April 20, 1937. W. HEINITZ 2,077,835

METHOD OF WIDENING FABRICS

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Fig. 1

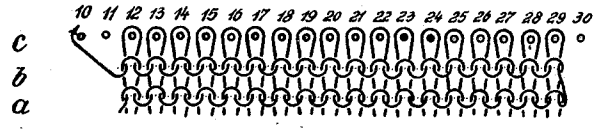


Fig. 2

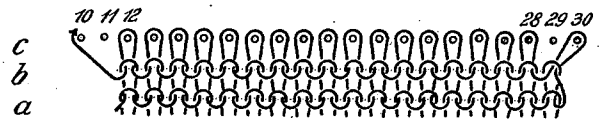


Fig. 3

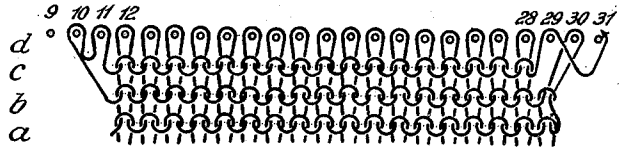
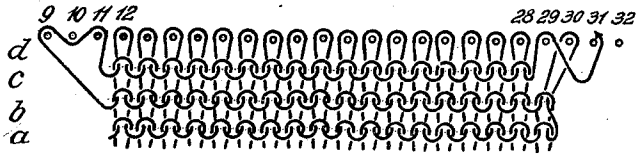


Fig. 4



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Fig. 5

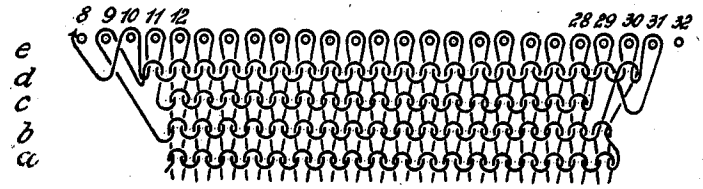


Fig. 6

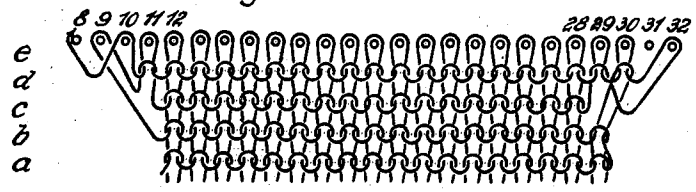


Fig. 7

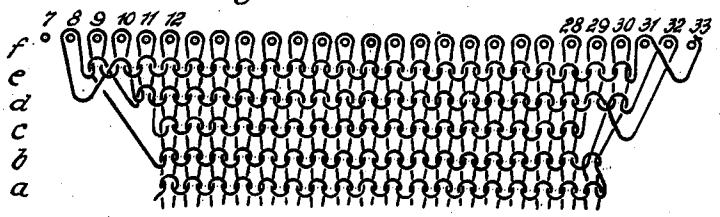
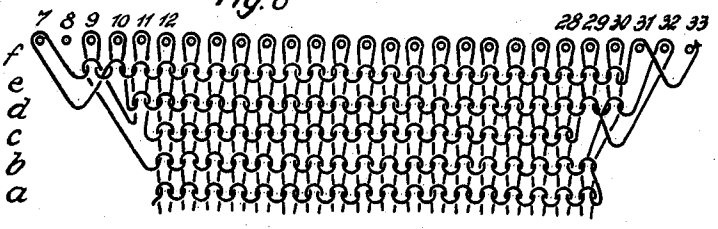


Fig. 8



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Patented Apr. 20, 1937 2,077,835

UNITED STATES PATENT OFFICE

2,077,835

METHOD OF WIDENING FABRICS

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Application September 30, 1936, Serial No. 103,445
In Germany October 5, 1935

1 Claim. (Cl. 66—189)

The present invention relates to a method of widening fabrics for at least two loops on flat knitting machines for example in the manufacture of the heel portions of a stocking.

Fabrics of this kind have hitherto been produced either by forming new loops, i. e. by casting-on of loops, or by transferring loops, i. e. widening, for instance by transferring loops adapted to be sewn in the selvage. Furthermore, methods are known according to which the fabric is widened by the fact that, after the formation of a row of loops, the thread guide—which may be of the usual kind—is moved beyond the selvage of the fabric for two needles and the thread, after being taken about the outer needle, is placed in front of all needles to form a new row of loops, the last or last but one added selvage needle being, during the formation of the next row of loops, not pressed, so that a double loop is formed upon this needle.

These known methods, however, have proved disadvantageous, because the selvage is not elastic or, due to a too great thread reserve, of bad appearance and puffy respectively resulting in easy tearing and difficult sewing in of the selvage loops and thereby in forming a selvage of bad appearance.

All these drawbacks are avoided by the method forming the subject matter of the invention by the fact, that, after formation of a row of loops, the thread guide is moved about two further needles beyond the edge of the fabric and the thread, after having been taken about the outer needle, is placed in front of all needles to form a new row of loops, the selvage loop respectively at the other edge of the fabric being transferred outwardly one needle before laying the thread. During the formation of the new row of loops, the needle carrying the transferred loop is not pressed.

The advantage of this new method consists in this, that the selvage loop of this widened fabric now has the same length of thread as the selvage loop of a fabric not widened, that is to say, in the present case the selvage loop has the same length of thread as the fabric ending upon the same wale.

The excessive thread reserve due to the usual casting-on of loops is consumed by the method according to the invention by widening, i. e. lateral transfer of a loop in the range of the added loop. Hereby, in the production of the selvage, practically the same thickness of fabric is obtained in the widened portion as well as in the not widened portion, resulting in a practically uniform seam free of objections in the whole range of the stocking after sewing together.

In the accompanying drawings, diagrams explaining the method according to the invention are shown by way of example in Figures 1 to 8.

As may be seen from Fig. 1, the thread guide coming from the right in row *c* and standing outside the needle **12** after production of the usual row of loops on the needles **12–29**, is after the formation of this row of loops *c* moved outwardly in a well known manner for the pitch of two needles **11** and **10**. The thread is taken about the needle **10** in a manner known for selvage needles. Simultaneously the selvage loop at the other side of the fabric, i. e. the loop on the needle **29**, is, as shown in Fig. 2, transferred outwardly for one needle to the needle **30**. The thread is then placed in front of all the needles **10–29** and the row of loops *d* is formed, the transferred selvage loop on the needle **30** in the row of loops *c* being not pressed as shown in Fig. 3. At the right hand side the thread guide now moves outwardly about the needles **30** and **31**. At the left hand side of the fabric, the selvage loop, i. e. the loop on the needle **10** is then transferred outwardly for one needle to the needle **9** as illustrated in Fig. 4. In the moment of tickling the thread is, by the locking in throat of the knocking over sinker situated beside the needle **11**, held at the side opposite the needle head, so that the thread, on lifting of the frame needles, remains upon the side opposite the needle head. During the production of the subsequent row of loops, the selvage loop upon the needle **9** is not pressed as may be seen from Fig. 5.

Figs. 5–8 show the manufacture of further rows of loops *e* and *f*, the widening method just described being hereby repeated.

What I claim is:

The method of widening fabrics on flat knitting machines comprising moving the thread guide for the pitch of two needles beyond the edge of the fabric after the formation of a row of loops, taking the thread about the outermost needle, transferring the selvage loop at the other edge of the fabric outwardly for one needle, simultaneously placing the thread in front of all needles for the production of a new row of loops, and preventing pressing of the needle carrying said transferred loop respectively during the formation of a new row of loops.

WOLDEMAR HEINITZ.