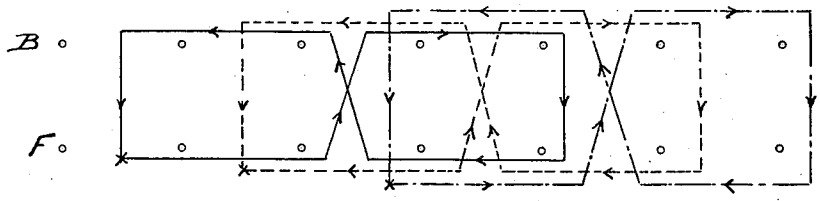
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PROCESS FOR MAKING WARP KNITTED FABRICS

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PROCESS FOR MAKING WARP KNITTED FABRICS.

Application filed October 20, 1920. Serial No. 418,237.

To all whom it may concern:

Be it known that I, EDWARD EVERARD PRESTON, a subject of the King of Great Britain, residing at 28 Melrose Street, Leicester, in the county of Leicester, England, have invented Improvements in Processes for Making Warp Knitted Fabrics, of which the following is a specification.

This invention relates to improvements in warp knitted fabrics and has particular reference to fabrics produced on double rib warp knitting machines.

The present invention has for its principal object to produce on double rib warp knitting machines a fabric showing a uniform face on both sides, said faces being formed of or presenting straight wales or ribs and said fabric being produced whilst employing only one row of threads.

Hitherto in the manufacture of warp knitted fabrics, showing a uniform face of straight wales or ribs there have been used two separate rows of threads so employed that each needle is lapped singly and individually by two threads, each needle receiving and holding at the same time one thread from each row of guides with the result that each knitted loop of the fabric contains two threads.

According to this invention only one row, or the equivalent of one row, of fully threaded thread guides is employed and such guides may be carried from one or more guide bars there being the same number of thread guides in operation as there are needles in one bar even though more than one needle bar be employed. The thread guides move simultaneously right or left in traverse as may be necessary and lap each thread over two needles at each knitted course so that the thread lapped by each guide overlaps in part the thread lapped by the guide next before it in the direction of traverse and is overlapped in part by the thread lapped by the guide next behind it in the direction of traverse and each needle is thus caused to hold two threads and a knitted loop containing two threads as heretofore is thus formed.

Any suitable movement of the threads at the back or backs of the single or double row of needles may be used in conjunction with the above described laps.

Also the improved fabric is conveniently adapted for production on a machine fitted with knocking over means of the type described in British Patent No. 11969 of 1915, and with thread let off and tensioning device of the type described in British Patent No. 132931.

For the purpose of more fully describing this invention reference will now be made to the accompanying drawing wherein the figure serves to illustrate the principal feature of the present invention.

As shown herewith f and b, represent the front and back rows of needles respectively.

The threads a, a^1, a^2, etc., are carried by individual guides, which are actuated to lay their threads in such a manner that each thread is lapped over two needles at each motion. The guides are equally spaced and the distance between each pair of adjacent guides is equal to the distance between each pair of adjacent needles.

Referring to the drawing thread a is moved to the right and laid in position over the two needles n, n^1. Simultaneously thread a^1 commencing from a position between the needles n, and n^1 is moved to the right and laid over the needles n^1 and n^2 and thread a^2 commencing from a position between the needles n^1 and n^2 is moved in the same direction and laid over the needles n^2 and n^3. The relative disposition and movement of the threads with respect to one another as above described is repeated throughout the length of the machine so that after traverse each thread (say a^1) is lapped by the thread next behind (a) over one needle (n^1) and by the thread next before (a^2) over the second needle (n^2), such two needles n^1 and n^2 being themselves lapped by thread a^1.

The movement as above described constitutes the principal feature of this invention and may be used in conjunction with any convenient movement of the threads between the needles. Also the threads may be moved to the right or left over the front and back needles provided that when lapping the needles such threads all move in the same direction at the same time.

In the production of the fabric shown in Fig. 1, the threads move to the right over the front needles f, swing through both sets of needles, move to the right over the back needles b, swing through both sets of needles, move to the left over the front needles, swing through both sets of needles, move to the left over the back needles and then

swing through to their starting position. The direction of traverse of the threads is conveniently indicated by the arrows.

As will be readily understood after the threads have been laid over the needles in one row, such needles are independently actuated in the usual manner to form their loops and the threads then swing through and lap the needles in the other row, such latter needles being in turn independently actuated to form their loops.

I claim:—

1. A process for the production of warp knitted fabrics on double rib warp knitting machines employing a series of threads which consists in engaging each thread over a plurality of needles in one row and in overlapping relation, moving all of the threads simultaneously across both rows and engaging each thread over a plurality of needles in the second row in staggered relation to the engaged needles in the first row, returning the threads to the first row and engaging each thread over a plurality of needles in the first row in advance of the first needles engaged by said thread in said row, again moving the threads across the rows, and engaging each thread over a plurality of needles in the second row opposite the needles first engaged in the first row.

2. A process for the production of warp knitted fabrics on double rib warp knitting machines by the employment of the same number of threads as there are needles in one row which consists in causing all of the threads to be moved simultaneously in the same direction so as to cause each thread to independently lap a plurality of needles in one row, then simultaneously moving all of the threads across both rows of needles then moving all of said threads simultaneously in the first mentioned direction so as to cause each thread to independently lap a plurality of needles in the other row, then moving all of the threads across the needles in an opposite direction to their first crossing movement, then moving all of the threads simultaneously in a direction opposite to the first mentioned direction to cause each thread to independently lap a different plurality of needles in the first mentioned row, then moving all of said threads across said needles in the same direction as the first mentioned crossing movement then moving all of the needles in a direction opposite to the first mentioned direction to cause each thread to independently lap a different plurality of needles in the second mentioned row and finally moving all of said threads across said rows in a direction opposite to the first crossing direction.

3. A process for the production on double rib knitting machines of a uniformly faced fabric which consists in utilizing one row of thread guides only and of causing each individual thread to be laid alternatively over two needles of the front bar and then over two needles of the back bar at each course in such a manner that each thread is in part lapped by the thread next before and in part by the thread next behind so that each knitted loop contains two threads.

4. A process for the production of warp knitted fabrics on double rib warp knitting machines by the employment of the same number of threads as there are needles in one row which consists in causing all of the threads to be moved simultaneously in the same direction so as to cause each thread to independently lap two needles first in the front row, and then in the back row, and in causing each thread to be in part lapped by the thread next before and the thread next behind so that each knitted loop contains two threads.

EDWARD EVERARD PRESTON.

Witnesses:

ERIC POTTER,

FRANK AUGUSTUS DADY.