

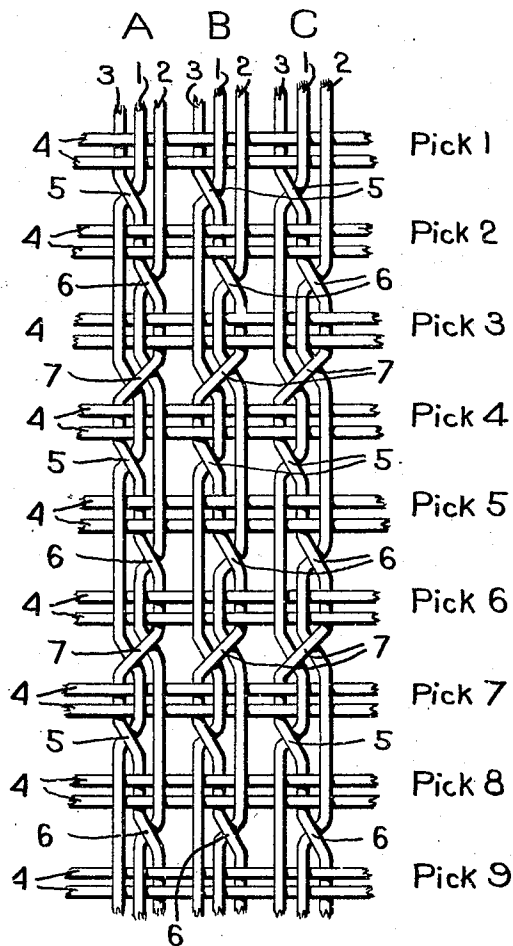
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TEXTILE FABRIC STRUCTURE

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TEXTILE-FABRIC STRUCTURE

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This invention relates to textile fabrics and particularly to a fabric of the so-called "leno type," which is a fabric in which the warp threads are interlaced with each other.

5 In my improved fabric the warp threads are arranged in groups of three, two warp threads of each group being standard or ground warp threads and the other being a

10 In the weaving of the fabric the doubling warp thread of each group is interlaced with both of the ground warp threads of said group, the interlacing being with both ground warp threads simultaneously after every
15 third pick and with each warp thread alternately after the other picks. This produces a so-called "leno" fabric which is capable of being put to a wide variety of uses dependent upon the character and size of the warp
20 threads.

The drawing shows more or less diagrammatically and on a greatly enlarged scale a fabric embodying my invention.

25 In the drawing the warp threads are indicated at 1, 2 and 3. These threads are arranged in groups of three, the different groups being indicated at A, B, C, etc. Each group of three warp threads comprises two ground warp threads 1 and 2 and a doubling
30 warp thread 3. The weft or filling thread is indicated at 4 and in the particular fabric shown these filling threads are double threads, there being two filling threads for each pick. This, however, is not essential to the invention
35 as it is equally applicable to a fabric in which there is a single filling thread for each pick. The question as to whether there will be one or two filling threads for each pick depends upon the character of fabric desired.

40 The ground warp threads 1 and 2 pass over all the filling threads while the doubling warp thread 3 passes under all the filling threads as usual in leno fabrics. In my improved
45 fabric, however, the doubling warp thread 3 passes over and is interlaced with first one and then the other of the two ground warp threads 1 and 2 after each of two successive picks, and after the third pick it crosses over
50 and is interlaced with both of the ground

warp threads and is thus returned to its normal position.

For the sake of more clearly describing the invention the different picks are indicated on the drawings as "pick 1," "pick 2," "pick 3,"
55 "pick 4," "pick 5," "pick 6," etc., said picks being shown as regularly spaced. After pick 1, or between pick 1 and pick 2, the doubling warp thread 3 crosses over the ground warp
60 1 as shown at 5. After this crossing the doubling warp thread 3 passes under the filling threads of pick 2 while the ground warp threads pass over said filling. Between pick 2 and pick 3 or after pick 2 the doubling warp
65 thread 3 passes over and is interlaced with the other ground warp thread 2 as shown at 6 and the doubling warp thread then passes under the filling threads of pick 3 while both ground warps pass over said filling thread.

Between pick 3 and pick 4 the doubling
70 warp thread crosses over and is interlaced with both of the ground warp threads 1 and 2 as shown at 7 and the doubling warp thread then passes under the filling threads of pick 4 while both ground warp threads pass over
75 said filling threads. Between pick 4 and pick 5 the doubling warp thread passes again over and is interlaced with the ground warp thread 1 as shown at 5 while between picks 5 and 6 said doubling warp thread passes over
80 and is interlaced with the ground warp thread 2 as shown at 6 and between picks 6 and 7, said doubling warp thread passes over and is interlaced with both ground warp threads again as shown at 7, this procedure being
85 repeated throughout the fabric.

The doubling warp thread, therefore, passes over and is interlaced with both ground warp threads after every third pick and passes over and is interlaced with each of the other
90 ground warps in turn after the other picks. With this interweaving of the threads each ground warp thread will float over two of each three successive picks, the ground warp
95 1 floating over pick 2 and pick 3 and over pick 5 and pick 6 while the ground warp thread 2 floats over picks 1 and 2 and picks 4 and 5. Each ground warp, therefore, is interlaced twice with the doubling warp for each three
100 picks and the interlacing of each doup thread

with the two ground warp threads of the group has a staggered relation so that the two ground warp threads of any group float over different pairs of adjacent picks.

I claim:

5 1. A woven fabric having warp and filling threads in which the filling threads are arranged in uniformly spaced picks and the warp threads are divided into groups of three,
10 each group comprising two ground warp threads and a doubling warp thread, the doubling warp thread of each group being interlaced with both the ground warp threads after every third pick and with one ground
15 warp thread only after each of the other picks.

2. A woven fabric having warp and filling threads in which the warp threads are divided into groups of three, each group comprising
20 two ground warp threads and a doubling warp thread, the doubling warp thread of each group being interlaced twice with each ground warp thread for each three consecutive picks, the ground warp threads passing
25 over all the picks and the doubling warp thread passing under all the picks.

3. A woven fabric having warp threads and filling threads in which the warp threads are divided into groups of three, each group
30 comprising two ground warp threads and a doubling warp thread, the doubling warp thread of each group being interlaced with both the ground warp threads after every third pick and with first one and then the
35 other of the ground warp threads after the other picks.

4. A woven fabric comprising warp threads and filling threads in which the warp threads are divided into groups of three, each group
40 comprising two ground warp threads and a doubling warp thread, each ground warp thread floating over two of each group of three consecutive picks and being interlaced with the doubling warp thread each side of
45 the third pick of the group.

5. A woven fabric comprising warp threads and filling threads arranged in uniformly spaced picks, the warp threads being divided into groups of three, each group comprising
50 two ground warp threads and a doubling warp thread, the ground warp threads passing over all of the picks and the doubling warp threads passing under all the picks, the doubling warp thread of each group being interlaced
55 with both the ground warp threads after every third pick and with one ground warp thread only after each of the other picks.

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