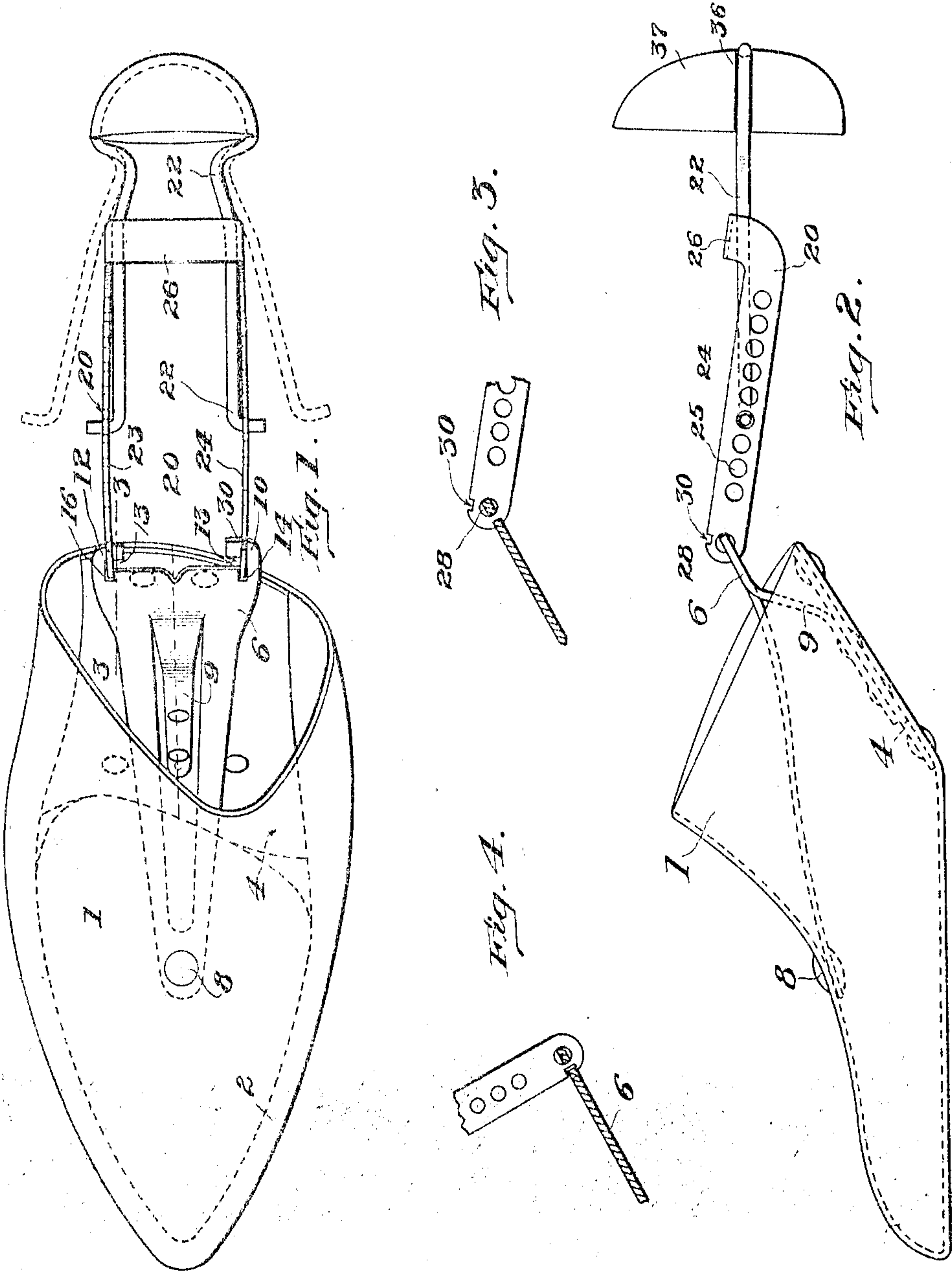


W. S. LOUGEE.
SHOE FORM.
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967,795.

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UNITED STATES PATENT OFFICE.

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SHOE-FORM.

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To all whom it may concern:

Be it known that I, WILLIAM S. LOUGEE, a citizen of the United States, residing at Rochester, in the county of Strafford and State of New Hampshire, have invented certain new and useful Improvements in Shoe-Forms; 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.

This invention relates to an improvement in shoe forms.

One object of the invention is to produce a shoe form or tree with a rear part having improved means whereby it is readily adjustable in length to vary the length of the form and which affords a rigid construction.

A further object is to provide a shoe form with a detachable rear part which is adapted to be used with a fore part having any desired shape, and having means whereby the rear part is securely locked in position upon the fore part.

Another object of the invention is to produce a shoe form adapted for cheap manufacture by reason of the inexpensiveness of the materials of construction—leatherboard, wood, sheet iron or steel and wire—and by reason of a construction which lends itself to facility of manufacture.

To these ends the invention consists in the shoe form hereinafter described and claimed.

In the accompanying drawings Figure 1 is a plan view of the shoe form showing in dotted lines the position which the expanding member of the rear part tends to assume; Fig. 2 is a side elevation of the shoe form; Fig. 3 is a fragmentary sectional elevation taken on the line 3—3 in Fig. 1, showing the parts in the position which they assume while in place in a shoe; and Fig. 4 is a similar sectional view showing the relative position assumed by the fore and rear parts when they may be detached from one another.

As shown in the drawings, the shoe form comprises a fore part 1 made of leatherboard, molded into the desired shape. The lower edge of the fore part is formed with a flange 2 which is widened at the shank and secured to a gusset plate 4 by means of rivets. A metal stiffening plate and hinge piece 6 is secured by means of a rivet 8 to

the upper side of the fore part, and is provided with a downwardly deflected tongue 9 which is riveted to the gusset plate 4. The rear end of the plate 6 is provided with projections 10 and 12 respectively which are turned inwardly to form pintles upon which the rear part of the form is adapted to pivot. Slots 14 and 16 in the plate 6 serve to hold the ends of the toggle link of the rear part on the pintles 10 and 12 in all usual positions.

The rear part of the form is composed of a toggle link 20 and a heel piece 22 which are pivotally connected and so mounted with relation to the fore part that they constitute a toggle. The toggle link 20 is formed of an integral strip of sheet iron or steel and comprise two parallel sides 23 and 24 each provided with adjustment holes 25. The sides of the toggle link are united by a transverse finger-hold 26. The free ends of the sides 23 and 24 are provided with pivot holes 28 which embrace the pintles 10 and 12. The upper edges of the sides 23 and 24 are provided with notches 30 corresponding in width to the thickness of the plate 6. The distance from the bottom of the notches 30 to the holes 28 is slightly less than the width of the opening 13 between the inner edges of the projections 10 and 12 and the opposing edge of the plate 6, as will be seen by reference to Fig. 4. By placing the toggle link in the engaging and disengaging position indicated in Fig. 4, the free ends of the sides 23 and 24 may be caused to enter or leave the slots 14 and 16, and when tilted into any other position they are prevented from removal therefrom.

The heel piece 22 is formed of spring wire and wood. It is provided at its forward end with outwardly projecting pivots 32 and 34 which enter any pair of the holes 25, so that the length of the rear part (comprising the toggle link and heel piece) and consequently the length of the shoe form, may be adjusted. The spring wire is received in a groove 36 formed in the wooden heel 37, shaped to fit the heel portion of the shoe. The spring wire of the heel piece 22 is so shaped that it tends to spring outwardly and to assume its normal shape as shown in dotted lines in Fig. 1. This tendency results in maintaining its pivots 32 and 34 in engagement with the holes 25 of the toggle

link 20 and to hold the sides 23 and 24 of the latter in engagement with the pintles 10 and 12, thus preventing any tendency of the rear part to become detached from the fore part when the rear part is in collapsed position.

In order to place the form in a shoe, the rear part is collapsed and the fore part is placed in the shoe, then the toggle link is pushed downward to lengthen the rear part until it assumes the position shown in Fig. 2. The pivot of the connection between the heel piece 22 and the toggle link 20 is below the line of pressure, that is, the line connecting the projections 10 and 12 and the groove 36. Thus the rear part is a toggle which is over-set and maintains the form in proper position within the shoe. By drawing up the toggle link 20 by taking hold of the finger-hold 26 with the finger, the rear part may be collapsed and the form withdrawn from a shoe.

It is to be observed that the rear parts for shoe forms of widely varying sizes may be identically the same in size and construction being assembled with a proper fore part to fit the given shoe. This materially reduces the cost of manufacture as a single set of dies and tools for forming the rear parts can be used without change for making the rear parts for forms of many different sizes of shoes. This is an important feature of the invention. Furthermore, it is to be noted that the heel piece is provided with outwardly expanding ends adapted to extend outwardly through the holes in the toggle link which not only increases the rigidity of the construction of the rear part by reason of the fact that the sides of the wires extending forward from the heel engage frictionally with the inner sides of the toggle link, but tends also to prevent too free relative movements of the toggle link and heel piece and to hold the parts in adjusted position once put in place in a shoe. Again the separation of the sides of the toggle link and the forwardly extending wires of the heel piece from each other tends to render the construction much stiffer than if they lay in close proximity to each other. The metal parts of the form are adapted to be stamped up from sheet metal and shaped into their final forms by simple bending processes. This contributes to reduce the cost of manufacture.

Having thus described the invention what is claimed is:—

1. A shoe form comprising a fore part, a hinge plate secured to the fore part and provided with oppositely disposed inwardly extending pintles, and a rear part pivotally mounted upon said pintles, said rear part

having means tending to hold it on the pintles.

2. A shoe form comprising a fore part, a hinge plate on the fore part provided with locking recesses, pintles adjacent to the recesses and a rear part having a member provided with holes for receiving the pintles and held thereon by the said recesses in said plate on the fore part.

3. A shoe form comprising a forepart and a rear part comprising a toggle link and heel piece, the toggle link being pivotally connected with the forepart and the heel piece being pivotally attached to the toggle link and distorted by its attachment thereto in such manner as to tend to prevent the detachment of the toggle link and forepart, substantially as described.

4. A shoe form comprising a hollow leatherboard forepart, a stiffening plate having an upwardly extended tongue secured to the upper side of the forepart and a downwardly extended tongue secured to the bottom of the forepart, acting to brace the forepart, substantially as described.

5. A shoe form comprising a leatherboard forepart having a stiffening plate and hinge piece comprising a hinge member located at the rear of the forepart, and two tongues, one extending diagonally upward and secured to the inside of the upper part of the forepart, and the other extending diagonally downward and secured to the inside of the bottom of the forepart, substantially as described.

6. A shoe form comprising a forepart and a rear part consisting of a toggle link pivoted at its forward end to the forepart, provided with a plurality of pintle holes, and a heel piece consisting of a wooden block shaped to engage the counter portion of the shoe and provided with a groove, and a wire laid in the groove and extending forwardly and provided on its end with outwardly extended pintles adapted to engage the adjustment holes in the toggle link, substantially as described.

7. A shoe form comprising a forepart and a rear part the latter consisting of a U-shaped toggle link having its free end pivotally attached to the forepart and provided with pintle holes in its sides and a heel piece consisting of a transversely grooved heel block and a U-shaped wire lying in the groove of the block, and having its free ends pivoted in the pintle holes of the toggle link, substantially as described.

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