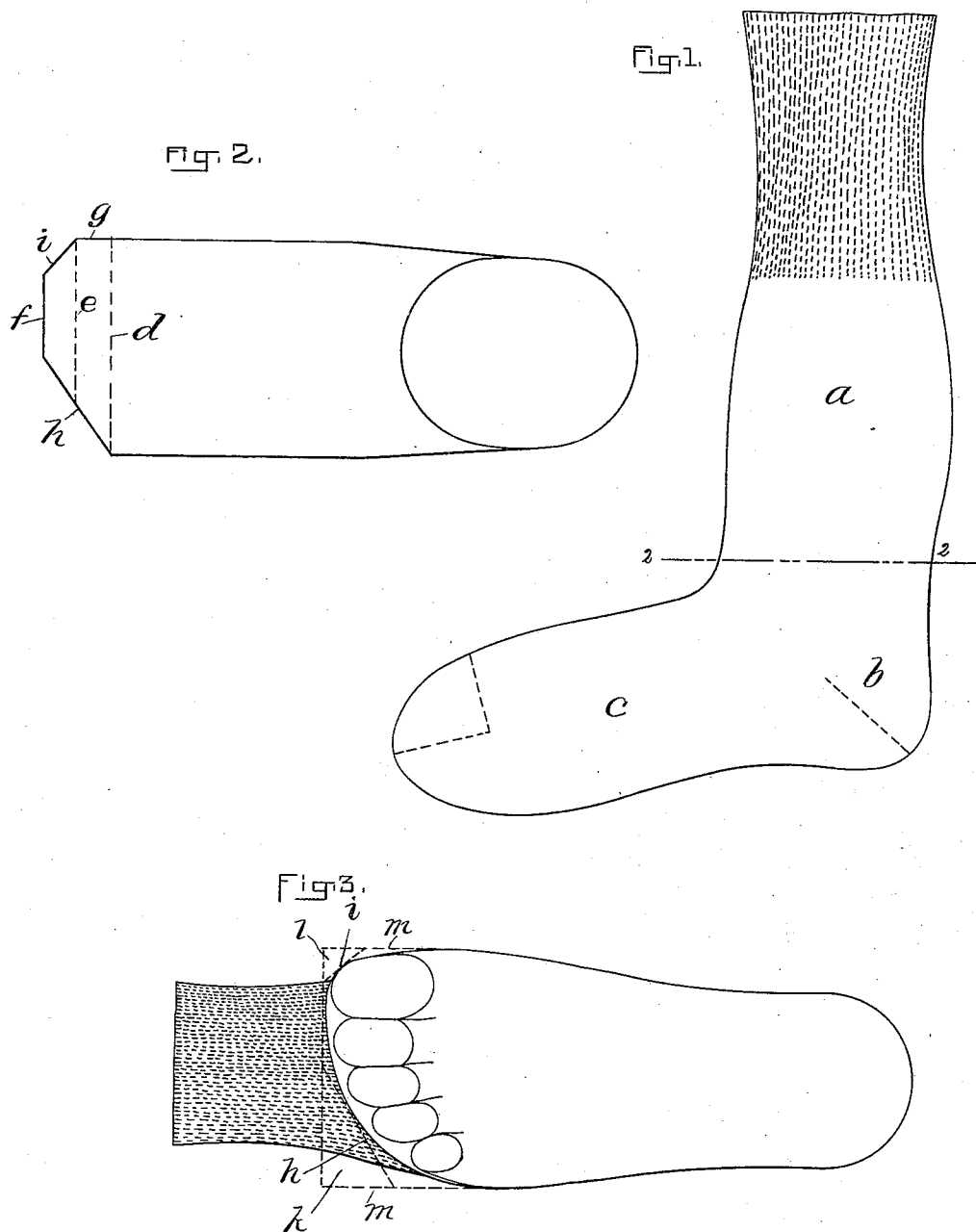


(No Model.)

W. H. HOWARD.
STOCKING.

No. 461,183.

Patented Oct. 13, 1891.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM H. HOWARD, OF LOWELL, MASSACHUSETTS.

STOCKING.

SPECIFICATION forming part of Letters Patent No. 461,183, dated October 13, 1891.

Application filed August 30, 1890. Serial No. 363,571. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HOWARD, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Stockings, of which the following is a specification.

It is the object of my invention to provide such improvements in "right and left" stockings, so called, as will secure a shape more nearly conforming to the natural shape of the foot than has heretofore been attained in stockings of the kind mentioned.

My invention consists of a "seamless" stocking, so called, narrowed at the "little-toe" side to a comparatively great extent and narrowed at the great-toe point to a comparatively slight extent, with selvage edges suitably united adjacent to the narrowing at the great-toe point, the remainder of the stocking being of any desired construction, all as I will now proceed to describe and claim.

Of the drawings hereto annexed and forming a part of this specification, Figure 1 is a side view of my improved stocking complete. Fig. 2 is a top view of the same in section on the line 2 2 of Fig. 1. Fig. 3 is a diagram designed to assist in making clear the structural character of my improved stocking.

The same letters designate the same parts or features, as the case may be, wherever they occur.

The features of improvement wrought by me in the formation of stockings reside entirely in the toe portion, so that it will be necessary to describe only such portion in detail. The leg *a*, heel *b*, and foot *c* may be formed in any known or suitable manner, and supposing that these portions may be first knit on a circular machine employing reciprocating latch-needles capable of being thrown out of and brought into action to narrow and widen to form "bulge" or hemispherical heels and toes and that the knitting has progressed to the line *d* one-half of the needles in the circle may be thrown out of action for the knitting of the toe, as heretofore; but instead of throwing out of action needles on both sides or ends of the row or line in action, as heretofore, the needles will

be retired on one side only, narrowing on such side and forming a selvage-edged web on the other side until substantially one-half of the lower part of the toe portion is knit and the line *e* is reached. Narrowing on both sides by retiring needles holding stitches may now be commenced and continued until the toe-point *f* is reached, when the knitting of the upper part of the toe portion may be undertaken and prosecuted in exactly the reverse order of that described with regard to the knitting of the lower or under portion of the toe. The work may now be cast from the needles and the edges united by looping along the line *d* and the selvage edges at *g* united by crocheting or seaming from the line *d* to the line *e*. By this means the objectionable superfluous fabric had at the great-toe point prior to my invention is avoided, the narrowing along the line *i* being but slight as compared with that alone the line *h* at the little-toe side of the toe portion of the stocking. It is obvious that the same result may be obtained by other modes of procedure. For example, the toe portion may be formed as two flat webs on a flat machine, such webs having selvage edges along the lines *h* and *i*, where they may be seamed or crocheted together, the edges at the toe-point *f* being looped together in a well-known way.

In the ways described the bunch of superfluous fabric that would be otherwise formed at the great-toe point is avoided, and the stocking is formed so as that without undue stretching in boarding it may be made to conform to the natural form of the foot, as is shown in Fig. 3, the triangular parts *k* and *l* falling within the diagrammatic lines *m*, showing the extent of narrowing on both sides of the toe portion and the extent of superfluous fabric that would exist if such narrowings were not made.

Having thus explained the nature of my invention and described ways of carrying out the same, though not confining myself to such ways or modes, I declare that what I claim is—

A "seamless" stocking, so called, having a toe portion narrowed along the line *h* at the

little-toe side to a comparatively great extent
and narrowed at the great-toe point along
the line *i* to a comparatively slight extent
and having selvage edges along the line *g*,
5 suitably united, as set forth.

In testimony whereof I have signed my
name to this specification, in the presence of

two subscribing witnesses, this 18th day of
August, A. D. 1890.

WILLIAM H. HOWARD.

Witnesses:

ARTHUR W. CROSSLEY,
EWING W. HAMLEN.