A. SWALLOW.

Machine for Burnishing Boot and Shoe Heels.

No. 159,469. Patented Feb. 2, 1875.

Fig. 2.

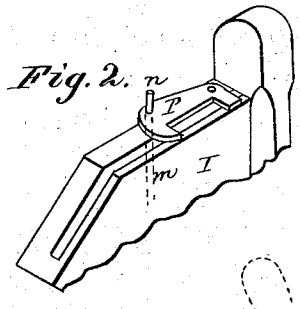


Fig. 1.

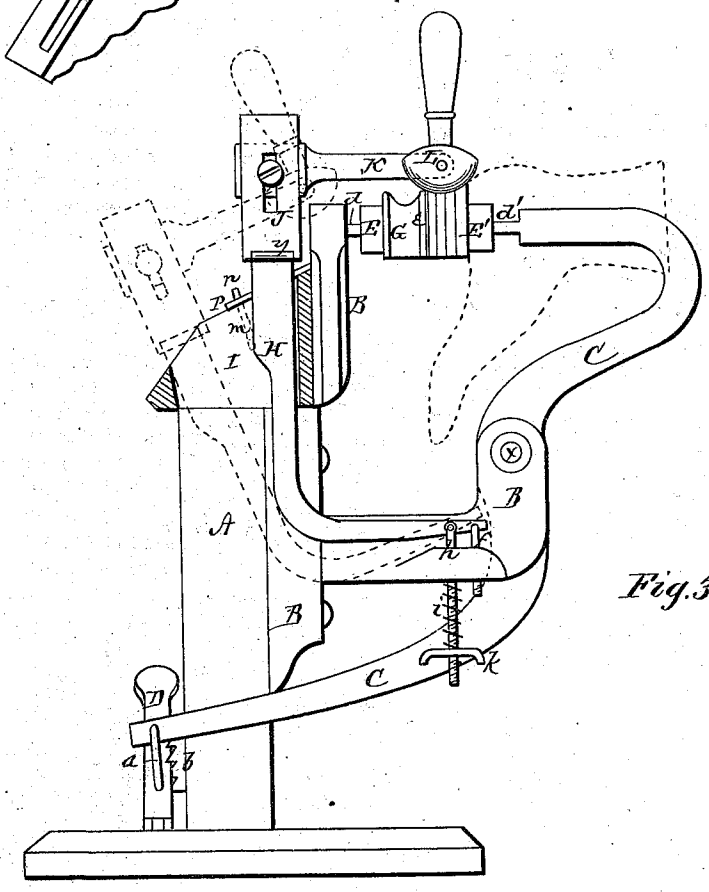
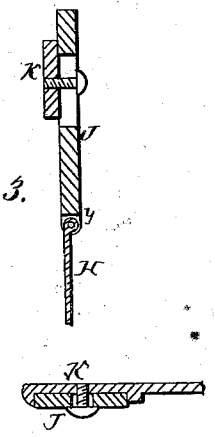


Fig. 3.



WITNESSES

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ALEXANDER SWALLOW, OF BELOIT, WISCONSIN.

IMPROVEMENT IN MACHINES FOR BURNISHING BOOT AND SHOE HEELS.

Specification forming part of Letters Patent No. **159,469**, dated February 2, 1875; application filed December 31, 1874.

To all whom it may concern:

Be it known that I, ALEXANDER SWALLOW, of Beloit, in the county of Rock and in the State of Wisconsin, have invented certain new and useful Improvements in Machines for Burnishing Boot and Shoe Heels; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a machine for burnishing boot and shoe heels, in which the burnishing-tool is given a yielding pressure on any part of the curved portion of the heel for any length of time desired, and in which the operator has full control of the burnishing-tool in all its movements, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of my machine, and Figs. 2 and 3 are views of detached parts thereof.

A represents the main support or standard of my machine, which, when in use, is to be firmly bolted to a table. To the side of the support A is firmly bolted a frame, B, of substantially the form shown in the drawing. To this frame, at *x*, is pivoted a lever, C, which is curved in such manner as to bring the upper end near and horizontal with the top of the frame B. The lower end of the lever, being curved, passes back and extends out at the right of the support A, and its extreme end connected, by a rod or strap, *a*, with a treadle, D, hinged to the floor, and held down by a ratchet-plate, *b*, attached to the support A. From the upper end of the frame B projects a horizontal stud, *d*, to which is swiveled or pivoted a plate, E, held in position by pins passing through the back part of the plate into a groove formed around the stud, or otherwise. On the upper end of the lever C is a similar stud, *d'*, on a horizontal line with the stud *d*, and on said stud *d'* is pivoted another plate, E'. The object of the lever C is to clamp the heel between the plates E E'. Pressure being brought to bear on the treadle D carries the top of the lever with great force toward the frame B. The jack thus constructed holds the boot or shoe heel, and allows it to rotate under the burnishing-tool. By clamping the heel between the plates E E' with a pressure sufficient to hold the heel firm while being rotated, and so as to resist the pressure of the burnishing-tool, when released after being burnished the heel will expand, causing the burnished surface to expand between the lifts. In order to obviate this difficulty it is necessary to have the heavy pressure come in the center of the heel, and in such manner as to prevent any injury to the tread of the heel. To accomplish this purpose, a pattern-heel, G, is attached with brads to the plate E at the top of frame B for a heel-rest. This pattern-heel is made in form to correspond with the tread of the heel, and is deeply grooved around the round or curved portion, forming a lip, *e*, next to the heel, so as to give a yielding pressure at the outer edge to the tread of the heel while being burnished, causing the heavy pressure to come in the center, producing the desired effect. To obtain a yielding pressure and a variable motion to the burnishing-tool when operated, and allow it to drop out of position when not in use, so as to be out of the way when a heel is being clamped, and also to heat the tool over a flame conveniently arranged for the purpose, a vibrating lever, H, is inserted in a slotted projection, I, attached to the frame B over the standard A, said lever being made substantially in the form shown, broad at the top to prevent twisting or binding, passing down back of the standard and out to the left over a stop, *f*. The lever is hinged in the upper end of a rod, *h*, which passes down through a lug on the back of the frame, and is, on its lower end, provided with a thumb-nut, *k*. Between the nut *k* and the lug a spiral spring, *i*, is placed around the rod *h*, giving a yielding pressure to the burnishing-tool connected to the upper end of the lever H. By adjusting the thumb-nut *k* the pressure is easily regulated, and, by adjusting the stop *f*, the inward movement of the upper end of the lever is also easily regulated. The lever H, being hinged to the rod *h*, allows

it to drop of its own weight out of position to the end of the projection I, that being the extreme of its outer vibration, carrying the burnisher out of the way and into a convenient position to heat when not in use. On the upper end of the lever H is hinged a vertically-slotted plate, J, so as to rock or vibrate on its bearings in a direction at right angles with that of the movement of the lever. To the side of the plate J is adjustably bolted the arm or holder K, on the outer end of which the burnisher L is pivoted, the arm extending—when the lever H is thrown inward—a little beyond the heel-rest G. Moving the handle of the burnisher back and forth causes the plate J to rock on its bearings, thereby allowing the burnisher to move around the curved portion of the heel at any desired length of stroke.

To enable the burnisher to press on successive portions, crosswise of the lifts, the face is formed on a circle a little smaller than the concavity of the heel, and is hung eccentrically to the side of the holder K. The burnisher L is formed of a metallic block provided with a suitable handle forming a lever-purchase to all of its movements, enabling the operator to perform his work after the manner of hand-labor, the heel being rotated so as to bring any desired part under the burnishing-tool, which is operated near the top of the heel, it being the most convenient position.

To allow the burnisher to move freely by the heel-rest G at either side, the holder K is adjusted so that the burnisher will describe the arc of a circle a little larger than the circumference of the heel, then moving the burnisher down the side of the heel, nearly horizontal with the axis of the plate G, the pressure, coming from below the axis of the plate, allows the burnisher to release its pressure, a shoulder, *y*, on the plate at the hinge causing a stop, holding the tool in this position, and allowing it to move freely by. To hold the lever H in position, when in use, and adjust the tool to its relative position to the heel, a hook or hooked plate, P, is pivoted on top of the projection I, and provided with a spring, *m*, and thumb-piece *n*, as shown.

The operation of the machine is as follows: Supposing the burnisher to be at rest, heating, and a boot or shoe placed in the jack, so as to bring the tread of its heel against the rest G with its toe hanging down, as shown in dotted lines in Fig. 1. The workman places his right foot on the treadle D, pressing hard enough to clamp the heel firmly, at the same time catching the treadle in the ratchet-plate *b*. The workman now takes the handle of the burnishing-tool in the right hand and draws it in the right direction until it is opposite the heel. At this point the hook P passes back of the lever H, holding it in position. The tool is then moved up toward the top of the heel until pressure is brought to bear, and then moves the tool back and forth, turning the shoe with the left hand, so as to bring any desired part of the curved portion of the heel in contact with the burnishing-tool. The operation is continued until the heel is finished, which is done in a very short time. Then, by pressing on the thumb-lever *n*, the hook P is withdrawn, allowing the lever to drop out of the way. The treadle is then released, and the shoe, with its polished heel, removed.

The work, being performed on the principle of hand-labor, is done with ease and better than it can be done in any other way.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the burnisher L, adjustable holder K, and the slotted plate J, hinged to the lever H, substantially as and for the purposes herein set forth.

2. The rod *h*, spiral spring *i*, and thumb-nut *k*, in combination with the lever H, carrying the burnishing-tool, substantially as and for the purposes herein set forth.

3. The heel-rest G, constructed as described, with a deep groove to form a lip, *e*, for the purposes herein set forth.

4. The combination of the stud *d* with the swiveled plate E, and the hinged lever C with the stud *d'* and swiveled plate E', the lever being operated by means of the rod or strap *a*, treadle D, and ratchet-bar *b*, all constructed substantially as and for the purposes herein set forth.

5. In combination with the lever H the pivoted hook P, with spring *m* and thumb-lever *n*, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of December, 1874.

ALEXANDER SWALLOW.

Witnesses:

R. TATTERSHALL,

WM. D. HALL.