(No Model.)

H. E. POND.

UNDERSHOE.

No. 272,470. Patented Feb. 20, 1883.

Fig. 1.

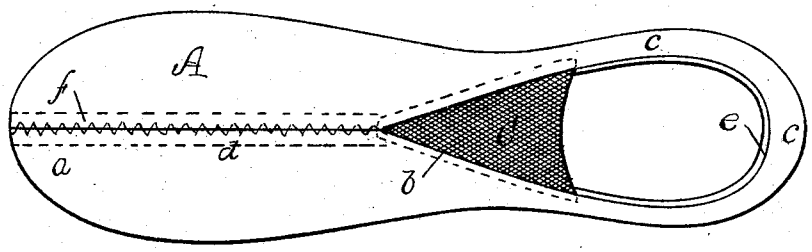


Fig. 4.

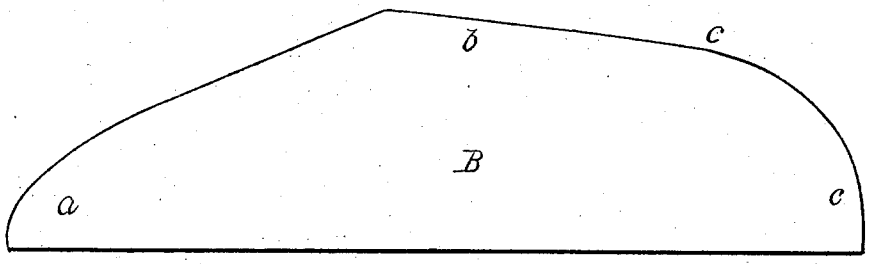


Fig. 2.

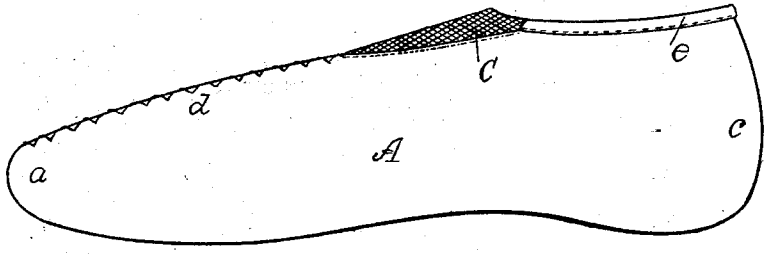


Fig. 3.

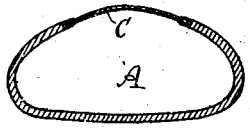
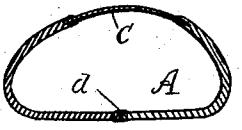


Fig. 5.



Witnesses.
H. C. Lodge.
Thos. F. Bailey

Inventor.
Henry E. Pond.
F. Curtis, Atty.

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UNITED STATES PATENT OFFICE.

HENRY ELIPHALET POND, OF FRANKLIN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JOSEPH G. RAY, OF SAME PLACE.

UNDERSHOE.

SPECIFICATION forming part of Letters Patent No. 272,470, dated February 20, 1883.

Application filed December 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY ELIPHALET POND, a citizen of the United States, residing at Franklin, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Undershoes; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to the manufacture of slippers or moccasins, which are to be used in rubber boots, with or without linings, the latter preferred, and made of a felted fabric, composed of wool or other suitable material, adapted to keep the foot warm and at the same time easily removable from the boot after use. This enables said slipper to be readily dried for immediate further use, if necessity requires, in case said boot by accident should become filled with water. The process of manufacture consists in molding and forming the felt about a last by hydraulic or other pressure, the felted fabric being previously saturated, and then drawn up and round the last, the edges then trimmed, bunted together, and sewed from the end of the toe a portion of the way toward the instep, and provided with an enlarged opening for an elastic goring, the edge of the felt from where the goring ceases being bound with any suitable non-elastic material, to prevent stretching in the act of putting on or removal from the foot.

The drawings accompanying this specification represent, in Figure 1, a plan, and Fig. 2 a side elevation, of a finished article embodying my invention. Fig. 3 is a cross-section showing the seamless bottom and elastic goring, while Fig. 4 represents a half-plan of a piece of felted fabric prior to the lasting process, and Fig. 5 a modification showing the seam on the bottom or sole of the slipper.

In these drawings, A represents a slipper composed of one entire piece of felt or other suitable material, this piece of felt first being cut into the desired shape. (See Fig. 4 of the drawings.) This pattern B is composed of the following parts: *a* is the toe portion, *b b* the parts adapted to form the opening to receive the elastic goring C, and *c c* the upper edge, forming, in connection with the goring, the opening for the admission of the foot. This pattern B should be cut considerably smaller than the finished slipper, as the stretch is considerable, owing to its being saturated with water in the process of lasting, and such stretch would make it too large and full, thereby entailing waste by trimming.

C in the drawings represents an elastic goring inserted in the instep portion of the slipper. Hitherto felt slippers used for the same purpose have been pierced with holes and laced up; but this is attended with disadvantages, inasmuch as the portion upon which said lacing bears, owing to the moisture of the foot, is soon drawn into wrinkles or folds, and the slipper becomes very uncomfortable in consequence. To secure the elastic goring to the slipper, I propose to split the edges of the felt open sufficiently to admit the edges of the goring, which are inserted therein. The felt is then closed over and sewed down, making a neat, smooth joint, without an edge or thick seam, which would occur provided it was a common lap one.

The hydraulic pressure before mentioned is a well-known process now in use in the manufacture of hats, which consists in a rubber bag to be filled with water and operate as a former to any matrix. Previous to applying pressure the felted fabric or material should be thoroughly saturated with warm water, and after the edges have been brought together the shoe should be allowed to dry on the last, the elastic goring and the binding to be attached afterward. After the felt has been formed around and upon the last I sew up the seam *d* from the toe *a* to the goring C. The goring is then inserted in manner previously stated and, finally, braiding *e* attached to the upper edge or heel portion *c c*. This braid is non-elastic, and is to react against the inherent elasticity of the goring, and thereby stretch the latter in the act of inserting the foot, and prevent distortion of the heel part of the slipper, and insure a perfect fit, which would otherwise be impos-

sible, owing to the gradual enlargement of said heel portion from continued stretching by the insertion of or removal therefrom of the foot.

In my slipper, as hereinbefore described, I have shown the sole seamless and the heel entire, with only a short seam on the upper portion, where no pressure occurs; but in Fig. 4 I have shown a modified form, with the seam *d* in the bottom, with the edges bunted together, the elastic goring and the non-elastic binding remaining the same. In this method I proceed by laying the pattern B upon the upper portion of the last, and after the stretching is completed along the bottom portion cut away a piece of felt on said top sufficiently to permit of removal of the last, and thereby likewise provide an aperture for the introduction of the foot.

These shoes have been made of various forms and shapes, among the most recent being an entire seamless upper, with a separate bottom-piece or sole. Another is formed from a "coon," so called; but this also has a sole attached thereto. None, to my knowledge, have been constructed and formed as herein described.

Instead of sewing or stitching up the seam *d*, I propose to substitute for said stitching a strip of rubber cloth, *f*, as shown in Fig. 1 of the drawings by the dotted lines on either side of the seam. This is secured by rubber cement to the felted fabric. This method may be equally as well applied to secure an elastic piece of rubber, which may be substituted for the elastic goring with stitching. I find this a very efficacious, simple, and inexpensive way of finishing and completing the shoe, and shall probably adopt this method in their manufacture.

What I therefore claim, and desire to secure by Letters Patent, is—

1. An improved slipper or undershoe consisting of a felt upper having a single seam extending from the instep portion to the toe, and provided with an elastic gore, C, all substantially as shown and described.

2. An improved slipper or undershoe consisting of an upper of felted fabric having a single elastic seam, a connection extending from a point at or near the instep to the toe, and a non-elastic binding, all substantially as set forth.

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

HENRY ELIPHALET POND.

Witnesses:
H. E. LODGE,
THOS. T. BAILEY.