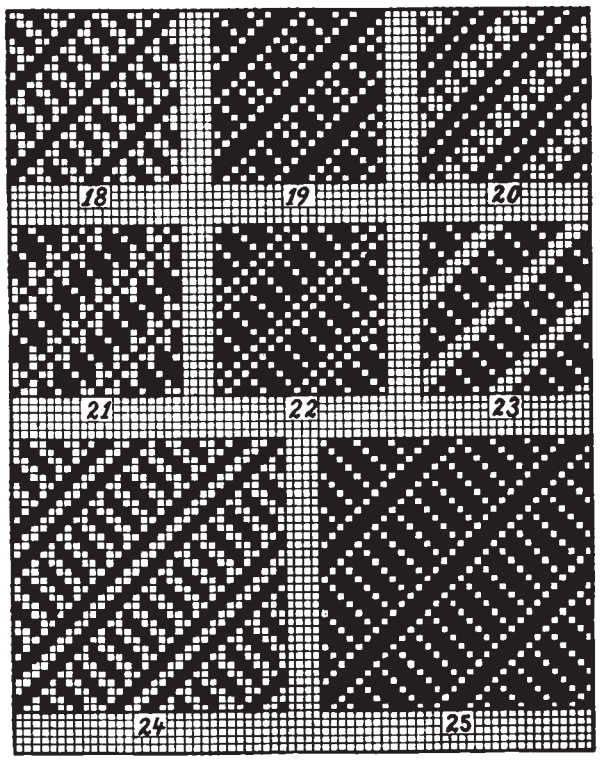
Fig. 4: Foundation $\frac{1}{7}$ 8-harness twill, Contra $\frac{3}{1}$ 4-harness twill.

Fig. 5: Foundation $\frac{5}{3}$ Contra warp effect of foundation interlaced with $\frac{3}{1}$ 4-harness twill.

Fig. 6: Foundation $\frac{1}{7}$ 8-harness twill, Contra $\frac{3}{1}$ granite effect.

Fig. 7: Foundation $\frac{7}{1}$ Contra warp effect of foundation interlaced with $\frac{3}{1}$ 4-harness twill.

Fig. 8: Foundation $\frac{6}{2}$ Contra warp effect of foundation interlaced with $\frac{3}{1}$ granite effect.



Double Twills Repeating on 12 by 12.

Fig. 9: Foundation $\frac{2}{10}$ 12-harness twill, Contra $\frac{2}{2}$ 4-harness twill. 4 being a multiple of 12 ($3 \times 4 = 12$) indicates that the compound weave in question will repeat on 12 warp threads and 12 picks.

Fig. 10: Foundation $\frac{1}{1}\frac{1}{9}$ 12-harness twill, Contra $\frac{2}{2}$ 4-harness twill.

Fig. 11: Foundation $\frac{2}{1}\frac{2}{7}$ 12-harness twill, Contra $\frac{1}{3}$ 4-harness twill.

Fig. 12: Foundation $\frac{4}{8}$ 12-harness twill, Contra $\frac{2}{2}$ 4-harness twill.

Fig. 13: Foundation $\frac{2}{2}\frac{2}{6}$ 12-harness twill, Contra $\frac{2}{2}$ 4-harness twill.

Fig. 14: Foundation $\frac{2}{1}\frac{1}{8}$ 12-harness twill, Contra $\frac{2}{2}$ 4-harness twill.

Fig. 15: Foundation $\frac{2}{1}\frac{2}{7}$ 12-harness twill, Contra $\frac{3}{1}$ 4-harness twill.

Fig. 16: Foundation $\frac{3}{9}$ 12-harness twill, Contra 4 thread granite effect.

Fig. 17: Foundation $\frac{3}{9}$ 12-harness twill, Contra 4 threads granite effect; the same granite effect as used in weave Fig. 16 but inverted-warp for filling and vice versa.

Double Twills Repeating on 10 by 10.

Fig. 18: Foundation $\frac{2}{8}$ 10-harness twill, Contra $\frac{2}{2}$ 4-harness twill.

Fig. 19: Foundation $\frac{3}{7}$ 10-harness twill, Contra $\frac{3}{1}\frac{3}{1}\frac{1}{1}$ 10-harness twill.

Fig. 20: Foundation $\frac{2}{1}\frac{2}{5}$ 10-harness twill, Contra $\frac{1}{3}$ 4-harness twill.

Fig. 21: Foundation $\frac{1}{9}$ 10-harness twill, Contra $\frac{3}{1}$ 4-harness twill.

Fig. 22: Same as Fig. 21 only that the Contra twill is completely filled in.

Fig. 23: Foundation $\frac{7}{3}$ 10-harness twill, Contra warp effect of foundation interlaced $\frac{3}{1}$ 4-harness twill.

Double Twills Repeating on 16 by 16.

Fig. 24: Foundation $\frac{2}{2}\frac{2}{10}$ 16-harness twill, Contra $\frac{2}{2}$ 4-harness twill.

Fig. 25: Foundation $\frac{3}{13}$ 16-harness twill, Contra $\frac{3}{1}$ 4-harness twill.

Explanations thus given in connection with the construction of these 25 specimens of Double Twill Effect Weaves will show the endless variety of these weaves at the command of the designer.

SOME RECENT IMPROVEMENTS IN THE FINISHING OF COTTON FABRICS.

The attempt to make the schreiner finish permanent without affecting its high lustre has everywhere attracted great attention and has been the object of much investigation. The numerous patents are a proof of this. Most of these aim at obtaining this result by chemical means:

(a) By Means of Coating.

Chischin (Aug., 1903) recommended a coating with a solution of cellulose nitrate in ether and alcohol; the *Bradford Dyers' Association* (Dec., 1903), with a solution of cellulose nitrate in amyl-acetate; *Krais* (1905) with a solution of cellulose nitrate in amyl-formiate; *Kramer* and *Elsberg* (1907) with a solution of cellulose nitrate in acetone; *Muller* (1909) with a solution of india-rubber in benzole; *Kramer* (1910) by impregnating with collodion; *Meyer* (1910) by rolling on a paste of collodion; *Brandenberger* (1911) by covering with fine films.

(b) By Means of Coagulating Stiffening Materials.

During (1907) used albumin and casein, cold schreinering, and subsequent steaming; the same (1908) hot schreinering of the cold dried impregnated pieces; *Eck* (1909) used glue or casein with addition of formaldehyde and subsequent passage through ammonia.

(c) By Means of Fats.

Hubner and *Riley* (1908) proposed coating with stearine and subsequent schreinering; *During* (1910) treatment with a smooth roller with an alcoholic solution of fat and soap and subsequent hot schreinering.

Here we may also mention the trials to produce a similar permanent lustre *By Chemical Means Without Schreinering.*

Goedtler (1898) by treatment with a solution of resin and fat in ether; *Lilienfeld* (1903) by coating with a solution of cellulose nitrate containing finely ground mica, and other variations of this process in the following years: *Bamberg* (1904) by printing of very small patterns (lines, points, etc.) with a waterproof paste to a high shiny gloss, and subsequent