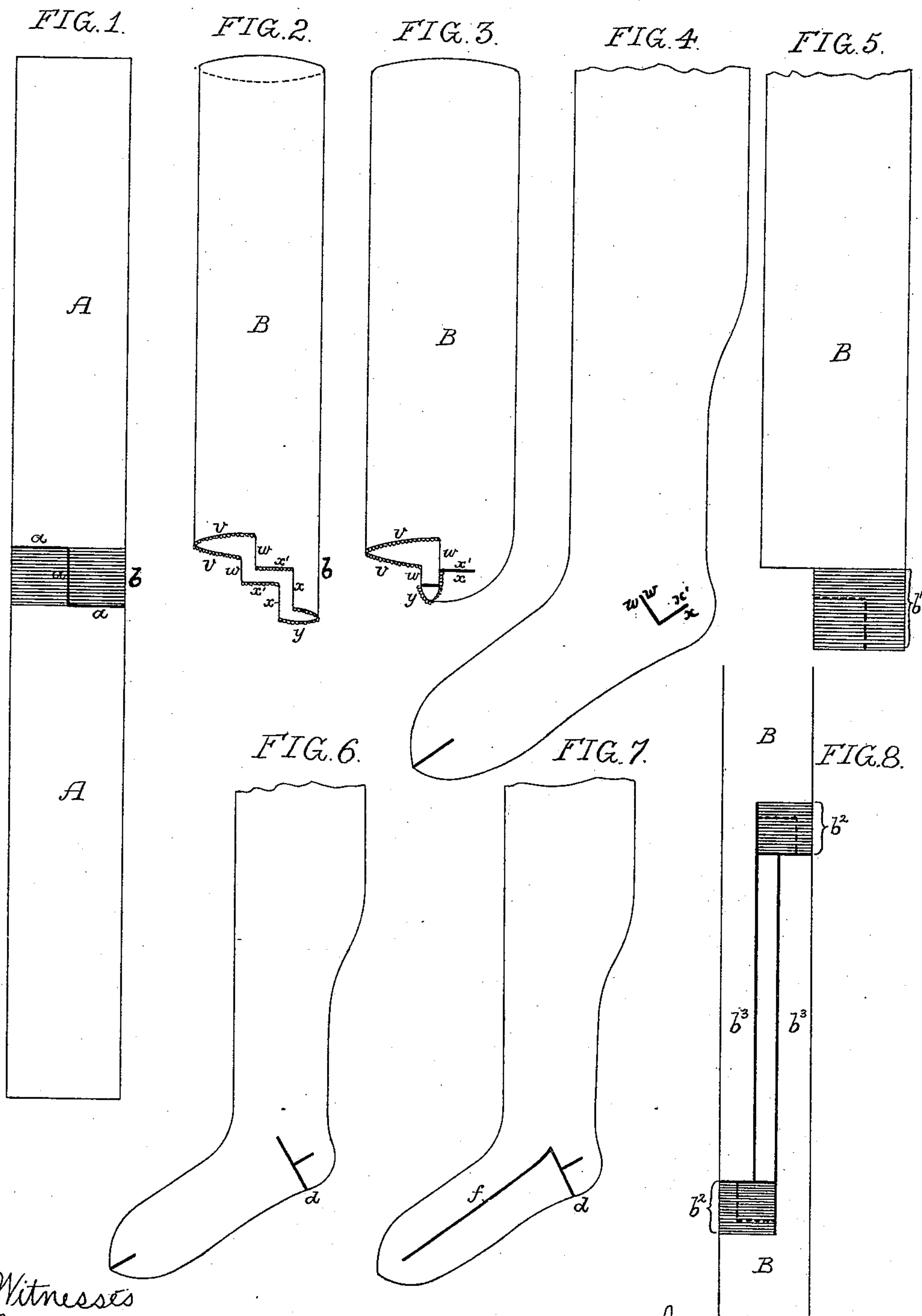


(No Model.)

R. M. APPLETON.  
STOCKING.

No. 449,925.

Patented Apr. 7, 1891.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ROBERT M. APPLETON, OF BOSTON, MASSACHUSETTS.

## STOCKING.

SPECIFICATION forming part of Letters Patent No. 449,925, dated April 7, 1891.

Application filed July 17, 1890. Serial No. 359,042. (No specimens.)

*To all whom it may concern:*

Be it known that I, ROBERT M. APPLETON, a subject of the Queen of Great Britain and Ireland, and a resident of Boston, Massachusetts, have invented certain Improvements in Stockings, of which the following is a specification.

The object of my invention is to make a stocking having what is known as a "cut heel" in such a manner that the heel will have no objectionable seams and the stocking may have a foot of less diameter than the leg, and this object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figures 1, 2, 3, and 4 are diagrams illustrating the method of making a stocking in accordance with my invention; and Figs. 5, 6, 7, and 8 are diagrams illustrating other methods of carrying out the invention.

One of the main objections to what are known as "seamless" stockings is due to the fact that the foot of the stocking is necessarily of the same diameter as the leg, which is often much wider than is required, the consequence being that the foot of the stocking fits loosely and forms folds which press upon the foot and cause much inconvenience, especially if tight-fitting boots or shoes are worn. The same objection applies to what are known as "cut hose," and the latter are also objectionable because of the bulky seams in the heel. In order to overcome these objections I make a stocking in the following manner.

A tube of plain or ribbed fabric A is first cut on the zigzag line *a*, as shown in Fig. 1, so as to form two tubes B, each with a projecting semi-tubular portion *b*, and, if desired, that portion of the tube which is to be cut may be formed with a double thread or with a heavier thread, this portion of the tube being intended to form the heel of the stocking. The end of the projecting semi-tubular portion *b* of the blank B is then further cut or recessed by the removal of rectangular pieces from each side of the same at and near the end, as shown in Fig. 2, and this reduced portion of the projection is then folded so that the edges *x x'* of the same may be united, as shown in Fig. 3. The lower end of the semi-tubular projection is thus

closed, so that said projection is caused to form a heel-pocket for the stocking, the opposite edges *w* of this heel-pocket being cut, but the lower portion of the pocket presenting a projecting course of stitches *y*, similar to the stitches *v*, which are presented around the lower edge of the tubular portion of the blank, as shown in Fig. 3. The stitches at the edge *v*, and, by preference, those at the edge *y* also, are now run, stitch for stitch, upon the needles of a circular-knitting machine for the production of the foot of the stocking, and the portions *w w* of the heel-pocket are "jabbed" upon the needles of the machine, which is of smaller diameter than the machine used for producing the tube A, from which the blank B was cut. After the desired length of tubular fabric for the foot of the stocking has been produced upon this second machine the stitches are cast off, and the end of the tube is closed in any suitable manner to form the toe, or a seamless toe-pocket may be formed at the end of the tube in the usual way, if desired.

As the result of this method of manufacture, the stocking produced has a seamless leg and foot body and a heel without any seams in the bottom of the same, it being understood that where the knitted fabric of the leg and heel is run on, stitch for stitch, to the needles of the footing-machine a seamless union of the two webs is produced. Hence the only seams in the heel are the two seams at right angles to each other at opposite sides of the heel, as shown in Fig. 4. If desired, however, the portion *y*, as well as the portions *w*, of the mouth of the heel-pocket may be jabbed upon the needles of the footing-machine, in which case a seam or knitted union of these edges with the first course of stitches of the foot-tube will extend around the bottom of the foot at the front of the heel, as shown, for instance, at *d* in Fig. 6.

By the supplementary cutting and folding of the semi-tubular projection of the blank in the manner above set forth I am enabled to so reduce the length of the heel that the portions *v*, *w*, and *y* of the blank will just fill the needles of the smaller head upon which the foot-tube is to be produced.

If it is desired to form a wide heel, the end of the leg-tube may be cut—as shown in Fig.



5, for instance—so as to form a projection  $b'$ , comprising two-thirds or more of the full diameter of the tube, and, if desired, the leg-tube may be cut and sewed, in order to shape the same in the usual manner.

My invention may also be embodied in a stocking having side seams  $f$  in the foot, as shown in Fig. 7, such a stocking being produced by cutting from the knitted tube blanks such as shown in Fig. 8, each blank having a short semi-tubular projection  $b^2$ , to be afterward cut and folded to form the heel-pocket in the manner set forth, and a long semi-tubular projection  $b^3$ , which may be folded to form the foot, the width of this latter projection being such that when folded it will form a foot-tube of less diameter than the leg, or said projection  $b^3$  may be in the first instance of a size equal to half the diameter of the tube, the surplus material being trimmed off before, during, or after the formation of the side seams in the body of the foot. In this stocking there will be a seam  $d$  around the bottom of the foot at the front of the heel; but such seam is unobjectionable, as it is produced by looping together the straight courses of stitches  $y$  at the front of the heel-pocket and at the inner end of the foot-web, the right-angled seams at the sides of the heel being the only ones of which cut edges form part.

It will be understood that my invention is applicable as well to the manufacture of half-hose as to the manufacture of full-length stockings, although intended especially for the latter purpose.

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

1. A stocking having the body of the foot of less diameter than the leg, and having a heel with seamless bottom and right-angled seams at opposite sides of the same, substantially as specified.

2. A stocking having a seamless tubular foot-body of less diameter than the leg and a heel having a seamless bottom and right-angled seams at the opposite sides of the heel, substantially as specified.

3. A stocking having the body of the foot of less diameter than the leg, and having a heel with seamless bottom and right-angled seams at opposite sides of the heel, the vertical portions of said seams being extended from side to side at the front of the heel, substantially as specified.

4. A stocking having a seamless tubular foot-body of less diameter than the leg, and having a heel with seamless bottom and right-angled seams at opposite sides of the heel, the vertical portions of said seams being extended from side to side at the front of the heel, substantially as specified.

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

ROBERT M. APPLETON.

Witnesses:

WILLIAM W. GOOCH,  
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