

Considering weave Fig. 3 for practical work on the loom, the same calls for

$$54 \div 3 = 18 \text{ figure threads and}$$

$$18 \times 2 = 36 \text{ plain weaving threads.}$$

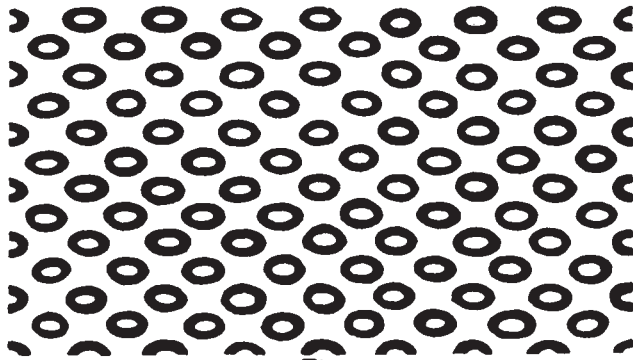


Fig. 4

There are 10 different changes of the interlacing in the figure threads, calling for 10-harness point draw, thus: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 9, 8, 7, 6, 5, 4, 3, and 2.

Adding this to 2, 4, or more harnesses, required for interlacing the plain weaving warp-threads, we thus find 12 or 14 or more harnesses required for drawing the warp-threads in their set of harness.

**GAUZE OR LENO WEAVING.**

(Continued from page 36.)

Fig. 27 illustrates the plan of another fancy gauze fabric, and Fig. 28 its corresponding drawing-in of warp in ground-harness and the threading of the whip-threads in two doups (1' and 2').

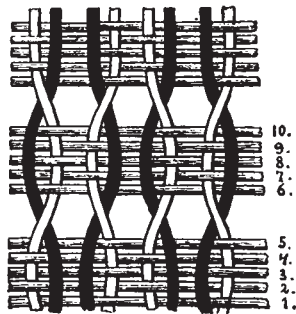


Fig. 27

Fig. 29 shows the harness-chain required for weaving fabric shown in Fig. 27.

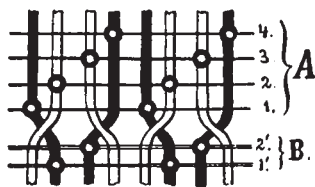


Fig. 28

Besides using 2 doups, more can be used, remembering that more doups we use, the more complicated we make the work for the weaver.

A further step in producing fancy gauze fabrics is the combining of gauze and regular weaving in the form of stripes. By this we mean that after using a

St.	1st Doup	2nd Doup	Plain	Gauze A.	Gauze B.	Gauze C.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Fig. 29

certain number of warp-threads, drawn in its own set of harness, for interlacing with the filling either on plain, twill or satin, or any combination of weaves, use similar gauze effects as previously illustrated and

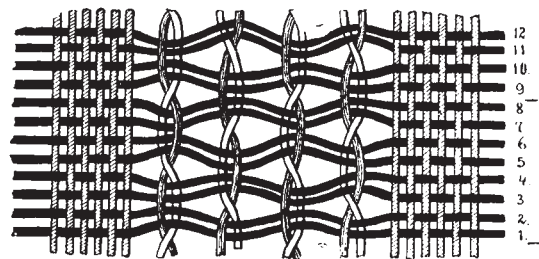


Fig. 30

explained, either with one, two or more left or right-hand doups, or all the effects combined.

Fig. 31 illustrates such a stripe effect in a fabric.

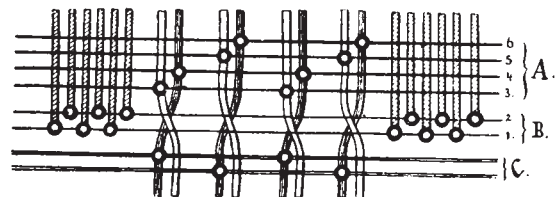


Fig. 31

Fig. 31 shows the corresponding drawing-in draft and threading of the doups. Warp-threads shown in outlines are the standard-threads, and warp-threads

St.	1st Doup	2nd Doup	Plain	Gauze A.	Gauze B.	Gauze C.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Fig. 32

shown shaded (in a vertical direction) are the whip-threads; warp-threads shown cross-hatched are the threads to interlace regularly (plain weave in present example).

The drawing-in draft shows three different sets of harness used, *viz.*:

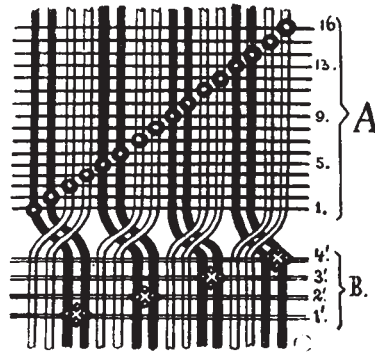


Fig. 33

A the ground-harness set for weaving gauze;  
B the harness for regular weaving, and  
C the two douping sets.

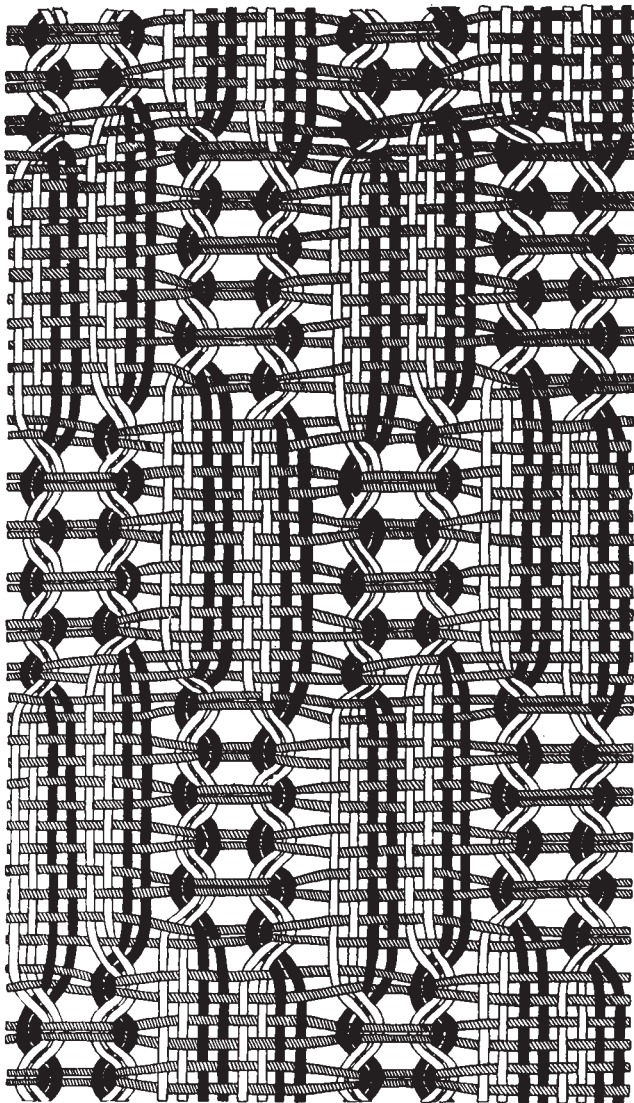


Fig. 34

Fig. 32 represents the harness-chain necessary for weaving fabric illustrated in Fig. 30.

Fancy gauze can also be produced by using two whip-threads against two ground-threads, thus using four ground-harnesses to one doup.

In such an example all four threads must be drawn in one dent.

Diagram Fig. 33 illustrates a drawing-in draft arranged in this manner, and Fig. 34 shows a portion of a fabric produced in this manner.

The interlacing of the plain for the regularly woven part of the fabric, can in this example be extended to any figured weave up to 16-harness repeat.

Four sets of doups are used, permitting each doup in the repeat of the arrangement to twist at any pick.

By drawing two, three or more repeats of each doup, previous to using the next, and arranging the exchange from regular to gauze weaving after a motive having four changes, novel effects for fancy gauze fabrics may readily be obtained (with a correspondingly large figure).

(To be continued)

## FABRIC ANALYSIS

### ASCERTAINING RAW MATERIALS USED IN THE CONSTRUCTION OF FABRICS.

(Continued from page 35.)

ARTIFICIAL WOOLS, according to their source, are divided into four classes, *viz.*: Shoddy, Mungo, Extract and Flocks. Of these

*Shoddy* is the best, being the wool fibre recovered from worn, but all wool materials (known as "softs") which had never been fulled, or if so, only slightly. They vary in length from  $\frac{2}{3}$  to  $1\frac{1}{2}$  inches. Shoddy fibres are sometimes found to be spoiled by scales being worn off, or the ends of the fibres broken.



Fig. 34

In most instances, dyed shoddy can be detected from similarly dyed new wool, in the yarn or fabric, for the reason that the color of the former will betray the inferior article compared to new wool, since the rags or waste, previous to the re-dyeing, except when coming from white softs, had been dyed different colors and which will consequently influence the final shade of color obtained from re-dyeing. Fig. 34 shows Shoddy from a coarse grade of wool, Fig. 35 that from merino origin.