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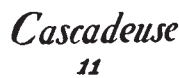
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FANCY TWILLS.

Twills Showing Basket and Granite Effects.

The same form a most interesting system of fancy weaves, extensively used in connection with Cotton, Worsted, and Silk Fabrics.

RULE: Paint on your point paper two repeats of your foundation twill, selecting a twill weave in which filling-up predominates, after which insert in the space between the warp-up in the foundation twills, basket or granite effects. You may use either warp or filling effect for the basket or the granite, depending upon the design desired. The accompanying two plates of weaves will explain the construction of these fancy twills.

Weave Fig. 1 has for its foundation twill the $\frac{2}{3}-\frac{1}{5}$ 8-harness twill. This leaves us 5 warp-threads and 5 picks empty on the point paper between two foundation twills, and in which space we inserted the 2 by 2 basket. The latter being a multiple of 8, gives us 8 by 8 for the repeat of the fancy twill.

Weave Fig. 2 has for its foundation the $\frac{1}{1}-\frac{1}{5}$ 8-harness twill, using for the 5 warp-threads and 5 picks, empty on the point paper, the same basket effect as used in connection with weave Fig. 1, resulting in a repeat of 8 by 8 for the fancy twill.

Weave Fig. 3 has for its foundation the $\frac{1}{1}-7$ 8-harness twill, using for the space of 7 warp-threads and 7 picks empty on the point paper, the 2 by 2 basket, filling effect; repeat of complete weave 8 by 8.

Weave Fig. 4 has for its foundation the $\frac{1}{1}-2-\frac{1}{4}$ 8-harness regular twill, the space of 4 warp-threads and 4 picks empty on the point paper between two foundation twills, the same being in turn filled up with pieces of 2 up twill, broken up after the plain weave setting, *i. e.*, forming a small filling spot showing after that setting, upon a warp effect twill; repeat of weave 8 by 8.

Weave Fig. 5 has for its foundation the $\frac{1}{1}-7$ 8-harness twill, the filling effect space of the weave on the point paper being filled up with a neat granite effect, showing the complete weave of 8 by 8 to produce a kind of a double twill effect.

Weave Fig. 6 has for its foundation again the $\frac{1}{1}-7$ 8-harness twill, the filling-up effect on the point paper being interlaced with a neat granite; repeat of weave 8 by 8.

Weave Fig. 7 has for its foundation the $\frac{2}{2}-6$

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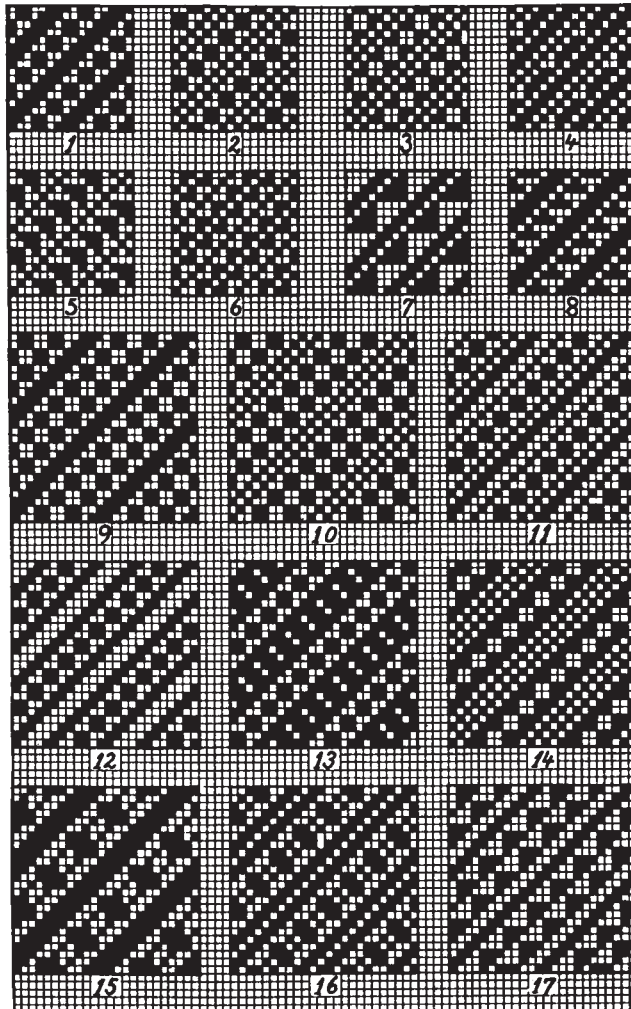
8-harness twill, the filling effect space on the point paper of the 6 warp-threads and 6 picks, being interlaced by means of a balanced warp and filling granite; repeat of weave 8 warp-threads and 8 picks.

Weave Fig. 8 has for its foundation the $\frac{3}{8}$ 8-harness twill, the distance of 5 ends between the foundation twills being interlaced with a neat granite, having warp and filling effect balanced; repeat of weave 8 by 8.

Weave Fig. 9 has for its foundation the $\frac{3}{12}$ 12-harness regular twill, the space of 9 ends between the two foundation twill lines being interlaced with 4-harness basket effect; repeat of weave 12 by 12.

Weave Fig. 10 has for its foundation the $\frac{1}{12}$ 12-harness twill, the space of 9 ends between the two foundation twill lines being filled up with 4-harness basket; repeat of weave 12 by 12.

Weave Fig. 11 has for its foundation the $\frac{1}{2}$ 12-harness twill, having a two basket filling effect inserted where the 5 warp-threads and 5 picks show empty squares on the point paper; repeat of weave 12 by 12.



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Weave Fig. 12 has for its foundation the $\frac{2}{12}$ 12-harness twill, the space of 5 warp-threads and 5 picks shown by empty squares on the point paper, being interlaced with 2 by 2 basket; repeat of weave 12 by 12.

Weave Fig. 13 shows us the combination of a fancy twill for foundation in connection with a 2 by 2 basket, used where 5 warp-threads and 5 picks show empty on the point paper in the foundation weave; repeat of weave 12 by 12.

Weave Fig. 14 shows us the $\frac{1}{12}$ 12-harness twill for foundation, showing a filling effect basket introduced between the two foundation twills; repeat of weave 12 by 12.

Weave Fig. 15 has for its foundation the $\frac{4}{12}$ 12-harness twill. The 8 warp-threads and 8 picks showing empty squares between two foundation twills on the point paper, being interlaced with a granite weave; repeat of weave 12 warp-threads and 12 picks.

Weave Fig. 16 has for its foundation $\frac{2}{12}$ 12-harness twill, using a granite effect for interlacing the 7 empty spaces between two repeats of the foundation twill lines; repeat of weave 12 by 12.

Weave Fig. 17 has for its foundation the $\frac{2}{12}$ 12-harness twill, the difference between the two foundation twills being interlaced on the point paper with a balanced granite effect.

Weave Fig. 18 has for its foundation the $\frac{2}{10}$ 10-harness twill, the space of 5 between the two foundation twills being interlaced on the point paper with 2 by 2 basket, warp-effect.

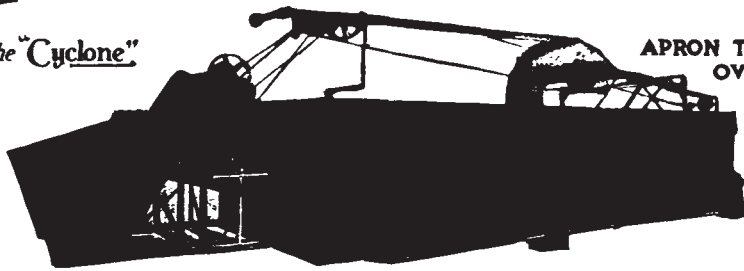
Weave Fig. 19 has for its foundation the $\frac{5}{10}$ 10-harness twill, using a 2 by 2 basket, between two foundation twills.

Weave Fig. 20 has for its foundation the $\frac{1}{10}$ 10-harness twill, using a double twill line of 4-harness

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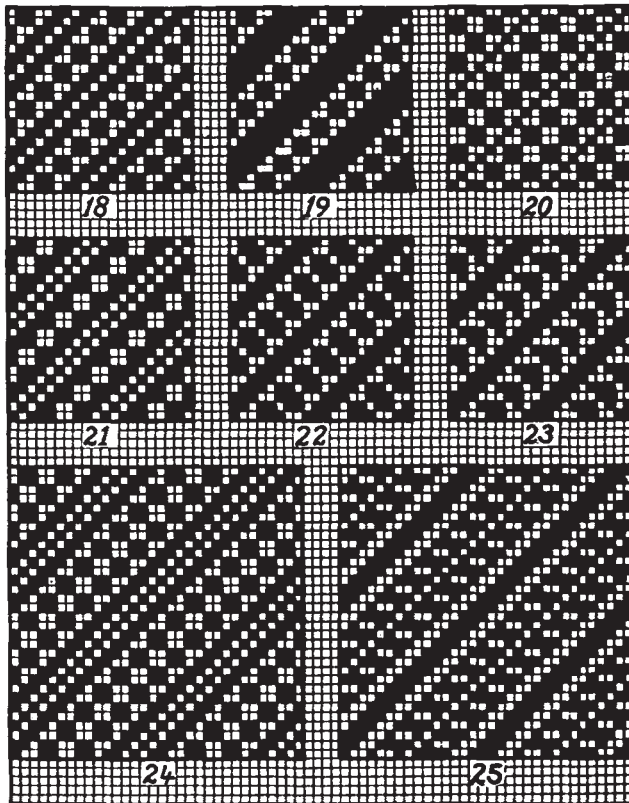
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basket between two foundation twills.

Weave Fig. 21 has for its foundation the $\frac{1}{10}$ 10-harness twill, the 9 down between two foundation twill lines being filled up with a twill line of 2 by 2 basket, filling effect.



Weave Fig. 22 has for its foundation the $\frac{3}{7}$ 10-harness twill; 7 empty squares between two foundation twills on the point paper are interlaced by a granite weave.

Weave Fig. 23 has the same foundation weave as the previously referred to weave, the distance of 7 warp-threads and 7 picks, on the point paper between two repeats of the foundation twill, being filled up

with a granite weave.

Weave Fig. 24 has for its foundation the $\frac{2}{11}$ 16-harness twill, the distance of 9 between two foundation twill lines being filled up on the point paper with 4-harness basket weave.

Weave Fig. 25 has for its foundation the $\frac{3}{13}$ 16-harness twill a neat granite twill being run between the two foundation twills, leaving a 2-up filling effect twill on both sides of the foundation warp effect twill; repeat of weave 16 warp-threads and 16 picks.

THE MATERIALS USED IN SIZING.

The Starches and other Agglutinants.

(Continued from May Issue.)

Dextrin, or British Gum.

Dextrin is obtained from starch in the dry form by roasting it to 250 deg. C., or by moistening the starch with dilute nitric acid, drying and heating to 150 deg. C.

In solution it is obtained by acting on a starch paste with diastase, or by boiling with a mineral acid until the product no longer gives a blue color with iodine.

Dextrin is sold as a powder having a characteristic odor, and varying in color from white to brown, according to the amount of roasting to which it has been subjected. No hard and fast line can be drawn between dextrin and soluble starch. A highly-converted brown dextrin will contain about 83 per cent of actual dextrin and 4 per cent of glucose.

White dextrines closely resemble soluble starches, and have been so little acted upon in the process of manufacture that the starch granules are readily recognizable under the microscope.

CHEMICAL EXAMINATION OF DEXTRINES.

The *moisture* and *ash* are determined in the usual way. *Dextrin* and *sugar* are determined by shaking up a known weight of the sample with a definite volume of cold water, and allowing the mixture to settle. The dextrin and sugar go into solution, while starch and soluble starch remain undissolved.