H. H. WEST.

STOCKING AND METHOD FOR MAKING SAME.

APPLICATION FILED FEB. 14, 1914.

1,117,934. Patented Nov. 17, 1914.

FIG. 1

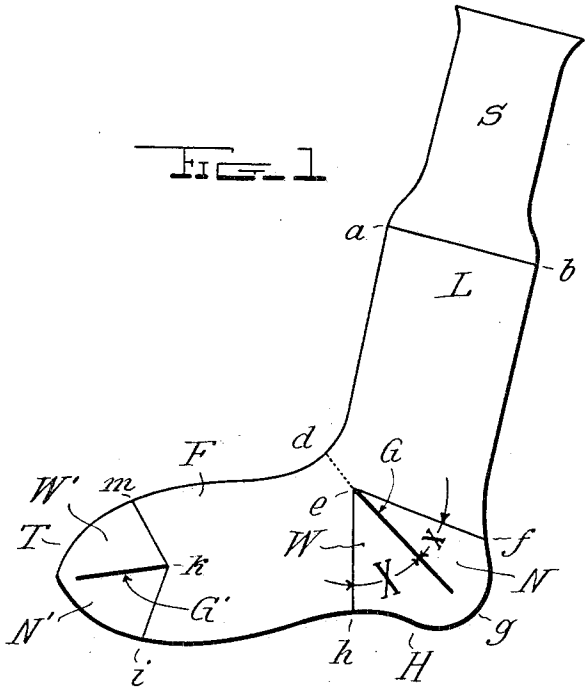


FIG. 2

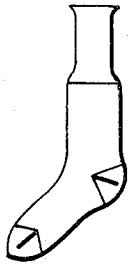


FIG. 3



FIG. 4

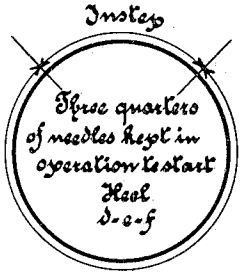


FIG. 5



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Witnesses

[illegible]

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UNITED STATES PATENT OFFICE.

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STOCKING AND METHOD FOR MAKING SAME.

1,117,934. Specification of Letters Patent. Patented Nov. 17, 1914.

Application filed February 14, 1914. Serial No. 818,737.

To all whom it may concern:

Be it known that I, HARRY H. WEST, a citizen of the United States, residing at Plymouth, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Stockings and Methods for Making Same; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to stockings and method of making the same and has for its object to so improve the form of the heel that the foot of the stocking will be positioned substantially at right angles to the leg and thus prevent any wrinkling of the stocking at the instep and any undue strain on the heel.

Another object of the invention is to so construct a heel of this character which while accomplishing the object above set forth, may be knit of a different quality yarn from that of which the leg and foot of the stocking is knit and yet not be visible above the top of a low quartered shoe.

In the manufacture of hosiery it has heretofore been found difficult to so fashion the heel as to impart to it the bulge or extension required and to so form the foot to adapt the stocking to naturally and easily fit the foot and heel of the wearer without undue strain upon the yarn or wrinkling at the instep.

In the ordinary method of knitting stockings, when the leg tube is knit to the point at which the operation of forming the heel begins, one half of the whole number of needles occupying the front portion of the needle cylinder are still engaged with the stitches of the end of the tube, are temporarily thrown out of operation and the heel is knit on the semi-circular row of needles remaining in operation, the upper gore constituting a part of the heel being formed by what is known in the art as the narrowing operation and the lower gore by the widening operation. In the narrowing operation for the ordinary heel, one needle is thrown out of operation alternately at each end of the column or row of working needles and in the widening operation one needle is thrown into operation alternately at each end of the row of working needles. After the heel has been completed all of the needles are then brought again into operation and the knitting of a tubular web is continued to produce the foot of the stocking. A stocking, the heel of which is formed in this well known manner, is represented in Figure 6 of the accompanying drawings. This stocking however is unsatisfactory for the reason that the length of the sole of the foot is not sufficiently longer than the top of the foot as the anatomical configuration of the ordinary wearer's foot requires; it results therefore that when the stocking is worn, wrinkling occurs at the instep and an undue strain is exerted on the heel and the destruction of the stocking thereby hastened.

Briefly stated, this invention comprehends the knitting of a large low heel on more than one half of the whole column of needles which extends around substantially three-fourths, more or less, of the circumference of the ankle portion so that the distance from the rear point or apex of the heel to the front of the instep of the stocking is increased and the sole of the foot lengthened without lengthening the upper portion of the foot.

With the above and other objects in view the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Fig. 1 represents a side elevation of a half hose or sock having a heel constructed in accordance with this invention and shown in position on a shaping board; Fig. 2 is a similar view showing the stocking in position on a display form; Figs. 3, 4 and 5 are diagrammatic views illustrating the position of the needles during the formation of the leg, heel and toe respectively of the stocking; and, Fig. 6 represents a side elevation of a half hose or sock as ordinarily formed.

In the embodiment of the invention shown in Fig. 1 after the stocking top S, which has been knit on one machine is transferred to the circular machine on which the remainder of the stocking is knit, the tube or leg L is knit in continuous circular courses from the point *a*, *b*, where it joins the top of the stocking in the usual manner until the line *d*, *e*, *f* is reached; then one fourth of the needles, more or less, on which the portion of the stocking from *d* to *e* remain are thrown out of operation and the recip-

rocatory knitting for the narrowing of the heel on the remaining three-fourths of the needles from *e* to *f* commences. This narrowing operation is performed by throwing out of operation two needles alternately at each end of the column of working needles and the reciprocatory knitting is continued for this rapidly narrowing operation until the heel gore N is knit which gore extends from the points *e*, *f*, to *g*. After this narrowing for the formation of the gore N is completed, the widening for the heel begins and is performed in the usual manner, two needles being thrown into operation and one thrown out at the end of each reciprocation whereby the gore W extending from *g*, *e* to *h*, is produced and which as may readily be seen is twice as wide at the portion X as is the corresponding portion *x* of the upper gore N which is owing to the fact that the narrowing for the gore N is accomplished by throwing out two needles instead of one at each end of the column of working needles during the reciprocatory knitting for the narrowing for the heel. The gores N and W are joined at G in the usual manner.

From the above it will be obvious that this widening of the heel on three-fourths of the column of needles produces an elongation of the sole of the stocking without altering the length of the top portion thereof thereby positioning the foot of the stocking in a plane substantially at right angles to the leg and that the narrow gore produced by the rapid narrowing for the heel will so dispose the heel that the top portion thereof will not be visible above the upper edge of a low quartered shoe.

After the heel H is formed all of the needles are again thrown into operation and the foot F is knit in continuous circular courses until at the completion of the foot and knitting of the toe, the toe T is then begun, half of the needles being thrown out of operation prior to the beginning of the narrowing operation for the toe and the reciprocatory knitting for the narrowing for the toe on the remaining one half of the needles from *i* to *k* commences.

The toe is then knit in the usual manner by first narrowing and then widening to form the gores N′ and W′ which join at G′ and when the upper gore W′ is completed the toe is closed on the line *m* to *k* by looping in the usual manner.

I claim as my invention:

1. As an article of manufacture, a stocking having the leg, foot and toe of ordinary form and having a heel extending around more than one-half of the circumference of the stocking, the upper gore of the heel being narrower than the lower gore.

2. As an article of manufacture, a stocking having the leg, foot and toe of ordinary form and having a heel extending around more than half of the circumference of the stocking, the upper gore of the heel being one half as wide as the lower gore.

3. A method of forming on a circular knitting machine a stocking having a large low heel which consists in knitting a leg in circular courses, then throwing out of operation a portion of the needles and knitting on more than one half of the whole column of needles an upper and lower heel gore, narrowing abruptly to form said upper gore and widening in the usual manner to form the lower heel gore, and then forming the foot and toe in the usual manner.

4. The method of knitting hosiery with a large low heel which consists of knitting the leg in circular courses; then knitting the upper gore of the heel in reciprocatory courses on more than one half of the whole column of needlees. the narrowing for this gore being performed by throwing out of operation a plurality of needles at each end of the active column on alternate strokes of the cylinder; then widening in the usual manner to form the lower heel gore on more than one half of the whole column of needles; then closing the heel; then knitting the foot in continuous circular courses; and then knitting the toe on one half of the whole column of needles.

5. A method of knitting stockings which consists in forming a leg portion; then throwing out of operation a portion of the needles, and narrowing abruptly on the remainder to form a narrow upper heel gore, then widening in the usual manner to form the lower heel gore; and then forming the foot and toe in the usual manner.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HARRY H. WEST.

Witnesses:
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CHARLES C. SULGER.