

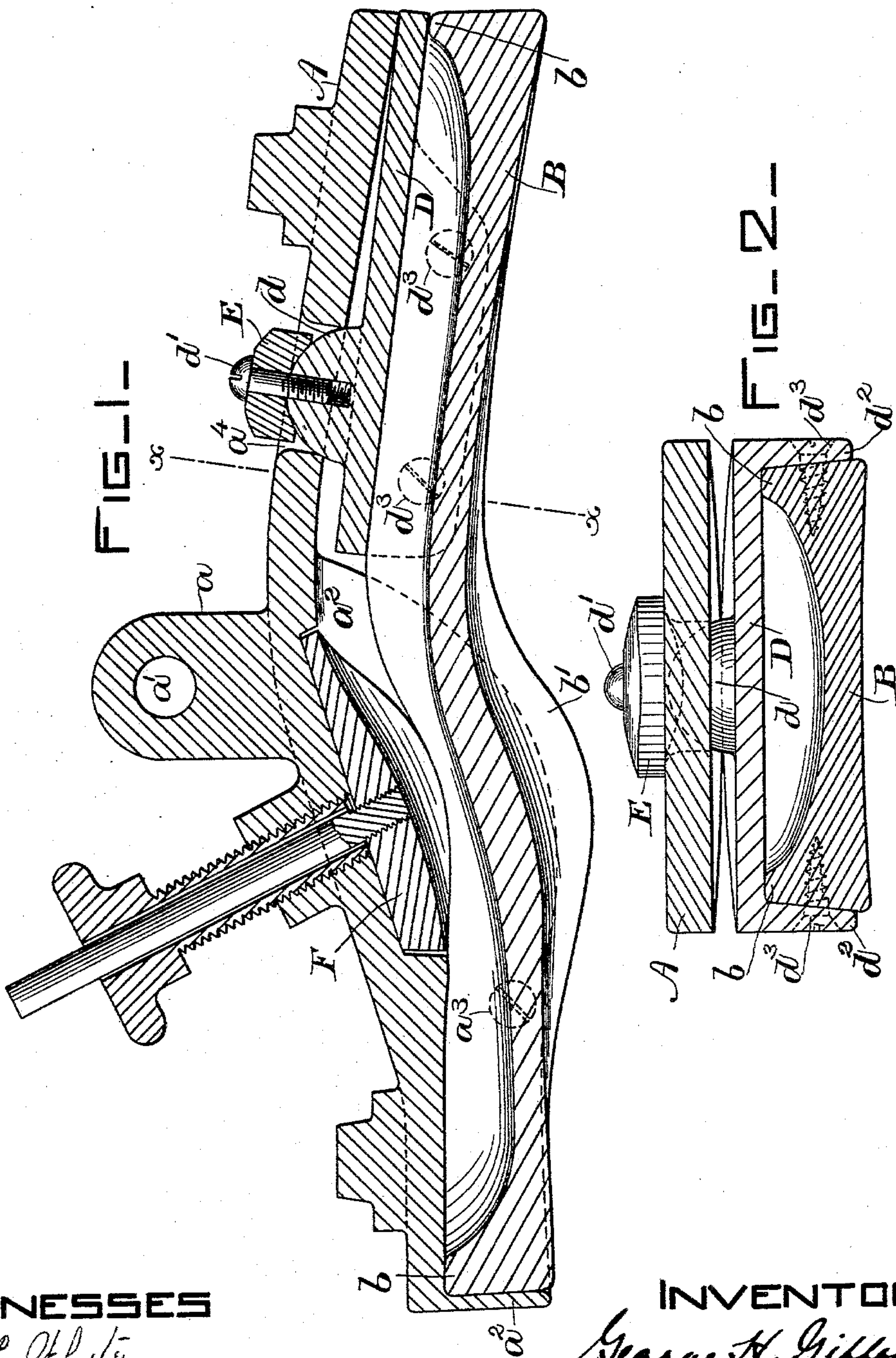
(No Model.)

G. H. GIFFORD.

PRESSING FORM FOR SOLE LAYING MACHINES.

No. 584,038.

Patented June 8, 1897.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE H. GIFFORD, OF BROCKTON, MASSACHUSETTS.

PRESSING-FORM FOR SOLE-LAYING MACHINES.

SPECIFICATION forming part of Letters Patent No. 584,038, dated June 8, 1897.

Application filed December 21, 1896. Serial No. 616,407. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. GIFFORD, a citizen of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Pressing-Forms for Sole-Laying Machines; 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.

The present invention relates generally to pressing-forms for sole-laying machines, and more particularly to such types of said forms as embody a continuous elastic pressing-pad, whereby, after the cemented sole is placed upon the bottom of the unfinished shoe upon its last, it is pressed to bring it to the proper contour to be stitched to the welt and to set the cement to temporarily hold the sole in the required position.

As many styles of lasts are made there is what is commonly termed a "twist" therein, which brings the plane of the bottom of the fore part laterally oblique to the plane of the bottom of the heel. In other words, as the shoe is commonly jacked with the sole up one edge of the fore part is lower than the other. When the usual form of continuous pad is applied to a last of the shape above designated, in order that the lower edge of the fore part may be brought under pressure the upper edge must be embedded in the material of the pad, and for the above reason before sufficient pressure can be brought upon the lower edge of the sole to properly lay the same too great pressure is brought to bear on the upper edge, bringing it too far down over the edge of the last.

Attempt has been made in the prior art to remedy the objections above noted by the use of a relatively thin pad or pressing-sheet supported upon independently-yielding sections, commonly spring-supported, as shown, for example, in patent to Eppler, No. 315,923, dated April 14, 1885; but it is evident that since the spring-supported sections hold the pad in a substantially horizontal position before the pad can be brought in contact with the lower edge of the sole, which is the upper edge, as shown in said patent, the springs supporting the pad-supporting sections along the op-

posite edge must be sufficiently compressed to tip said sections to allow the pad to conform to the twist in the last, and if the springs are stiff enough to properly support the sections during the sole-laying operation, owing to the additional compression of the springs along the high side of the last, or, as arranged in said Eppler patent, along the low side of the last, a substantial increase of pressure will be obtained thereon.

The object of the present invention is to do away with the independently-yielding supporting-sections of the prior art and to provide a continuous pad, the heel and fore-part portions of which shall have a relatively twisting or torsional movement to enable the pad to conform to the twist in the last without a substantial difference in the pressure obtained upon opposite sides of the last; and to the above end the present invention consists of the devices and combinations of devices hereinafter set forth and claimed.

A preferred form of the present invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal central vertical section through a form embodying the same; and Fig. 2 is a transverse section on line *xx*, Fig. 1.

Similar letters of reference indicate like parts in both views.

In the drawings, A represents the supporting-bed, which is rigid and preferably has the general contour of the bottom of the last. The bed A conveniently carries a boss *a*, having a bearing *a'* for the trunnion, which secures the form in position upon the machine.

The pressing-pad is shown at B and is made of rubber or other suitable material and may be a continuous pad of any suitable form and construction. As shown in the drawings, the pad B is of substantially the form and construction shown and described in Letters Patent of the United States No. 549,471, issued to Erastus E. Winkley November 5, 1895, having the reinforcing-strip *b* and the projected shank portion *b'*.

In accordance with the present invention the heel portion of the pad B is fixedly secured to the bed A, and the fore part is secured to said bed in such manner that it is free to twist or move torsionally with refer-

ence to the fore part to conform to the twist in the last.

As shown in the drawings, I secure the above-suggested result as follows: From the heel portion of the bed A is projected the downwardly-extending flange a^2 , which preferably surrounds the heel portion of the pad B and to which the pad B is secured conveniently by means of the bolts a^3 , extending through the flange a^2 and the reinforcing-strip b . The fore part of the pad B is not secured directly to the bed A, but is mounted upon what I have herein termed the "fore-part rest" D, which is mounted upon the bed A.

As shown in the drawings, the fore-part rest D is provided upon its upper face with a hemispherical boss d , which is fitted to a circular bearing a^4 in the bed A. In the boss d is formed a threaded bearing for a bolt d' , which passes through a block of rubber or other suitable elastic material E, the head of the bolt d' resting upon the upper surface of the block E. The block E spans the aperture in the bed A, formed by the circular bearing a^4 , and overlaps and is supported by the bed A.

The function of the block E is to hold the boss d up to its fit in its bearing a^4 and at the same time to allow it to move freely in the bearing a^4 to allow the fore-part rest to tip, as hereinafter described. The block E also acts to return the fore-part rest D to its normal position after it has been tipped to enable the pad to conform to a twist in the last. While I find the block E to be a simple and effective means for securing the desired result, I by no means consider the present invention limited to such arrangement, but I consider that my present invention includes any means of supporting the boss d in its bearing a^4 which will permit a movement of said boss to allow the fore-part rest D to move as required. I may further say in this connection that it is not essential that the boss d be connected with the bed A by an elastic connection, because the elasticity of the pad itself, since the heel portion is fixed as before stated, will act to restore the fore-part rest D to its normal position after pressure has been removed from the pad. The boss d and its bearing a^4 form an unyielding support for the fore-part rest D at any inclination.

The fore-part rest D is preferably provided with the downwardly-projecting flanges d^2 , through which pass bolts d^3 or other suitable fastening, whereby the pad B is secured to the fore-part rest D, the reinforcing-strip b bearing against the lower face thereof.

The form may be provided with the usual shank-block F, but no further description thereof is necessary herein, as such devices are well known in the art and form no part of the present invention.

The operation of my invention, in so far as it need be described herein, is as follows: The usual seating of the form common in many types of sole-layer machine, before the motion of compression commences, causes the

fore-part support to tip in the required direction, the block E being arranged to yield to a slight effort, and the pad B is brought into conformity with the sole. The motion of compression then commences, and since the fore-part rest D is unyieldingly supported at any required inclination the pad, in whatever position it may have been brought, exerts an even pressure upon both sides of the fore part. If while pressure is being applied one side of the fore part of the sole is brought down below the other, the fore-part rest will be immediately further tipped until the pressure upon opposite sides of the sole has been equalized.

I am aware that it has heretofore been proposed to mount the whole form upon a hemispherical boss, but such arrangement, while permitting the whole form to tip in any direction, permits no torsional movement of the fore part with reference to the heel portion. I am also aware that it has been proposed to mount a continuous elastic pad upon a series of transverse rigid ribs extending across the pad and supported on a bed of rubber, but such bed of rubber, so far as it permits any tipping of the ribs to allow a torsional movement of the parts of the pad, is clearly the equivalent of the springs, as hereinbefore referred to, and the construction has all the disadvantages hereinbefore proposed. It has also been proposed—as, for example, in patent to Coy, No. 376,406—to provide a series of independent pad-sections, free to tip in any direction, but in so far as I am advised of the state of the art I am the first to provide in a form for sole-laying machines a continuous elastic sole-pressing pad having a relatively fixed heel portion and a fore part capable of a torsional movement relatively to the heel portion and capable of applying a uniform pressure to all parts of the sole.

I therefore claim as novel and desire to secure by Letters Patent of the United States—

1. In a form for sole-laying machines, a continuous elastic sole-pressing pad having a relatively-fixed heel portion, and a fore part free to move torsionally with reference to the heel portion, substantially as described.

2. In a form for sole-laying machines, the combination, with a rigid supporting-bed, of a continuous elastic sole-pressing pad, the heel portion of which is fixedly secured to said form, and a fore-part rest supporting the fore part of the form, and free to tip laterally upon the bed, substantially as described.

3. In a form for sole-laying machines, the combination, with a rigid supporting-bed, of a continuous elastic pressing-pad, the heel portion of which is fixedly secured to said bed, and a fore-part rest supporting the fore part of the pad, and mounted to tip in all directions on the bed, substantially as described.

4. In a form for sole-laying machines, the combination with a rigid supporting-bed, of a continuous elastic pressing-pad, the heel

portion of which is fixedly secured to the bed, and a fore-part rest provided with a hemispherical boss free to move in all directions in bearings in the bed, substantially as described.

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5. In a form for sole-laying machines, the combination, with a rigid supporting-bed, of a continuous elastic pressing-pad, the heel portion of which is fixedly secured to the bed, a fore-part rest for the fore part of the pad, and suitable connections between the fore-part rest and bed arranged to permit a tipping movement of the fore part to allow the fore part to adjust itself to a twist in the last, substantially as described.

6. In a form for sole-laying machines the combination, with a supporting-bed, of a continuous elastic pressing-pad, the heel portion of which is fixedly secured to the bed, a fore-part rest, a ball-and-socket connection between the fore-part rest and bed, and an elastic block or washer arranged to hold the ball to its bearing in the socket and to permit it to turn therein, substantially as described.

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

GEORGE H. GIFFORD.

Witnesses:

JOHN J. COLLINS,
A. O. ORNE.