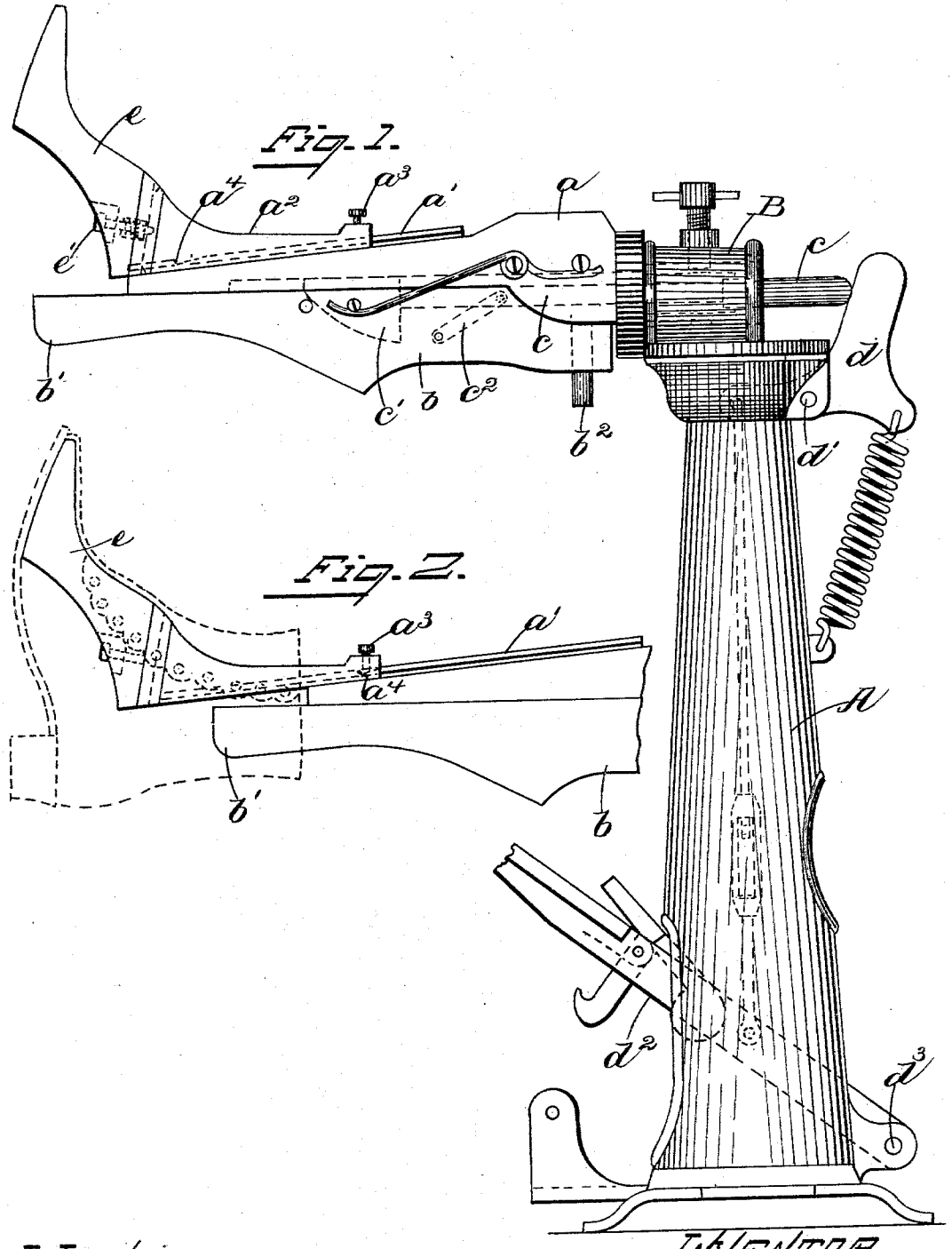
(No Model.)

J. E. LAWTON.

MACHINE FOR SHAPING BOOTS OR SHOES.

No. 589,732. Patented Sept. 7, 1897.



WITNESSES.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN E. LAWTON, OF SWAMPSCOTT, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE MORLEY FINISHING MACHINE COMPANY, OF MAINE.

MACHINE FOR SHAPING BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 589,732, dated September 7, 1897.

Application filed December 12, 1895. Renewed March 22, 1897. Serial No. 628,745. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. LAWTON, of Swampscott, county of Essex, State of Massachusetts, have invented an Improvement in Machines for Shaping 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.

This invention has for its object to improve the construction of shaping or treeing machines especially adapted for shaping or treeing button-boots, it being so constructed and arranged that a button-boot may be drawn onto the form while buttoned, and after it has been shaped or treated in any desirable way may be withdrawn from said form without unbuttoning, thereby greatly facilitating the work and also giving shape to the ankle and top portions; and the invention consists in details of construction, as will be hereinafter described.

Figure 1 shows in side elevation a shaping-machine embodying this invention; Fig. 2, a detail of the form, showing the fore part drawn out.

The standard or base A has at its upper end a socketed frame B, which receives the cylindrical hub of the expansible form. The main frame *a* of the expansible form has at its knee end this cylindrical hub, and said frame *a* constitutes the front leg portion of the form. The back leg portion *b* is supported by the frame *a*, it being hollowed out and provided at one end with a heel *b'* and at its opposite end with a hole adapted to receive a guide-pin b^2, projecting from the frame.

The back leg portion *b* is supported by a spring or springs (see Fig. 1) attached to the knee end of the frame and extending forward and engaging pins on the back leg part in advance of the guide-pin b^2 and about midway the length of said part.

The back leg portion *b* is made movable toward and from the frame by means of an expanding or spreading device consisting of a rod *c*, having thereon a wedge *c'*, which acts upon a transverse bar, or it may be a roll supported by the back leg portion and a link c^2, connected loosely at one end to the rod *c* and at its opposite end to the back leg portion. The back leg portion is acted upon at two points some distance from each other and is bodily moved, being guided in such movement by the guide-pin b^2. The rod *c* projects axially through the cylindrical hub and is acted upon by a bell-crank lever *d*, pivoted at *d'* to a stand or post, one arm of said lever being connected by a rod with a treadle d^2, pivoted at d^3. As the treadle is depressed the rod *c* is moved longitudinally, thereby moving the back leg portion outward.

The frame-bar or front leg portion *a* of the form is herein represented as having a T-shaped rib *a'*, which receives upon it a slide a^2, having a groove shaped to receive said rib and slide along thereon freely. This slide a^2 is herein represented as formed to constitute a shin-piece of the expansible form, and it has a spring-pressed pin a^3, which bears upon the rib *a'*, and when the shin-piece is withdrawn to its fullest extent it enters a notch a^4, formed therein.

The shin-piece a^2 is formed at its outer end with a flat face, against which abuts the upper flat face of the detachable fore part *e*. One of the abutting faces has a dovetailed groove and the other a projection shaped to enter it, and a spring-pressed pin *e'* passes through or is arranged on the fore part, which by entering the socket in the front face of the shin-piece assists in securing the parts together.

The shank portion of the fore part *e* is cut away or removed adjacent the heel, the line of severance being more or less oblique, and the material so removed is sufficient to so materially diminish the thickness of the fore part at the instep as to bring the measurement at such point the same or less than the ankle or ball measurement. By thus reducing the measurement at this point it will be seen that when the fore part is drawn out, as shown in Fig. 2, the heel measurement of the form will be reduced to or less than the ankle measurement, and, in fact, the measurements of the form are for the most part materially less than the ankle measurement, and as a result a buttoned boot can be drawn onto the form

easily. After or as the boot is drawn on the fore part is returned to its proper place, as represented in Fig. 1, and the form may then be expanded and the buttoned boot or shoe shaped. The buttoned boot or shoe thus shaped can then be withdrawn from the form without unbuttoning and its shape thereby left undisturbed. To assist in this work, the slide carrying the fore part is made to gradually approach the heel as it is drawn out, this result being accomplished by providing an inclined raceway or support for the slide, but while this feature does materially assist in accomplishing the essential object of this invention—namely, to draw onto and off of an expansible form a buttoned boot or shoe—yet I do not desire to limit my invention to an expansible form having a fore part and heel so arranged that one gradually approaches the other as the boot is withdrawn.

I claim—

1. In a shaping-machine for boots and shoes, the combination of a back leg portion having a heel, a front leg portion having an oblique face, a fore-part support sliding on said oblique face and a fore part detachably connected to said support, having its shank adjacent the heel removed, and means for limiting the withdrawal of said fore-part support, substantially as described.

2. In a shaping-machine for boots and shoes, an expansible form comprising essentially front and back leg parts, the latter being bodily movable with relation to the former, and an expanding device comprising a rod having thereon a wedge, which engages a pin on the back leg part, and a link connected loosely at one end to said rod and at the other end to said back leg part some distance from said pin, substantially as described.

3. In a shaping-machine for boots and shoes, an expansible form comprising a front and a back leg portion, means for moving the latter bodily with relation to the former, a guide-pin for said back leg portion, at the rear end thereof, and a spring supporting said back leg portion which engages it in advance of said guide-pin, substantially as described.

4. In a shaping-machine for boots and shoes, a form having a frame, a shin-piece sliding thereon and carrying a fore part, and a spring-pin adapted to limit the withdrawal of said shin-piece, and when operated to permit detachment of said shin-piece, substantially as described.

5. In a shaping-machine for boots and shoes, an expansible form comprising a back leg portion having a heel, a front leg portion having an oblique face, an expanding device for moving said back leg portion away from said front leg portion, to expand the form, a fore-part support sliding on said oblique face, a fore part detachably connected to said support, the instep and heel measurements of the form both being reducible to the ankle measurement, when said fore part is drawn out and means for limiting withdrawal of said fore-part support, substantially as described.

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

JOHN E. LAWTON.

Witnesses:
B. J. NOYES,
F. H. DAVIS.