

Oct. 1, 1935.

P. SCHÖNFELD

2,015,818

MANUFACTURE OF RIBBED WARP FABRIC

Filed Dec. 22, 1933

Fig. 1.

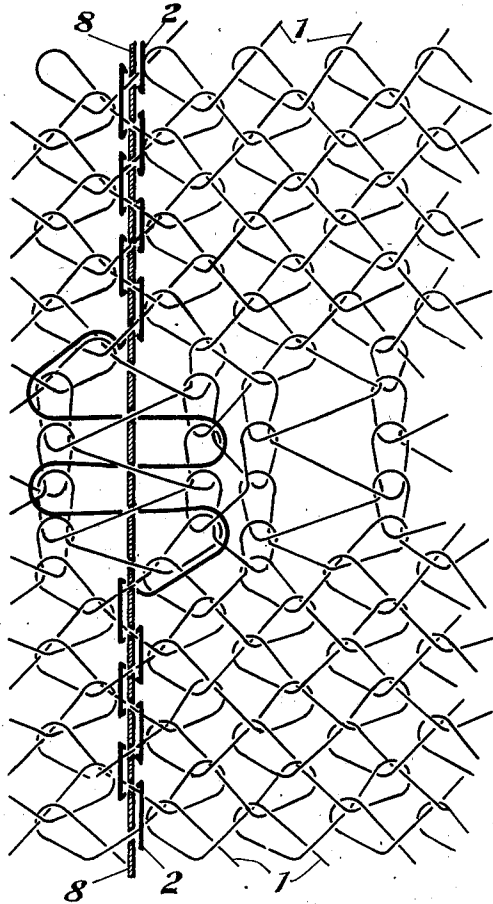
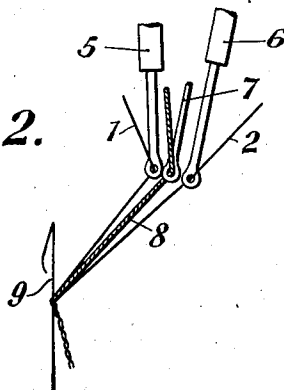


Fig. 2.



INVENTOR
Paul Schönfeld
BY *Samuel Taylor*
ATTORNEY

UNITED STATES PATENT OFFICE

2,015,818

MANUFACTURE OF RIBBED WARP FABRIC

Paul Schönfeld, Chemnitz, Germany

Application December 22, 1933, Serial No. 703,649

In Germany February 4, 1933

1 Claim. (Cl. 66—84)

This invention relates to a method of producing a ribbed warp fabric on a warp loom having only one row of needles and constitutes an improvement of the method disclosed in my co-pending application Ser. No. 612,790 filed May 21, 1932.

In my co-pending application a method is described of producing on a warp loom having only one row of needles a transversely ribbed fabric which, in the direction of its wales, possesses a degree of elasticity otherwise found only in ribbed goods made on looms having two rows of needles in the direction of their courses.

The object of the present invention is to supply the barbed needles between the group of threads of the upper lapping machine producing the ground fabric and the group of threads of the lower lapping machine carrying out underlaying operations for the purpose of forming ribs, without lateral racking, at one or several points with a rubber warp thread.

The warp fabric produced according to my co-pending application mentioned above is thus provided in its longitudinal direction with rubber warp threads which cross the ribs, since the latter extend transversely to the fabric. As the warp fabric made according to the co-pending application possesses elasticity in longitudinal direction, it will be found that the rubber warp threads enhance the stretching capacity of the ribs, the rubber warp threads extending between the ground fabric threads interconnecting the meshes and the threads embracing these connecting threads and being underlaid to form ribs. The result is that the rubber warp threads, as the points where the threads of the lower lapping machine during their underlaying operations are racked in the same direction as the threads of the upper lapping machine, are tied to each connecting thread of the meshes of the ground fabric in such a reliable manner that return motion of the rubber warp threads is out of the question.

It has been proposed already to work rubber warp threads into warp fabric in such a way that they extend on the mesh heads and are covered by the bend of the mesh so as to be held in position. This manner of securing the rubber warp threads is, however, imperfect, as they are not tied, which alone will afford absolute protection against return motion. It has further been proposed to cover the rubber warp threads by the knees or

bends of the meshes of two ground fabric warp threads laid in opposite directions. This method provides of course good fastening of the rubber warp threads, but it can be applied only if the ground fabric consists of two groups of warp threads lapped in opposite directions. According to the invention, the ground fabric consists of one group of threads and the tying of the rubber warp threads is taken care of by the threads of the lower lapping machine, which also cause the formation of the ribs.

By way of example, one form of the invention is illustrated in the accompanying drawing, in which Figure 1 is a diagram of loop formation showing only, for clearness' sake, one thread of the lower group of threads; and Fig. 2 indicates the parts for forming the fabric according to the invention.

Referring to the drawing, the upper lapping machine 5 produces with its threads 1 the ground fabric, and the lower lapping machine 6 carries out underlaying operations with its threads 2 for the purpose of forming ribs. A rubber warp thread 8 is then supplied at one or several points to the needles 9 of the warp loom without lateral racking, by means of the lapping guide 7 disposed between the upper and lower lapping machines 5 and 6, and is thus introduced into the goods between the group of threads 1 and 2 and will therefore extend between the threads 1 and 2, as shown in Fig. 1, when worked in. Particularly at those points of the fabric where the upper lapping machine has racked its threads 1 in the same lateral direction as the lower lapping machine 6 has racked its threads 2, the rubber warp thread 8 will be mutually held in a reliable manner by the threads of these two groups so as to exclude the possibility of any return motion of the rubber threads 8 during use of the fabric.

I claim:—

A method of producing a transversely ribbed warp fabric by means of two lapping machines on a warp loom having only one row of needles, which comprises supplying the barbed needles between the group of threads of the upper lapping machine producing the ground fabric and the group of threads of the lower lapping machine carrying out underlaying operations for the purpose of forming ribs, without lateral racking at at least one point with a rubber warp thread.

PAUL SCHÖNFELD.