

# BLEACHERS!

Send us samples for us to show you the Peroxide-bleach.

You will be surprised to see that we (and you) can duplicate your best white at same cost, - perhaps less, -

But-our white is fast (yours yellows up);

We do not tender the fibre;

We do not take away softness and elasticity;

We furnish the best bottom for dyes;

And-Peroxide bleaching is healthy.

We advise you free of charge.

THE ROESSLER & HASSLACHER CHEMICAL CO.

NEW YORK, N. Y.

shorter next year, this tendency will not disappear. The new samples in hosiery are all highly elegant and consequently expensive. Stockings covered with lace at from 200 to 1,550 fcs. per pair from Paris are by no means a rarity. Through the black silk background of some of these, Chantilly lace is worked, while the legs and insteps are made of Louis XVI. designs in the same fine lace. It is now the fad to wear different stockings with every toilet.

## MANUFACTURE OF NARROW WARES.

RIBBONS, TRIMMINGS, EDGINGS, ETC.

### Rib Weaves (Continued from page 36.)

STRENGTHENING THE STRUCTURE BY MEANS OF AN EXTRA WARP OR FILLING.

Provided the fabric has to present face and back to be the same, the interlacing of the warp-threads (while floating on the back) into the structure, in order to impart strength and body to the fabric, is not permissible. Resources then must be taken to an extra warp, interlacing the same with a closely intersecting weave; the plain weave is the one most generally used. This extra warp is then placed in combination with the regular rib weaving warp in a proportion to suit texture of the fabric, the more of these plain weaving warp-threads there are used, the stiffer the resulting fabric structure. The most often met with combinations are:

4 ends rib : 1 end plain.

6 ends rib : 1 end plain.

Weave Fig. 25 explains the subject, showing the "— $\frac{1}{8}$ " warp rib weave (see *full* type) strengthened with a plain weaving thread (see *cross* type) every

six warp-threads; repeat of weave 14 by 12. This plain weaving thread is not visible on the face nor the back of the fabric—it rests in the body of the structure.

If dealing with filling effect rib weaves, an extra pick (binder-pick) interlacing closely, like for example the plain weave, is then inserted after every four or six (or any other combination) rib picks.

Weave Fig. 26 illustrates the subject showing six picks rib weave (see *full* type) to alternate with one pick plain weave (see *cross* type): repeat of weave 12 by 14. The same as in the previously given example in connection with a binder warp, the binder pick in the present example is neither seen on the face or the back of the fabric.

Strengthening the fabric structure by means of a binder warp is the plan most often met with. Two warp-beams are then required in the loom, on account of the difference in the take-up of both warps, *viz.*: one beam for carrying the rib warp and a second beam for the binder warp; the latter will take up more at the weaving compared to the rib warp.

### Basket Weaves.

The same are, from a theoretical point of weave formation, the combination of mate, warp and filling effect, rib weaves. The same as with filling rib weaves, two or more warp-threads are drawn on one harness, previous to drafting onto the next harness; in the same way two or more picks are inserted in one shed previously to changing on the other shed.

Two examples are given, *viz.*:

Fig. 27 the  $\frac{2}{2} \frac{4}{2}$  4 by 4 plain basket weave, and

Fig. 28 the  $\frac{2}{2} \frac{4}{2} \frac{2}{2} \frac{2}{2}$  14 by 14 basket weave.

### Subdivisions of Twills.

New weaves are obtained from our foundation twills by distributing warp or filling threads after a given arrangement. Results obtained can be again distributed by the same, or another arrangement, in this way resulting in an endless variety of new weaves.

For the ribbon industry the following subdivisions of twills come under consideration:

#### (A) BROKEN TWILLS.

*Rule:* Run a given number of warp-threads of your foundation twill in one direction, arrange a *break*; reverse drafting for a certain number of warp-threads and arrange again a *break*. Continue this procedure for the required number of drafts in both directions until the repeat for the new weave is obtained.

By the *break* of the weave, previously referred to, we mean "skip half the number of harness of your foundation twill, minus one".

Fig. 29 shows us two repeats each way of the 4-harness broken twill, filling effect, having for its foundation the  $\frac{1}{2} \frac{1}{2}$  4-harness twill, the latter being drawn for two threads from left to right, break, two threads drawn reverse, break, and repeat.

$4 \div 2 = 2 - 1 = 1 =$  skip *one* harness for your break, *i. e.*, draft your broken twill from your foundation twill thus: 1, 2, 4, 3. Repeat 4 by 4.

Fig. 30 is what we consider a fancy broken twill, having for its foundation the  $\frac{2}{2} \frac{1}{2} \frac{1}{2}$  10-harness twill, given in Fig. a, produced by what we must consider an imperfect break. The drafting done is: take three warp-threads and break, and continue this until repeat is obtained.

The break used in this instance is not a perfect break as could have been done by skipping ( $10 \div 2 = 5 - 1 =$ ) 4 warp-threads when drafting

the broken twill from the foundation twill, or skipping 4-harness whenever reversing drawing-in after drawing three warp-threads in one or the other direction.

Using foundation twill *a* for the harness chain, will give us drawing-in draft for weave Fig. 30 thus: 1, 2, 3—6, 5, 4—7, 8, 9—2, 1, 10—3, 4, 5—8, 7, 6—9, 10, 1—4, 3, 2—5, 6, 7—10, 9, 8. Repeat of weave: 30 by 10.

(B) POINTED TWILLS.

This subdivision of twill weaves differs from those previously referred to, in that the drafting of the foundation twill in either direction is done without missing any warp-threads in drafting the weave (or skipping harnesses in drawing-in the warp-threads) when reversing the twill in either direction. This gives us one thread or harness to be known as the point thread or point harness, which can be claimed by either direction of twill, hence must be deducted when considering repeat of weave. The next two examples will explain subject.

Fig. 31 has for its foundation the 4-harness uneven sided twill, warp effect, drafted for 4 warp-threads (alternately) in either direction.

4 + 4 = 8 — 2 (points) = 6 warp-threads and 4 picks, repeat of weave.

Fig. 32 has for its foundation the  $\frac{3}{1}\frac{1}{1}$  6-harness twill, drafted respectively for 6, 4, 4 and 6 ends = 20 ends — 4 (points) = 16 warp-threads and 6 picks, repeat of weave.

(C) COMBINATION BROKEN TWILLS.

The same refers to combining the two mate (warp and filling) effect twills. Since this refers to two different weaves, or to two impure even sided weaves as we might say, no reduction in harnesses takes place, each foundation twill requiring its own set of harnesses.

Weave Fig. 33 explains subject.

Foundation weaves:  $\frac{3}{1}\frac{1}{3}$  and  $\frac{1}{3}\frac{3}{1}$  8-harness twills.

Draft each weave for 6 warp-threads, one twill in one direction, the other the reverse, having a clear break between these twills. Repeat of weave 12 by 6.

(D) SKIP TWILLS.

The same have for their foundation pure even sided twill, like the  $\frac{2}{2}$  or  $\frac{3}{3}$  or  $\frac{1}{2}\frac{1}{1}\frac{2}{1}$ , etc., twills.

Rule: Run foundation twill for a given number of warp-threads and arrange break; continue this until repeat of new weave is obtained. Break means the same as explained in connection with broken twills, viz: skip one half the number of warp-threads or harnesses of the foundation twill, less 1.

Fig. 34 shows us a skip twill having for its foundation the 6-harness even sided twill, drafted in sections of 6, 4 and 2 warp-threads respectively. Repeat of weave 12 by 6; can be drawn on 6-harness if so desired.

(E) GRANITE WEAVES OBTAINED BY SATIN-DRAFTS FROM TWILLS.

In their construction, twills are distributed after a satin motive. Another way to obtain the same result is to plan the satin weave (filling-effect) first, and add to each spot the interlacing of one repeat of the foundation twill. Weaves Figs. 35 and 36 will explain subject.

Fig. 35, cross type shows the 8-harness satin, filling effect. To each of these spots we added on top of it 2 risers, 1 sinker, 1 riser, 3 sinkers, obtaining in this

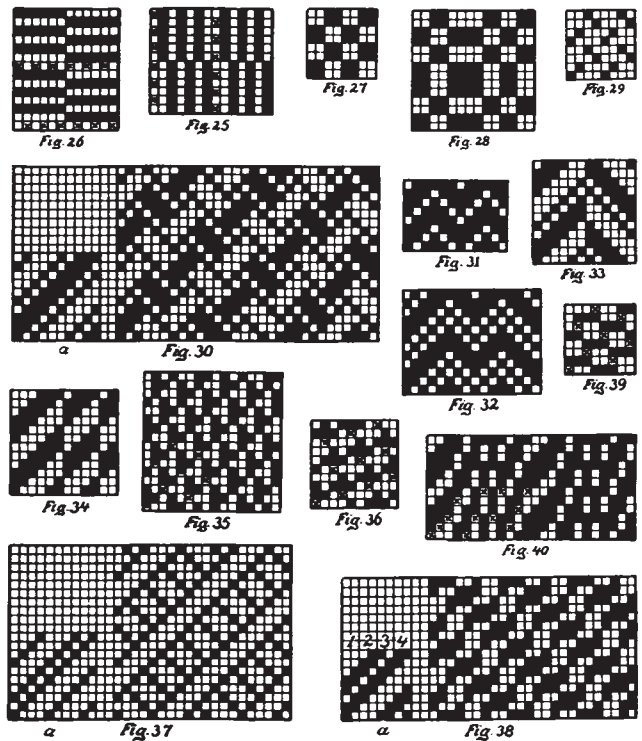
way one of our most frequently met with granite weaves.

Another way of obtaining this same granite weave is to use the  $\frac{3}{1}\frac{1}{3}$  8-harness twill for harness chain in connection with an 8-harness satin for drawing-in draft, hence the name satin-draft twills. Repeat of weave: 8 by 8.

Fig. 36 cross type shows 10-harness satin, filling effect. To each of these spots we added on top of it 2 risers, 1 sinker, 1 riser, 3 sinkers, 1 riser, 1 sinker, obtaining another good granite weave. Its foundation twill to be used with its proper satin draft is the  $\frac{3}{1}\frac{1}{3}\frac{1}{1}$  10-harness twill. Repeat of weave: 10 by 10.

(F) FANCY TWILLS OBTAINED FROM REGULAR TWILLS BY SATIN DRAWS.

Weave Fig. 37 explains subject, the same having for its foundation the  $\frac{1}{1}\frac{1}{3}\frac{1}{3}$  10-harness twill (shown at *a*) drafted after the 10-harness satin-draw thus: 1, 8, 3, 10, 5, 2, 7, 4, 9, 6. Repeat of weave: 10 by 10.



(G) FANCY TWILLS OBTAINED BY SECTION DRAWING.

Weave Fig. 38 explains subject. *a* is the foundation twill, the  $\frac{2}{1}\frac{2}{3}$  8-harness twill. The same is divided in 4 sets of 2 threads each, viz:

- Set 1: warp-threads 1 and 2
- “ 2: “ “ 3 “ 4
- “ 3: “ “ 5 “ 6
- “ 4: “ “ 7 “ 8

as indicated by numerals of references on top of foundation twill.

Starting drafting with set 4 first, set 3 next, set 2 next, and closing with set 1 gives us weave Fig. 38, repeating on 8 by 8, a most often met with weave in practical work.

(H) OBTAINING GRANITE-WEAVES FROM FANCY TWILLS.

Dividing one repeat of weave Fig. 38 filling ways in four sets of two picks each (starting from the bottom of weave Fig. 38) will give us:

(Continued on page x.)