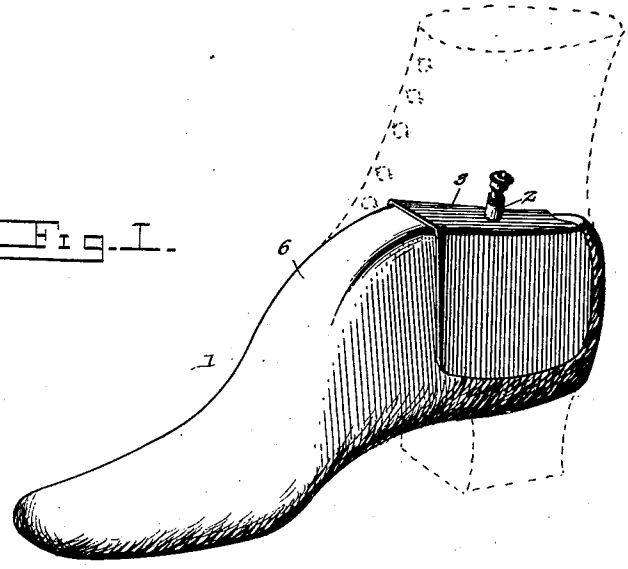
No. 673,063. Patented Apr. 30, 1901.

H. A. RUGGLES & F. E. WIESEN.

PNEUMATIC SHOE FORM.

(No Model.) (Application filed Oct. 25, 1900.)

Fig. 1.



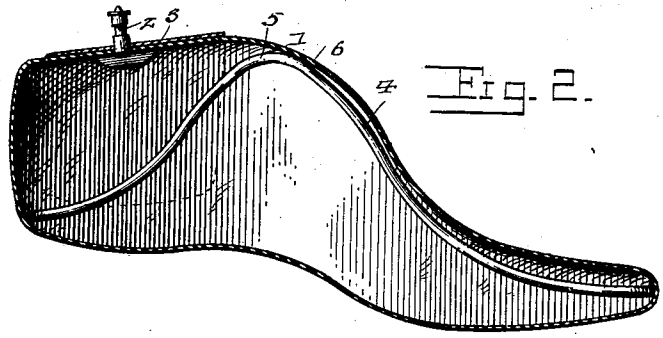
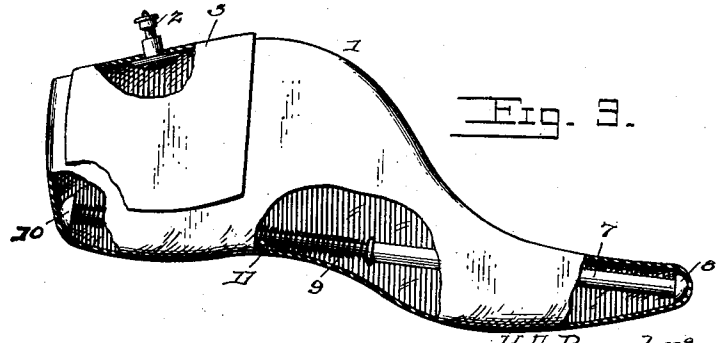


Fig. 2.

Fig. 3.



Witnesses
F. E. Allen.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HARRY ALVAH RUGGLES AND FRANK EDWARD WIESEN, OF MILWAUKEE, WISCONSIN, ASSIGNORS TO ADDA M. BECHER, OF SAME PLACE.

PNEUMATIC SHOE-FORM.

SPECIFICATION forming part of Letters Patent No. 673,063, dated April 30, 1901.

Application filed October 25, 1900. Serial No. 34,340. (No model.)

To all whom it may concern:

Be it known that we, HARRY ALVAH RUGGLES and FRANK EDWARD WIESEN, citizens of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Pneumatic Shoe-Form, of which the following is a specification.

This invention relates to a pneumatic shoe-form or relast appliances designed to be employed as second or insertible lasts for introduction into boots or shoes after the original or first last has been removed and adapted for keeping the uppers of boots or shoes in proper shape and condition during the subsequent operations carried on in their manufacture or for purposes of support and display of boots or shoes.

The object of the present invention is to provide a light-weight last convenient for manipulation and of an adjustable character and that will collapse sufficiently to be removed from the work without unbuttoning or unlacing the shoe and one which will maintain its shape while in use.

With this and other objects and advantages in view the invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a last embodying the features of the invention and showing it applied in a shoe in dotted lines. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a sectional elevation of the improved last, showing a different form of shape-preserver.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates the form-body, which is elastic and hollow and adapted to be formed in any suitable manner. This form is in the shape of the interior portion of the foot member of a boot or shoe, and with the exception of an opening formed therein for the reception of an air-exhaust and feeding-nipple having an automatic valve, as at 2, the form is not disturbed as to its integrality at any other point and is preferably of such thickness as to render it sensitively elastic. Over the upper rear or heel portion of the form a sheet-metal clamp 3 is applied and held in place by having the said nipple extend therethrough and the opposite side portions depend at an angle to the top portion thereof. In the form of the device shown by Figs. 1 and 2 a wire shape-preserver 4 is primarily inserted in the form and has its opposite extremities bearing respectively against the heel and toe portions of the form, the said frame at an intermediate point being arched or bent upwardly, as at 5, to provide a brace or support for the instep 6 of the form. It will be seen that this frame permits the form to be inserted within a boot or shoe without bending or doubling the same and also prevents the form from blowing out or becoming misshaped under pneumatic pressure beyond a predetermined limit when inflated. The said clamp 3 also prevents the back of the form from expanding for obvious reasons.

The modified form of the shape-preserver shown by Fig. 3 embodies a front tubular section 7, having a rounded head 8 at its front end to bear against the toe of the form, and in the open rear end of said section 7 is movably fitted a rear rod 9, having a rounded head 10 on its rear end to bear against the heel portion of the form, a spring 11 surrounding the said rod between the head 10 and the rear end of the section 7 to keep the two parts of the preserver normally extended and hold the form with sufficient rigidity for insertion in a boot or shoe. Both forms of shape-preservers are of a yielding character to prevent wearing strain on the portions of the form with which they engage and also to conform with the general yielding of the form as an entirety without interposing any obstruction to the inflation of the form within requisite bounds.

The improved device will be found exceptionally effective in its use, and while one form can be used with a number of different sizes of boots and shoes it will be understood that various sizes of the form will be pro-

duced, and, moreover, to accommodate variations in fashions the shape or contour may be varied at will.

Having thus described the invention, what is claimed as new is—

An inflatable shoe-form having a top flat portion over the heel extremity thereof, a U-shaped metallic clamp fitted in inverted position over the said flat top portion and provided with a flat top and flat sides projecting downwardly exteriorly of the opposite sides of said heel extremity to prevent inflation of said portion of the form and leaving the rear heel end of the form free for rearward projection, and a yielding shape-preserver located in the form and having the opposite ends thereof directly contacting with and exerting a continuous projecting force on the interior central portions of the toe and heel of the form to prevent the latter portions from bending or doubling when inserted in a shoe.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

HARRY ALVAH RUGGLES.
FRANK EDWARD WIESEN.

Witnesses:
W. J. AITKEN,
THEO. LEUBUSHER.