

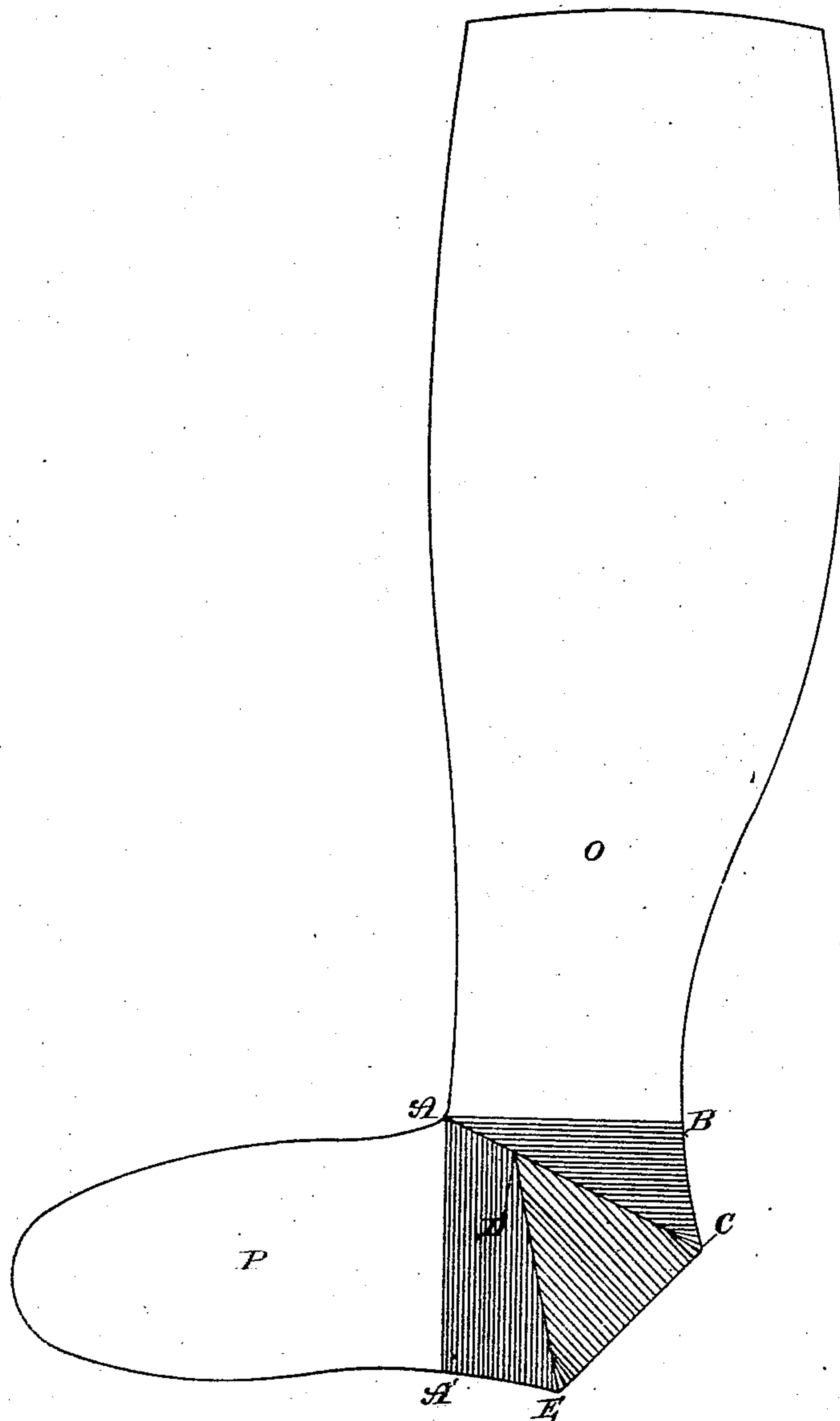
(No Model.)

W. ESTY.

STOCKING AND THE ART OF KNITTING THE SAME.

No. 291,173.

Patented Jan. 1, 1884.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## STOCKING AND THE ART OF KNITTING THE SAME.

SPECIFICATION forming part of Letters Patent No. 291,178, dated January 1, 1884.  
Application filed December 5, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM ESTY, of Laconia, in the county of Belknap and State of New Hampshire, have invented certain new and useful Improvements in Stockings and the Art of Knitting the Same; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to stockings; and it consists, first, in the process of knitting a heel and stocking-foot, consisting in throwing out of action on top of the foot two of the needles upon each side at a time, then forming the heel by first throwing two needles upon each side into action, and then out of action, and then throwing two needles upon each side into action again, for the purpose of knitting the foot at right angles; second, a stocking having a portion of its heel knit at an angle both to the foot and the leg, as will be more fully described hereinafter.

The object of my invention is to knit a foot at right angles to the leg, so as to prevent the necessity of stretching the stocking into shape, by means of forming-boards or other appliances, and to give the heel such a shape that it will conform to the shape of the foot, and thus prevent a bunch from being formed at the heel when the stocking is put on.

The accompanying drawing represents a side elevation of a stocking embodying my invention.

In knitting my stocking any flat or round machine now in use in which the needles can be thrown in and out of action may be employed. The manner of throwing the needles in and out of action, as referred to hereinafter, is fully shown and described in the patent to me September 20, 1881, and bearing No. 247,325. The leg O having been knit in the usual manner, about one hundred and twenty needles are left in action when that small part of the leg is reached where the heel and foot are to begin. After the small part of the leg has been knit the required length, two of the needles are thrown out of action on top of the foot, leaving one hundred and eighteen up.

The operator knits from the point A around past B to the point opposite A on the opposite side of the stocking, and then drops two more needles—one on each side—leaving one hundred and sixteen needles up. The operator knits out and back, as before, and again drops two more needles on each side, knits out and back, and so on until there are only fifteen needles left in operation. This knits the stocking down to the point C, completing the portion within the lines B A C. The operator now begins to bring into action two needles upon each side, and to knit back and forth until the point D is reached. Then the needles are thrown out of action—two at a time—until the point E is reached, completing the portion within the lines C D E. This causes the heel to be knit at an angle both to the foot and to the leg, as shown, so that when the stocking is placed upon the foot no bunch of any kind is left at the top of the foot to annoy the wearer. When the point E is reached, there will be fifteen needles left in operation, the same as when the point C was reached. The operator then begins to bring into action two needles upon each side to knit out and back, and so on until the point A' is reached, completing the portion within the lines B A A', when the top of the foot P is crossed. The result is that the foot P is knit at right angles to the leg O, and does not need to be stretched on the stocking-board to be pressed into shape. The foot is finished in the usual manner.

When stockings are knit in the usual way, the top of the edge of the foot is in a straight or nearly straight line with the front of the leg, and they then have to be pressed in shape, and have the appearance of being knit at right angles; but by employing the method herein described the foot is knit at right angles to the leg and does not need treatment afterward to give it the desired shape. The heel portion is that part which is comprised within the lines C D E, and which, as shown, is at an angle both to the leg and foot.

In knitting my heel and instep, I throw out of action and knit as many crosses as there are stitches in the stocking-foot, which are about one hundred and twenty, and this of course makes about ninety degrees or one-fourth of a circle from the top of the stocking.



Where other stockings are shaped to fit the foot after they are knit, my stockings are made to fit the foot while being knit.

Having thus described my invention, I  
5 claim—

1. The process herein described of knitting a heel and stocking, consisting in throwing out of action on top of the foot two of the needles upon each side at a time, and then forming the  
10 heel by first throwing two needles upon each side into action and then out of action, and then throwing two needles upon each side in

to action again, for the purpose of knitting the foot at right angles, substantially as set forth.

2. A stocking having that portion of its heel 15 which is comprised between the lines C D E knit at an angle both to the foot and the leg, substantially as specified.

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

WILLIAM ESTY.

Witnesses:

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D. S. DINSMORE.