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H. E. ESCHE

PROCESS FOR THE MANUFACTURE OF POCKETS OR CAPS IN ARTICLES OF HOSIERY

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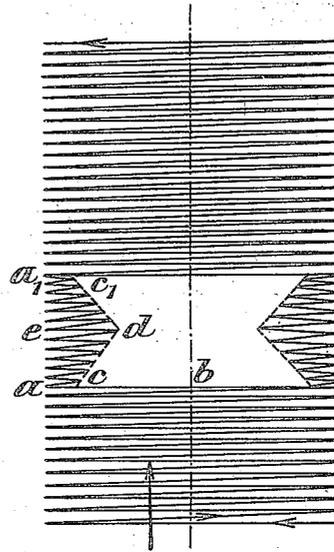


Fig. 1.

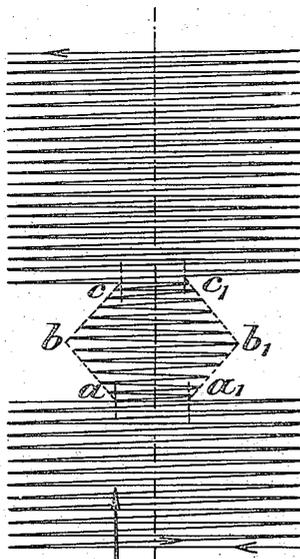


Fig. 2.

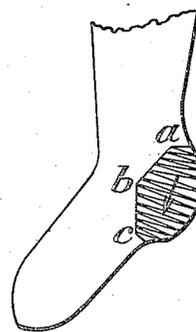


Fig. 3.

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# UNITED STATES PATENT OFFICE.

HERBERT E. ESCHÉ, OF CHEMNITZ, GERMANY.

PROCESS FOR THE MANUFACTURE OF POCKETS OR CAPS IN ARTICLES OF HOSIERY.

Application filed November 13, 1922. Serial No. 600,680.

*To all whom it may concern:*

Be it known that I, HERBERT E. ESCHÉ, a citizen of Germany, and residing at Chemnitz, Germany, have invented certain new and useful Improvements in Processes for the Manufacture of Pockets or Caps in Articles of Hosiery, of which the following is a specification.

This invention has for its object to make articles of hosiery with caps or pockets composed of rows of stitches, the length of which increases from the beginning of the cap or pocket to about the middle of the latter, then decreases again towards the other end of the cap or pocket.

The invention also consists in a process for the manufacture of articles of hosiery, according to which the needles that are not working, that is to say, are stopped, are not freed from stitches but retain their stitches.

According to the processes proposed hitherto for working-in caps or pockets into articles of hosiery, the procedure was as follows:—The lengths of the rows of stitches were decreased gradually from the desired width of the cap or pocket until the smallest width was attained and then the said lengths were gradually increased again.

In that operation the needles that did not receive any thread retained their stitches. A connection between the stitches which remained on the non-working needles of the cap or pocket, and the fresh stitches added on these needles during the gradual increase of the width of the work, was thereby effected, such connection forming a thick diagonal line. That process of making articles of hosiery with caps or pockets, for instance heels, has the great drawback that the stitches and rows are drawn to one side, whereby also the size of the cap or pocket is affected, so that it is, or may be insufficient for certain purposes.

According to the present invention, those drawbacks are obviated; the stitches and rows are not drawn or distorted; the faulty junction of the stitches disappears, and the cap or pocket can be made of any desired size.

The fact that the cap or pocket of the article of hosiery is composed of such rows of stitches increasing in length from the beginning of the cap or pocket to about its middle, and then decreasing to the other end of the cap or pocket, causes the disappearance not only of the thick junction line, but also of

the distortion of the stitches and rows. Moreover, the fact that at the beginning of the cap or pocket, the greater number of the needles, with the exception of those required for the circumference of the cap or pocket, are stopped, and the said number of needles is gradually increased, and then decreased again from about the middle of the cap or pocket, produces a firm and secure connection (without distortion) of the new rows of stitches with the stitches of those edge-needles that were gradually brought into and placed out of operation during the working of the cap or pocket.

Figure 1 illustrates the improved process with increase and decrease at both edges of the article.

Figure 2 illustrates the new process with increase and decrease on both sides at one part of the article.

Figure 3 shows a stocking having a heel made according to the invention.

In contradistinction to the old process hereinbefore referred to, pockets or caps are formed in hosiery according to the present process, as follows:—

From one point  $a c$  (Fig. 1) onwards, most of the needles are thrown out of operation except the needles required for the cap or pocket. On these latter needles the stitches are allowed to remain. Then, after every two or four rows the number of stitch-forming needles is increased by one or by two. Consequently the width of the work is increased up to  $e d$ , and thence it is decreased again as far as  $a_1 c_1$  or beyond or not quite up so far. At each increase or decrease of the width of the article, the working yarn is connected with the stitch remaining on the stopped needle or needles, so that no openings or distortion of the form of the stitch can occur in the article itself.

When the cap or pocket has to be made simultaneously towards the left and towards the right, this is effected according to the same process excepting only that the number of stitch-forming needles is increased, not merely at one side namely at the left, or at the right, but both at the left and at the right as for instance, in Figure 2, from  $a$  to  $b$ , and at the same time from  $a_1$  to  $b_1$ , and then again decreased up to  $c$  and  $c_1$  respectively.

By this improved process, as will be seen from Figure 3 in the case of a heel of a stocking, an entirely different result is produced

than that provided by the old process. At the portion *c d c*, of Figure 1, or *a b c* of Figures 2 and 3, a firm connection with the stitches of the non-working needles has been  
 5 made by looping the yarn round the added needle, or needles.

The junctions of the edge stitches of the cap or pocket with one another and with the stitches of the inoperative needles according  
 10 to this invention are visible on the line *a b c* (Fig. 3) instead of along a thick diagonal line as in the old form.

Having now particularly described and ascertained the nature of my said invention  
 15 and in what manner the same is to be performed, I declare that what I claim is:—

A process of manufacturing hosiery, having a pocket or cap, which consists in throwing  
 20 out of action, at the commencement of the formation of the pocket, the greater

number of the needles excepting those required for the pocket, then gradually bringing the needles back into action until reaching approximately the center line of the  
 25 pocket, so as to form rows of stitches which gradually increase in length from the beginning of the pocket to its approximate center line, and then gradually throwing  
 30 the needles out of action again until the end of the pocket is reached, so as to form rows of stitches which gradually decrease in length from said approximate center line to said pocket end; substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

HERBERT E. ESCHE.

Witnesses:

ALEXANDER DE SOTO,  
 A. C. HOUGHTON.