(No Model.)

G. E. GOODING & E. H. TAYLOR.

JACK FOR BOOTS AND SHOES.

No. 263,894. Patented Sept. 5, 1882.

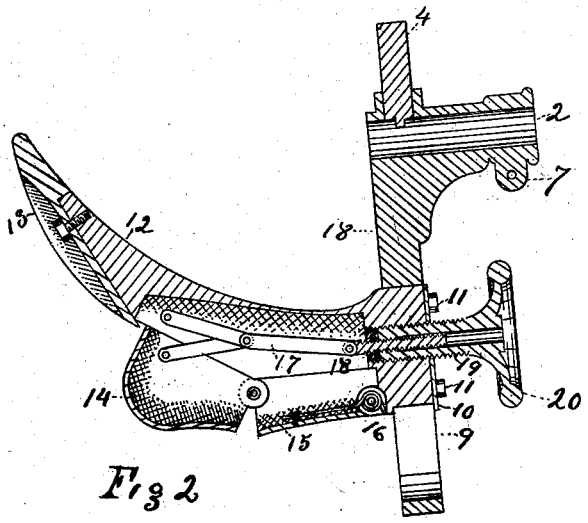

Fig 2

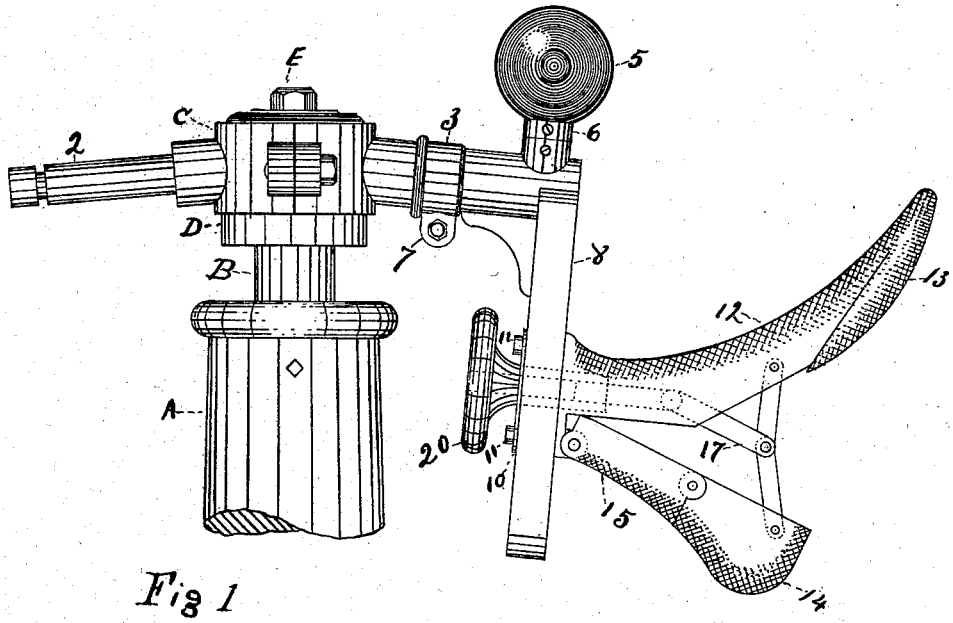

Fig 1

Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE E. GOODING AND EUGENE H. TAYLOR, OF LYNN, MASS., ASSIGNORS TO THE HUTCHINSON EDGE SETTER COMPANY, OF PORTLAND, ME.

JACK FOR BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 263,894, dated September 5, 1882.

Application filed March 13, 1882. (No model.)

To all whom it may concern:

Be it known that we, GEO. E. GOODING and EUGENE H. TAYLOR, both citizens of the United States, residing at Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Jack Mechanisms for Holding Boots or Shoes, of which the following, taken in connection with the accompanying drawings, is a specification.

Our invention relates to that class of mechanisms used in manufacturing boots and shoes for the purpose of holding the boot or shoe while the same is being operated upon by the workman, and is especially useful in connection with the machine for which Letters Patent of the United States No. 243,675 have already been granted.

The object of this invention is to provide a last capable of being readily and easily adjusted to admit of the boot or shoe being quickly put on or taken off the same, and capable of being readjusted to firmly hold the boot or shoe while on the same, and also permit of being rotated to turn the boot or shoe over without throwing the toe thereof out of the center of the axis of rotation. It further relates to matters of construction in the operative mechanism, to be hereinafter fully described and specifically claimed.

In the accompanying drawings, Figure 1 shows a side elevation of our jack mechanism. Fig. 2 shows a longitudinal vertical section of the same removed from its supporting-column.

In the column A is a fixed stud, B, and on the stud B is a hub, C, that turns on the stud between the collar D, which is fixed thereon, and the flanged nut E, which is screwed over the end thereof. Between said hub and the nut E is a friction-batten, whereby the free movement of the hub may be regulated in an obvious manner. The hub C is provided with one or more arms, 2, which project radially from the hub, and are preferably given a slight inclination downward, as shown. Each of the said arms 2 is provided with a sleeve, 3, arranged to turn on the arm 2, and is prevented from sliding off the arm by reason of the pin 4, which passes through a boss on the sleeve and enters a groove in the arm, as shown in Fig. 2. On the end of this pin 4 is a counterweight, 5, that is adjustable on the pin 4 by means of set-screw 6. The sleeve 3 is provided with two ears, 7, between which the sleeve is slotted longitudinally, and a bolt passes through these ears, drawing together the sides of the sleeve, thereby regulating its grip on the arm 2, and thus regulating its free movement about the same. The sleeve is further provided with an offset, 8, in which is a longitudinal slot, 9, arranged to receive the shank of the holding-last, which is fastened to the offset by clamping-plate 10 and stud-bolts 11 11, and permits of longitudinal adjustment in the slot.

The holding-last is composed of a fore part, 12, a toe part, 13, a heel part, 14, and a rear ankle portion, 15, which said parts have exterior conformations substantially as shown, and are dug out interiorly to form a chamber for the operative levers, as well as for the purpose of diminishing the weight of the said several parts. The fore part, 12, has on its bottom face a tongue, (not shown,) which extends longitudinally along the same, and which dovetails into a groove in the toe part 13, thus allowing the toe part to be moved outward as occasion requires it for the purpose of lengthening the last. When the desired adjustment is obtained the toe part is fastened from further movement by means of an ordinary set-screw in an obvious manner. The rear ankle part, 15, is hinged to the fore part, 12, in a manner to swing outward therefrom, as shown in Fig. 1, and the heel part 14 is hinged to the end of said ankle part 15 in a manner to swing inward therefrom, as shown in Fig. 2. The spring 16 has one end secured to the shank portion of fore part, 12, and bears inward at its free end, thereby tending to close the said rear part, 15, inward against the fore part, 12. Within the chamber formed by the union of these several parts is placed the operative mechanism, or a portion thereof, composed of a pair of toggle-arms, the outer ends of which are jointed respectively to the heel part 14 and the fore part, 12, and the opposite ends of which are jointed to the link 17, which

link 17 has its opposite end connected to the screw-shaft 18. Said screw-shaft 18 works in a female screw cut in the inner bore of the tubular shaft 19, and on the outside of said tubular shaft 19 is a thread that engages in a female screw cut in the inner bore of the fore part, 12. Thus is formed a double screw to more rapidly operate the toggle-arms for the purpose of opening and closing the several parts of the holding-last.

The workman, when about to operate this our improved jack mechanism, should first adjust the toe-piece 13 to adapt the length of the last to the size of the shoe which it is intended to place thereon. He may then, by turning the wheel 20, draw the shank and heel portions of the last into position, as shown in Fig. 2, whereupon the usual long-legged boot may be drawn over the last with as much ease as the ordinary shoe. This done, a reverse movement of the wheel 20 throws outward the said parts, as shown in Fig. 1, thereby straining and tightly holding the boot or shoe upon the last. In case it is be used in connection with the edge-setting machine referred to above, we prefer to arrange the holding-last on the offset 8, so that the toe of the last will be practically in the line of the axis of motion of the sleeve 3 about the arm 2. We also prefer in such case to give the arms 2 a slight incline, as shown, as this overcomes the curve of the boot or shoe sufficiently to bring the cross-lines of the edge-surface of the toe portion of the boot or shoe into a practically horizontal plane while the same is in substantially the position shown in Fig. 1.

We claim—

1. The combination of the supporting-column, one, or more arms, 2, and the sleeve 3, secured loosely upon such arm, such sleeve having the slotted offset 8 to receive the jack, and the counter-weight 5, all substantially as described.

2. The slotted supporting standard or offset 8, in combination with the shank 12 of the last, and with a screw passing through such shank and connected by a link, 17, with toggles secured respectively to hinged toe and heel portions of such last.

3. A last composed of the toe-pieces 12 and the heel-piece hinged thereto, in combination with the spring 16, against the pressure of which such hinged portions are forced apart by the screw-and-toggle mechanism, substantially as described.

4. A last composed of a toe-piece, 12, having an adjustable extension, 13, and a hinged heel-piece composed of hinged top and bottom pieces, 15 and 14, and connecting-levers, all substantially as described.

In testimony whereof we have signed this specification.

GEO. E. GOODING.
EUGENE H. TAYLOR.

In presence of—
C. B. TUTTLE,
LUTHER F. GATCHELL.