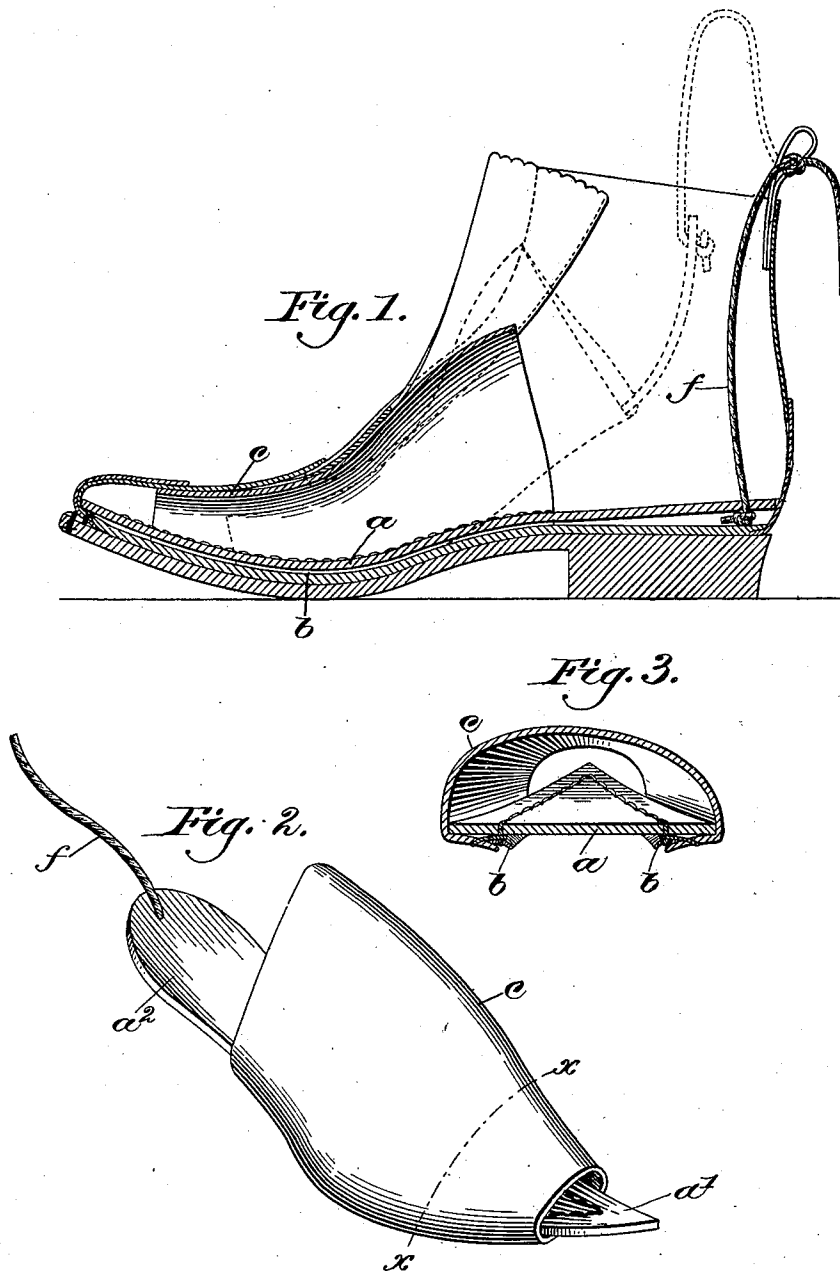


(No Model.)

W. B. ARNOLD.
REMOVABLE FORM FOR BOOTS OR SHOES.

No. 568,325.

Patented Sept. 29, 1896.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM B. ARNOLD, OF NORTH ABINGTON, MASSACHUSETTS.

REMOVABLE FORM FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 568,325, dated September 29, 1896.

Application filed March 20, 1896. Serial No. 584,090. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. ARNOLD, of North Abington, county of Plymouth, State of Massachusetts, have invented an Improvement in Removable Forms for Boots or Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention has for its object to provide a novel and improved form for insertion in a boot or shoe to hold the latter in shape after removal of the last.

15 In the handling of boots and shoes during their process of manufacture, particularly during the latter or finishing operation, the heel and extreme toe portions need little support, the intermediate or instep portions being those which, as a rule, are liable to be jammed and distorted in handling unless properly supported from within.

20 My invention comprehends a shoe-form, preferably a molded shell, adapted to fill but a portion of the length of the shoe, for instance, the instep and ball portions of the shoe, suitable holder or holders being provided extending from the toe or heel ends of the form, it may be both, for the purpose of retaining the said form in proper position within the shoe, the holder at the heel end being adapted to be turned upwardly toward said heel end to thereby shorten the holder to enable it to be inserted in and withdrawn from the shoe. The holder or holders with which the form is fitted is or are preferably made flexible to facilitate insertion and removal of the form.

25 In the preferred embodiment of my invention I employ what might be termed a "false" or "inner" sole of a size adapted to fit within the shoe, and I secure to this false or inner sole the form proper of suitable length and preferably of leather molded into desired form and stitched or otherwise attached to the sole.

30 In the drawings, Figure 1 is a vertical section through a shoe and the form embodying my invention within the shoe; Fig. 2, a perspective view of the form detached; and Fig. 3, a section on the dotted line *x x*, Fig. 2.

35 In the embodiment of my invention selected for illustration and disclosure herein, referring particularly to Figs. 2 and 3, *a* is a false

or inner sole of desired configuration and size and preferably of readily-flexible material, as leather. To the under side of this sole I 55 stitch, it may be through and through, what I call a "welt-strip" *b*, and to this welt I stitch, in a manner clearly illustrated in Fig. 3 and well understood by those skilled in the art, the inturned edges of the body portion *c* 60 of the form. This body portion, which I shall hereinafter call the "form," is of suitable material, preferably leather, molded to conform, approximately at least, to the form of the last on which the shoe is made, and when 65 dried thoroughly and preferably shellacked, varnished, or otherwise finished, forms a light but exceedingly stiff and strong form or support for the shoe.

The form, as shown, fills only the instep 70 and ball portions of the shoe, leaving the sole part *a* projecting at the front or toe *a'* and at the rear or heel *a''* to constitute holders for and to retain the form in proper position within the shoe.

75 To insert the form, the workman turns the holder *a''* upwardly against the heel end of the form and inserts the latter in a manner illustrated by dotted lines, Fig. 1, he being enabled to accomplish this with one hand. 80 When the form has been pushed into proper working position (indicated in full lines, Fig. 1) within the shoe, which working position may be determined by contact of the toe-holder *a'* with the toe of the boot, the heel-holder *a''* is 85 forced down upon the inner sole of the shoe, as in full lines, Fig. 1, the toe and heel holder then acting, respectively, in coöperation with the toe and heel end of the shoe to retain the form in proper working position.

90 To enable the form to be readily removed from the shoe, I have herein provided a flexible cord or strap *f*, suitably attached to the heel end of the holder *a''* and adapted to extend to the top of the shoe, where it may be passed through the usual heel-loop of the shoe to prevent its end dropping within the shoe out of convenient reach by the operator. By means of this cord the holder *a''* may be drawn upwardly, as indicated in dotted lines, 100 Fig. 1, to free the heel, and thereafter the entire form may be readily removed from and at the top of the shoe.

By terminating the molded body or form

short of the toe and heel of the shoe the insertion and removal of the form are made much easier than would otherwise be possible, and it is evident that the projecting holders α' and α^2 , because of their capacity to turn up therein by their flexibility, enable the form to be removed more easily than would be possible were a stiff and rigid sole employed, as with the ordinary last.

The projecting toe-holder α' may, in some instances, be omitted, and the fit of the form within the shoe depended upon to limit the forward movement thereof in the shoe.

From an inspection of Fig. 1 it will be evident that the shortening of the form, as proposed by me, does not lessen the effectiveness of the form in actual use, for the extreme toe portion of the shoe is almost invariably capped and thereby stiffened against collapse and injury, while the portion of the shoe back of the form is stiffened by the usual counter, that portion adjacent the instep and ball portions, which alone is liable to be distorted and crushed, being firmly supported by the form, enabling the shoe to be freely handled.

In use a form embodying my invention presents many and obvious advantages. For instance, when the styles change for a short time instead of ordering five or ten thousand pair of lasts, as will be necessary in a large manufactory, hardly more than half that number need be ordered, and the much cheaper forms embodying my invention used instead of the other half, the lasts being employed, for instance, up to the finish of the heeling and soling operations, when they are removed and the forms inserted to hold the shoes in shape during the remaining operations or until the shoes are finished, thereby saving the manufacturer a considerable sum of money on each type or style of last.

The form may, if desired, be carried completely to the toe of the shoe, thereby eliminating the forwardly-extended holder α' for use in connection with shoes having no toe-cap.

I have described my invention and illustrated the same in the best form in which I now contemplate embodying the same, but my invention need not and is not limited to the embodiment shown, for it is evident the same may be varied without departing from the spirit and scope of my invention.

Having described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. A shoe-form of stiff material adapted to fill a shoe for but a portion of its length, and provided with a rearwardly-extended holder, substantially conformed in shape to the sole of the shoe, and adapted to lie flat directly upon the sole of the shoe, substantially as described.

2. A stiff shoe-form adapted to fill a shoe for but a portion of its length, the same being provided with a rearwardly-extended readily-flexible holder, the flexibility of said holder enabling the latter to be curved or bent upwardly toward the end of said form to shorten the latter to enable it to be removed from the shoe, substantially as described.

3. A stiff shoe-form adapted to fill a shoe for but a portion of its length, and provided with a forwardly-extended flexible holder, substantially as described.

4. A shoe-form adapted to fill a shoe for but a portion of its length, and provided with forwardly and rearwardly extended flexible holders, substantially as described.

5. A shoe-form, comprising a sole, and a molded or shaped body portion, shorter than the said sole, and secured to the latter, substantially as described.

6. The combination with the sole and an independent welt-strip secured thereto, of the molded or shaped body, shorter in length than the said sole, and secured to said welt, substantially as described.

7. A shoe-form adapted to fill a shoe for but a portion of the length of the shoe, and provided with a rearwardly-extended holder adapted to be turned upwardly toward the heel end of the form to thereby shorten the said form to enable the latter to be removed from the shoe, substantially as described.

8. A shoe-form adapted to fill a shoe for but a portion of its length, and provided with a rearwardly-extended flexible holder substantially coextensive with the adjacent rear portion of the sole of the shoe, substantially as described.

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

WILLIAM B. ARNOLD.

Witnesses:

FREDERICK L. EMERY,
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