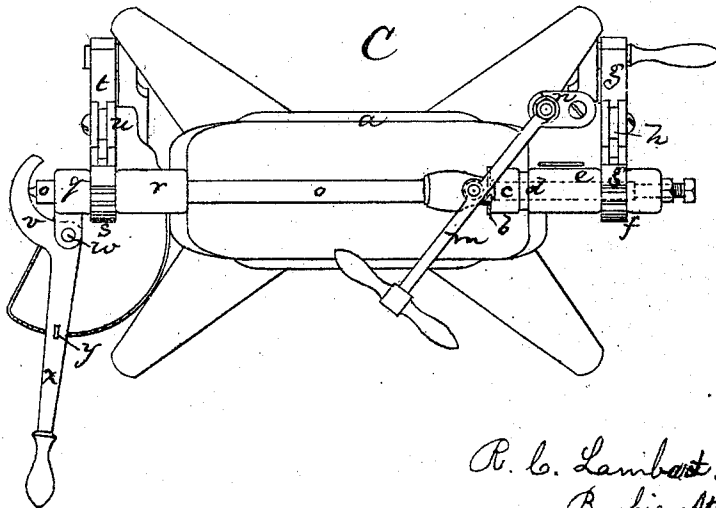
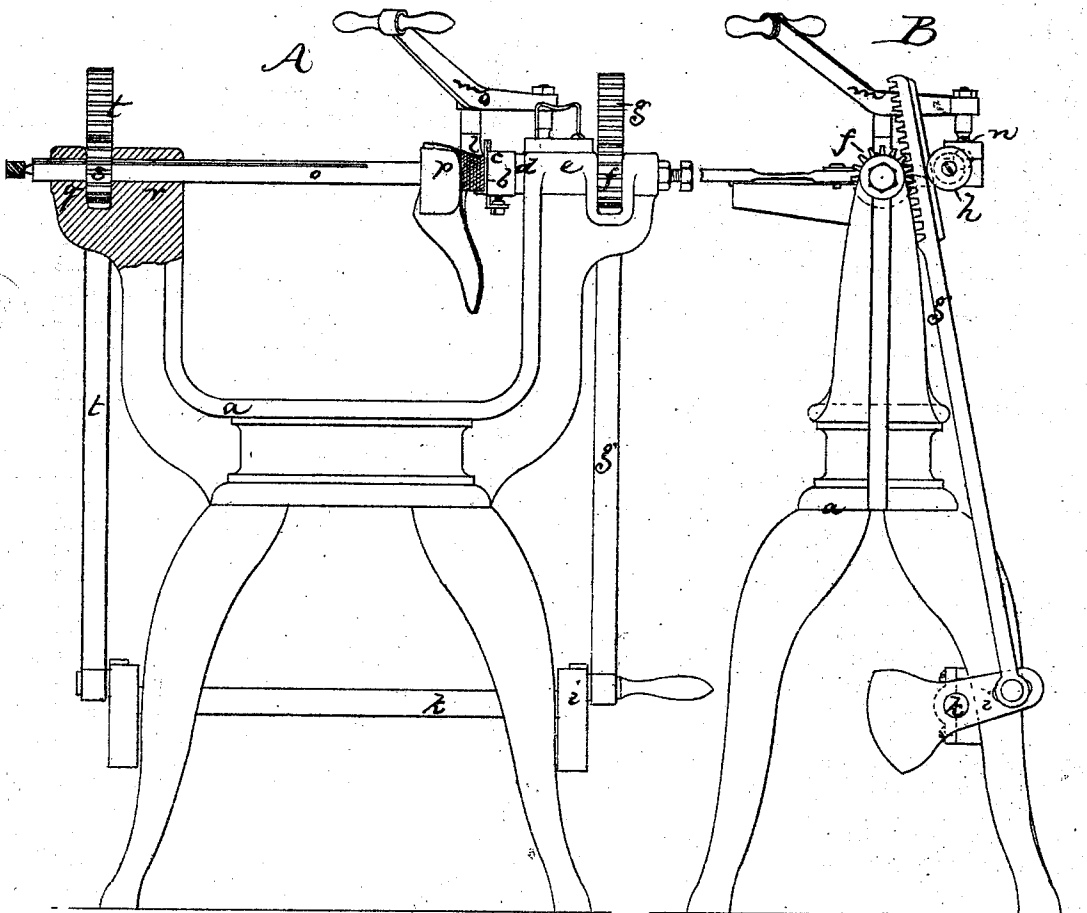


R. C. LAMBART.

Machine for Burnishing the Heels of Boots and Shoes.

No. 123,112.

Patented Jan. 30, 1872.



Witnesses,
M. W. Frothingham.
J. B. Kiddle.

R. C. Lambart.
By his Atty.
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UNITED STATES PATENT OFFICE.

RICHARD C. LAMBART, OF QUINCY, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR BURNISHING THE HEELS OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. 123,112, dated January 30, 1872.

To all whom it may concern:

Be it known that I, RICHARD C. LAMBART, of Quincy, in the county of Norfolk and State of Massachusetts, have invented an Improved Machine for Burnishing the Heels of Boots and Shoes; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

United States Letters Patent No. 117,955, dated August 8, 1871, were granted to me for certain improvements in machines for burnishing the heels of boots and shoes, and in such machines the boot is jacked or clamped to a heel-plate, which plate is at the inner end of a shaft to which a reciprocating rotative movement is imparted to bring the whole length of heel-edge under the action of a burnishing-tool, said tool being attached to a hand-worked lever which permits the tool to be freely moved over and pressed against the heel-edge.

My present invention relates to an organization embodying such a construction. In said patented machine the heel-plate reciprocates rotatively and imparts a corresponding movement to the shoe, but the clamping-shaft is stationary during the burnishing operation, the shoe rotating against or with respect to the end of said clamping-shaft. For this reason the shoe had to be clamped very tightly in order to insure its rotative movement or to prevent it from slipping; and the pressure against the heel-lifts was apt to be so great as to cause them to expand or open after the pressure was removed. To obviate this I now clamp the shoe between a heel-plate, operated substantially as before, and the end of a shaft to which a corresponding rotative movement is imparted so that, as both clamping-faces operate as one, the heel requires only a clamping pressure sufficient to hold it between such faces, the rotative movement of both members of the clamp insuring the corresponding movement of the shoe. This clamp-shaft is made to slide axially, being secured in position against the heel by any suitable locking mechanism. It is in this construction that my present invention primarily consists.

The drawing represents, in sectional eleva-

tion, in end view, and in plan, a machine embodying the invention.

a denotes the stand or frame; *b*, the heel-plate on the face of a block, *c*, fixed upon the end of a short horizontal shaft, *d*, journaled in a suitable bearing, *e*, said shaft carrying a gear, *f*, to which reciprocating rotative movement is imparted by a vertically-reciprocating gear-bar, *g*, the toothed end of which is held in engagement with the gear *f* by a roll, *h*, while the opposite end is jointed to a crank-arm, *i*, on one end of the driving-shaft *k*. The burnisher or burnishing-tool *l*, is attached to a hand-lever, *m*, pivoted by a ball-and-socket joint, as seen at *n*, such pivot permitting the free angular and pressure movement of the burnisher by manipulation of the lever. To this extent the patented machine and the one herein shown are not unlike. In the present machine, however, instead of the clamp-screw or screw-shaft which, by rotation, enters the shoe and clamps it to the heel-plate, is a slide-shaft, *o*, journaled in a stationary bearing and having a clamp-block, *p*, at its inner end or suitable pins, the shaft being slid back in its bearing to make way for the shoe, and being slid forward into the shoe to clamp the shoe to the plate. Between the two parts *q r* of the bearing is a gear, *s*, which has a feather-and-groove connection with the shaft so that the rotative movement of the gear effects a corresponding rotative movement of the shaft, while end movement of the shaft is permissible without disturbing the gear. The gear *s* is a twin-gear to the gear *f*, and is similarly connected to and driven by the main shaft by a gear-bar or rod, *t*, corresponding to the rod *g*, the teeth of which mesh into the teeth of the gear *s* being kept in engagement therewith by a roll, *u*, twin to the roll *h*. At the end of the slide-shaft *o* is one arm, *v*, of a hand-lever, pivoted at *w*, the other arm *x* of which lever carries a pawl-tooth, *y*, which engages with ratchet-teeth on a bar or plate, *j*. By pressing up the lever-arm *x*, thereby releasing it from the ratchet, the arm may be swung in toward the frame so as to carry the arm *v* out of line with the slide shaft *o*. Said shaft may be then freely slid back for release of a heel-burnished shoe or the presentation of a shoe to be heel burnished. When the shoe is to be placed in the machine the

heel-tread is held against the plate *b*, and the shaft *o* is then slid inward until its inner end or the block *p* upon said end enters the shoe and strikes against the inner surface of the inner sole. Then the lever-arm *x* is swung outward, and the arm *v* thereby brought against the end of the shaft *o*, as seen at C, thereby pressing the shaft upon the shoe-sole and clamping the heel between the shaft and the heel-plate, the shaft being locked in position by the pawl *y* being pressed down into the ratchet-teeth. The driving-shaft *k* being then rotated reciprocating rotative movements are imparted both to the shaft *d* and the shaft *o*, and corresponding movement is thereby imparted to the shoe to bring the whole length of the heel-edge to the action of the burnishing-tool as said tool is pressed down to the heel by the manipulation of the lever *m* by the operative.

It will thus be seen that the heel does not have to be tightly clamped between the heel-plate and the clamp-shaft, as both the plate and shaft move alike; and also that the shoe may be almost instantaneously applied or removed, or without the delay attending the screwing up and tipping of the clamp-shaft, as in the machine shown in my aforesaid patent.

In details the construction may of course be varied, but the specific construction shown I have found by practice to be convenient, enduring, and effective.

I claim—

1. In combination with the heel-plate *b* on the end of the shaft *d*, the clamp-shaft *o* having a sliding movement to clamp and release the shoe and a rotative movement corresponding to the rotative movement imparted to the heel-plate shaft *d*, all substantially as described.

2. Also, in combination with the driving-shaft and the gear-bar *g* and gear *f* for imparting rotative movement to the heel-plate shaft *d*, the gear-bar *t* jointed to the crank at the opposite end of the driving-shaft, and gear *s* for imparting corresponding positive movement to the slide-shaft *o*.

3. In combination with the slide-shaft *o*, the locking-lever *v x*, arranged to permit end movement of the shaft to release the shoe and to lock the shaft against the shoe, substantially as shown and described.

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Witnesses:

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