

(No Model.)

L. N. D. WILLIAMS.
KNITTED STOCKING.

No. 485,073.

Patented Oct. 25, 1892.

FIG. 1.

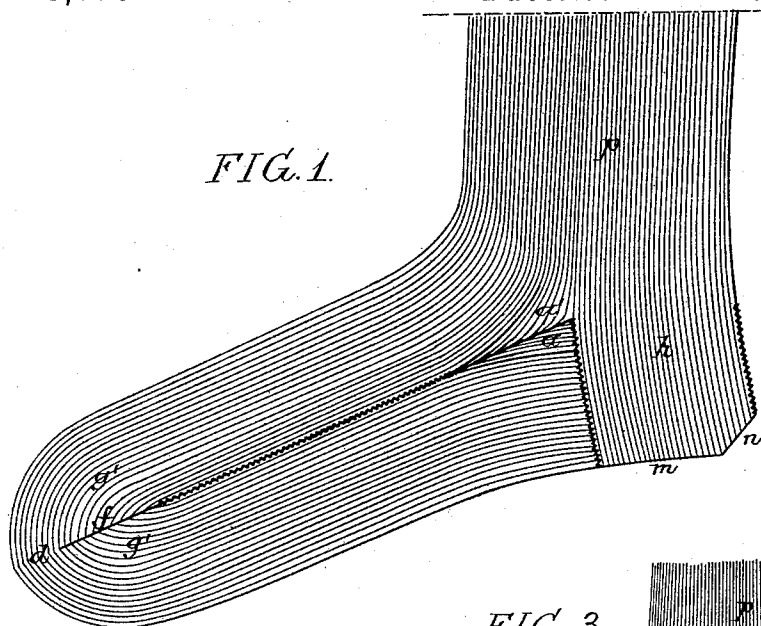


FIG. 2.

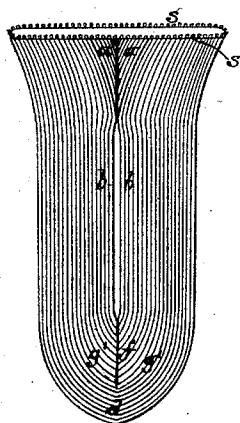


FIG. 3.

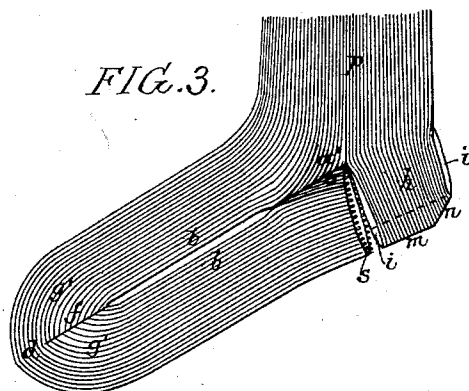
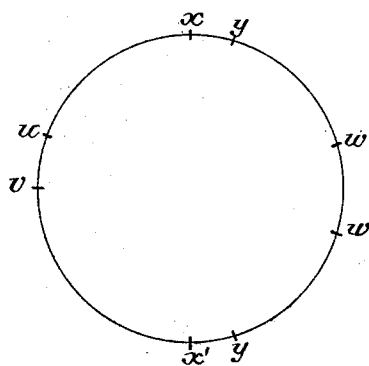


FIG. 4.



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by his Attorneys
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UNITED STATES PATENT OFFICE.

LOUIS N. D. WILLIAMS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO ROBERT W. SCOTT, OF SAME PLACE.

KNITTED STOCKING.

SPECIFICATION forming part of Letters Patent No. 485,073, dated October 25, 1892.

Application filed June 23, 1890. Serial No. 356,443. (No specimens.)

To all whom it may concern:

Be it known that I, LOUIS N. D. WILLIAMS, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Knitted Stockings, of which the following is a specification.

The object of my invention is to provide a shaped or fashioned stocking of a cheaper character than ordinary shaped or fashioned stockings as now made and one which can be readily made upon ordinary circular-knitting machines now in use. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a view of the foot and ankle portion of the stocking made according to my invention. Figs. 2 and 3 are views illustrating successive stages in the manufacture of the stocking, and Fig. 4 is a diagram explanatory of the herein-described mode of making the stocking.

My improved stocking has a heel with seamless bottom, shaped or tapered seamless corner, and selvage edges at the front united to the inner end of the bottom or sole portion of the foot of the stocking, the heel also having in some cases selvage edges seamed together at the rear. The foot of the stocking has on one or both sides, preferably on both sides, tapering gussets seamlessly united at the meeting line, the foot also having a seamless toe and selvage-edge seams extending along each side of the foot from the toe to the tapering gussets.

In making my improved stocking I preferably proceed as follows: Upon the needles extending around a certain portion of the head of a circular-knitting machine—say upon those occupying the right-hand half of the circle from x to x' , Fig. 4—I start the web which is to constitute the foot of the stocking and knit to and fro upon these needles throwing out of action, successively, needle after needle, either at one or at both ends of the acting set, depending upon whether the gussets a a' are to be formed upon one or both sides of the stocking-foot, but permitting the needles thus thrown out of action to retain their stitches. After the desired number of needles have been thus put out of action—say

from x to y —at each end of the set, so as to form the gussets a , a web having opposite selvage edges b is produced by to-and-fro knitting upon the needles at the right, extending from y to y , and the production of this web is continued for a time, dependent upon the desired length of the foot or until it is desired to form the toe. The toe is formed by to-and-fro knitting and by moving out of action needle after needle, first at one end and then at the other end of the acting set until the web has been narrowed to the desired extent—say, for instance, down to the needles w w , Fig. 4. The needles from w to y at each end of the set are then successively brought into action to widen the web, thus producing a rounded toe-pocket d , with a seamless union f at each side between the narrowed portion g' of the web forming the bottom of the foot and the widened portion g' of the web forming the top of the toe. The production of a selvage-edged web upon the needles from y to y for the top of the foot is then proceeded with until the length of this web equals that of the selvage-edged web in the bottom of the foot, whereupon the needles from y y to x x' , formerly thrown out of action, but permitted to retain their stitches, are successively brought into action, so as to form the upper tapering gussets a' and seamlessly unite the same to the corresponding lower gussets a . To the needles extending around the other half of the head—that is to say, from x to x' on the left hand—I now apply the stitches around the upper edge of a pocket h , said pocket having front and rear selvage edges i i' , seamless bottom m , and seamless tapered corner n , the number of stitches around the upper edge of this pocket being equal to the number of needles around the half of the machine, so that when the production of tubular fabric p , by knitting round and round upon all of the needles of the machine, is proceeded with there will be a seamless or stitch-for-stitch union of the stitches around the top of the heel-pocket with certain of the stitches constituting the first course of the tubular work. After the tubular leg has been produced the selvage edges i' at the rear of the heel are united and the selvage edges i at the front of the heel joined to the looped edges

s at the inner end of the bottom or sole portion of the foot-web the opposite selvage edges *b* of which are then united, so as to close the foot on each side.

- 5 A stocking made in the manner described has a foot which is shaped or fashioned throughout, but is less expensive than shaped or fashioned stockings produced in the usual way.
- 10 If it is desired to avoid the seam at the rear of the heel, the separately-made heel-pocket *h* may only constitute the shaped or fashioned portion of the heel—that is to say, the portion below the dotted line in Fig. 3—the
- 15 stitches around the top of this pocket being applied to the needles around the half of the cylinder and to-and-fro knitting being carried on upon these needles until the heel-pocket is of the desired length, whereupon the knitting is changed to round-and-round knitting
- 20 upon all of the needles of the head. Instead of the heel-pocket being formed separately it can, if desired, be formed upon the same machine as that employed for making the
- 25 body of the foot, the toe, and the leg. For instance, a selvage-edged strip may be produced either before or after the formation of the foot-web upon the needles, extending, say from *x* to *v*, at the upper left-hand side
- 30 of Fig. 4, and after the proper length of selvage-edged web is produced, the desired shaping of the corner of the heel being effected by first narrowing by throwing out of action, successively, the needles from *v* to *u* and
- 35 then widening by bringing the needles from *u* to *v*, successively, into action again, and then proceeding with the formation of selvage-edged web, and when a web of the desired length has been produced with selvage edges
- 40 *i i'* and pocket *n*, turning up the free end of said web and running the stitches around the same onto the needles of the machine from *v* to *x'*, at the lower left-hand side of Fig. 4, preparatory to the formation of tubular web upon all
- 45 the needles of the machine for the leg of the stocking.

- Another plan of forming the heel upon the same machine as is employed for making the foot and leg is to start the leg-tube upon all
- 50 of the needles of the machine, first running onto the same, if desired, a section of ribbed web for the top of the stocking. When the tubular web has been knitted down to the heel, the latter may be formed (either before
 - 55 or after the formation of the strip for the body of the foot) by knitting to and fro upon the needles of one-quarter of the head—say from *x* to *v*—to form a strip with selvage edges *i i'*, narrowing and widening at the
 - 60 desired point to form the tapered corner, and then continuing the knitting of the web to complete a strip of proper length with selvage edges *i i'* for the heel, the stitches at

the end of this strip after the stocking has been cast off being united to the stitches 65 around the free quarter of the tube at the top of the heel; or a selvage-edged strip can be knitted upon half of the needles of the head down to the dotted line, Fig. 3, and the tapered or shaped pocket-web then formed 70 upon one-half of these needles, so that it forms a continuation of one half of said heel-strip and can have its free end seamed to the other half of the same after the casting off of the web. In this case a long heel can be made 75 before the formation of the foot, for as the heel is cast off the needles on its completion the foot-web can be formed upon as many of the needles of the machine as may be desired, so that wide gussets can be formed at each 80 side of the foot to accord with the long or deep heel.

It will be evident that in carrying out my invention the different features of the same—that is to say, the special form of heel and 85 the special widening-gussets at the instep—need not necessarily be combined in the same stocking, but can be used independently.

Having thus described my invention, I claim and desire to secure by Letters Patent— 90

1. A stocking in which a leg and foot are combined with a heel, having a seamless bottom, shaped seamless corner, selvage edges seamed together at the rear, and front selvage edges united to the heel end of the lower 95 or sole portion of the foot, substantially as specified.

2. A stocking having a foot the body portion of which consists of upper and lower selvage-edged webs, having said selvage edges 100 united along the opposite sides of the foot and having at the inner or instep end upper and lower tapering gussets seamlessly united along the meeting line, substantially as specified. 105

3. A stocking having a foot with body portion consisting of upper and lower selvage-edged webs united along the sides of the foot, the central wales of the web being continuous and extending around the point of the toe, 110 and the other wales in each web being graduated in length and united to the corresponding wales of the other web by a seamless union on opposite sides of the foot to form a seamless toe, the body of the foot having at the in- 115 step end upper and lower tapered gussets seamlessly united along the meeting line, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of 120 two subscribing witnesses.

LOUIS N. D. WILLIAMS.

Witnesses:

EUGENE ELTERICH,
HARRY SMITH.