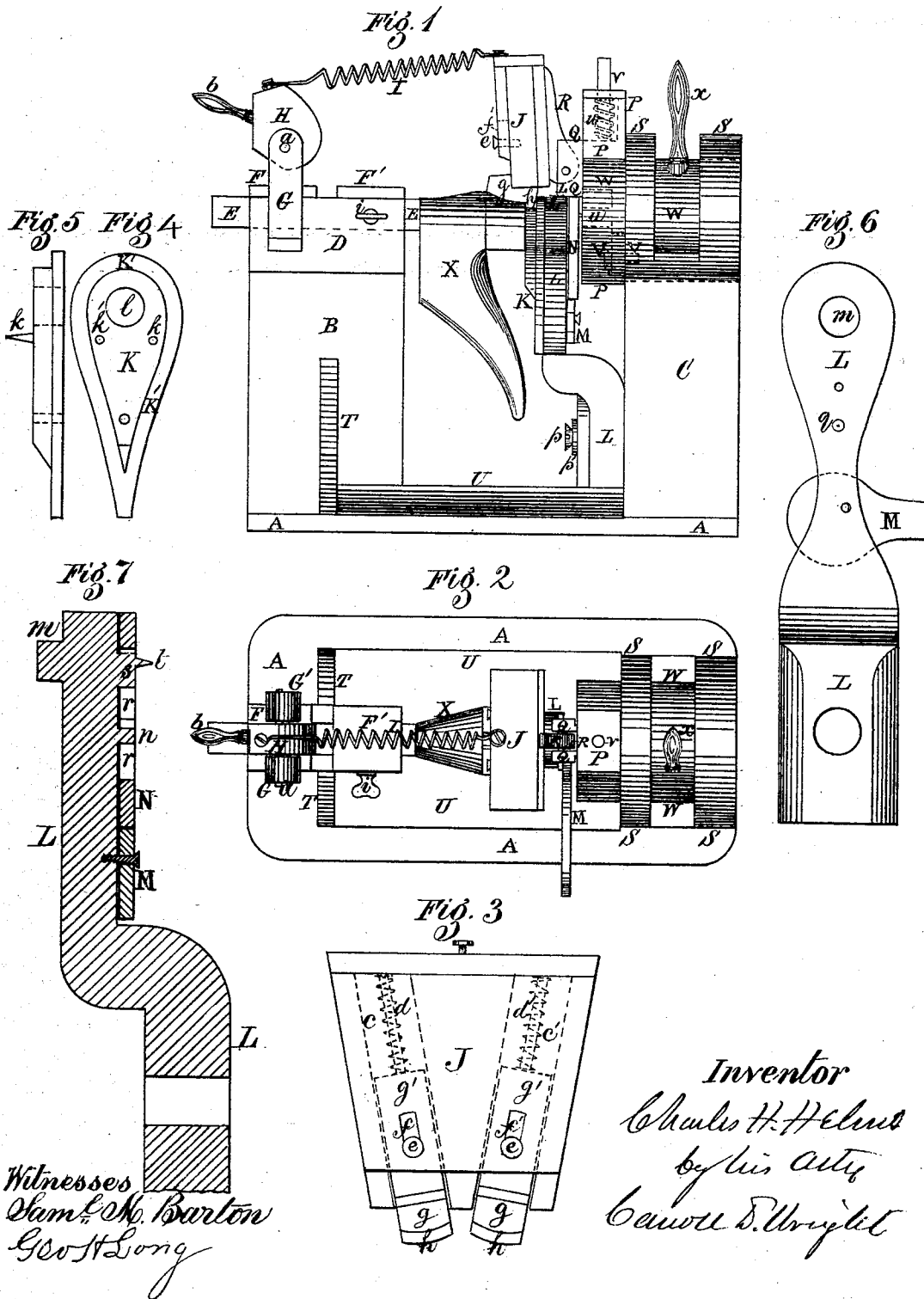


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Machines for Burnishing Boot and Shoe Heels.

No. 149,125.

Patented March 31, 1874.



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CHARLES H. HELMS, OF POUGHKEEPSIE, NEW YORK.

IMPROVEMENT IN MACHINES FOR BURNISHING BOOT AND SHOE HEELS.

Specification forming part of Letters Patent No. 149,125, dated March 31, 1874; application filed December 15, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. HELMS, of Poughkeepsie, in the county of Dutchess and State of New York, have invented certain Improvements in Machines for Burnishing the Heels of Boots and Shoes, of which the following is a specification:

Figure 1 of the accompanying drawings is a side view, Fig. 2 is a top view, and Figs. 3, 4, 5, 6, and 7 are parts in detail, of my improved boot and shoe heel burnishing machine, Figs. 3, 6, and 7 being double the scale of the other figures.

This invention has for its object to effect an improvement in the means employed for burnishing the heels of boots and shoes; and to this end my invention consists in a machine for this purpose, constructed, arranged, and operated as I will now proceed to describe.

In the drawings, A represents a base or platform supporting at one end a vertical standard or frame, B, and at the other end a vertical standard or frame, C. The standard B is formed in its upper portion by side plates D and top plate or plates F F', or otherwise, with a slot to receive and allow the longitudinal travel therein of a square or other-shaped bar or rod, E; or, instead of the bar or rod, the standard B may be arranged to receive a screw or other device to travel in its upper portion, and brought to bear against or drawn from a last held as hereinafter explained. Attached to and extending above the plates D or standard B, on either side, are standards G G', which receive the ends of a pivot or axle, a, connected with which, so as to turn, is a cam or lever, H, provided with a suitable handle, b, and connected by a spiral spring, I, with a cross-head, J, a front view of which is represented at an enlarged scale by Fig. 3. The interior of the cross-head J is formed with a vertically-inclined slot or slots, c c', (shown by dotted lines in Fig. 3,) in each of which slot is a spiral or other spring, d d', bearing against the under side of the top of the cross-head J, and on the top of a vertical portion, g', of a polisher, g, located within each of the slots, so as to travel up and down therein, and each polisher g having a stem, e, extending through a vertical slot, f f', formed at an inclination in the face of the cross-head J. Each of the vertical inclined portions g' is

formed at the bottom with a forward-projecting portion or polisher, g, convexly curved laterally and longitudinally on the bottom, to conform to the curve of the heel of a boot or shoe, and at the rear having a downward-extending flange or rabbet, h, convexly curved laterally on the bottom to conform to the curve of the circumference of the boot or shoe heel, against the bottom of which heel the face of the rabbet or flange h is brought to bear to smooth the edge of the heel of the boot or shoe X held on a last supported by bringing against its top the bar E, which bar E is released to travel in its slot, or held therein in the desired position by means of a thumb or other screw, i, the other end of the last being supported by the boot or shoe, which is tacked or driven on one or more prongs, k k', projecting from the face of an adjustable heel-plate, K, rabbeted at the back and curved and sloped on the top and sides in the required form, (as shown in Fig. 4,) to allow the polisher or polishers g to travel either way over its upper portion in the lateral curve of the periphery of the heel. The rabbeted portion h of the polisher or polishers g is arranged to travel in the recess formed by the rabbet K' of the heel-plate and the bottom of the heel of the boot or shoe. The heel-plate K is formed with an aperture, l, to receive a stem or stud, m, projecting from the face of the upper portion of a vertical form, L, curved at the top and sides to conform to the contour of the heel-plate, and projecting forward of a lower portion of the form L, which is adjusted to or released from the standard C by a screw, p, or otherwise. Projecting from the upper portion of the form L, below the stud m, is a pin, q, that engages with and assists in holding the heel-plate K. Pivoted to the rear of the upper or projecting portion of the form L is a lever-cam, M, above which is a projecting stud or pin, n, on which is arranged to be raised and lowered, by the action of the lever-cam M, a slotted plate, N, through the upper portion of whose slot r extends a stud, s, projecting from the rear of the upper portion of the form L, and from which stud s projects a pin, t, that engages in a block or cross-bar, u, of an adjustable vertical frame or box, P, between whose sides is arranged to be raised or low-

ered, by the action of the slotted plate N, operated by lever-cam M, a standard, Q, bifurcated or otherwise arranged to receive and allow the turning of a pivoted arm or lever, R, curved on the bottom and attached to the rear of the cross-head J. From the top of the standard Q extends, through the top of the box P, a stem, *v*, supporting a spiral spring, *w*, which bears on the top of the standard Q, and against the under side of the box P; or, the standard Q may be operated by any other spring or device that may be preferred for exerting the required pressure upon it. The frame or box P is bifurcated or slotted at the lower portion of its rear to receive a screw, V, to hold the frame P or release it, and allow of its being raised or lowered to accommodate forms of different sizes in one end of a circular head, W, which is recessed to receive it, and is provided with a lever-handle, *x*, or other operating device, the said head W being supported so as to turn in a slotted cylinder or ring standards, S, formed on or connected with the top of the standard or frame C.

The standard B is properly braced at the bottom with struts, T, or otherwise supported, and longitudinal plates U are attached to base of the machine for strengthening the same; or the standards B C may be otherwise shaped and supported, as preferred.

The operation of my invention is as follows: The boot or shoe being adjusted to the last, the tacks or prongs *k k'*, of the heel-plate K, are driven into the heel of the boot and shoe, and the heel-plate is attached to the form L, the stud *m* and pin *q* fitting into their respective apertures formed in the heel-plate so as to securely hold it. The bar E is then advanced to abut against the top of the last, and held in position by the screw *i*, or otherwise. The polisher or polishers *g* are brought laterally to and fro over the periphery of the boot and shoe heel by the operation of the head W, actuated by the lever *x*; or, if preferred, the head W may be arranged to be operated by steam or other motive power, which carries the head partly round either way, thereby operating the frame or box P and standard Q, and, by means of the pivoted arm R, carrying from side to side the cross-head J, which causes the polisher or polishers *g* to be carried in the required manner over the heel of the boot and shoe. The spring *w*, bearing on the standard Q, causes it to bear down the cross-head J in position to cause the polisher or polishers *g*, with the assistance of their springs *d d'*, to properly impinge upon and burnish the heel as they are carried to and fro over it, as above described, the springs *w* and *d d'* equalizing the pressure and regulating the tension of the polishers *g* on the heel. By pressing down the handle *b* the lever or cam H is turned and extends the spring I, thereby tilting forward the top of the cross-head J, and causing the forward portion of the bottom of the polisher or polishers to bear more firmly on the heel, or to act upon some

portion of the heel that may not have been affected by the previous lateral operation. By turning the lever-cam M the plate N is raised, carrying with it the standard Q, thus lifting the cross-head J from the heel-plate, to allow of the release of the last and boot or shoe, which is removed from the machine by releasing the screw *i*, and drawing back the bar E, and removing the boot or shoe from the prong or prongs *k k'* of the heel-plate K, which is readily removed from the frame L for the adjustment of another boot or shoe, as above described.

When a larger or smaller sized boot or shoe is to be operated upon, the screw V is loosened, and the frame or box P is raised or lowered to accommodate a larger or smaller form and heel-plate, and held in the required position by the tightening of the screw V, whose head then bears against the face of the bifurcated sides of the frame P. The spiral spring I allows the cross-head J and the polisher or polishers *g* to be tilted and restored to their normal position, in whatever position they may be in, so that all parts of the periphery of the heel may be equally burnished, while the flanged or rabbeted rear portion of the polisher or polishers *g*, traveling in the recess formed by the face of the rabbeted portion of the heel-plate and the bottom of the heel, smooths the edge of the latter in the desired manner.

By the above description, reference being had to the drawings, it will readily be seen that by my improvements a uniform pressure is obtained on any part of the heel, which is evenly and effectually burnished in a simple and economical manner, without the liability of roughing up the surface of the leather in one direction, as is the case with the operation of some of the burnishing-machines in use.

Having thus fully described my improvements, what I claim as my invention, and desire to have secured to me by Letters Patent, is—

1. A cross-head, J, as arranged to receive and allow the up and down movement of a polisher or polishers, and having at the rear a pivoted arm or lever, R, in combination with a standard, Q, adjustable box or frame P, and head W, substantially as shown and described.
2. The combination of the pivoted cross-head J, and oscillating head W, with the vertically-adjustable polishers *g g*.
3. The combination of the form L with the adjustable heel-plate, the slotted plate N, and the cam-lever M, as described.
4. The combination of the form L, lever-cam M, plate N, lever or arm R, cross-head J, standard Q, box P, spring *w*, head W, all arranged and operating substantially as described, and for the purposes set forth.
5. The combination of the pivoted lever or cam H, the intermediate connecting-spring and the pivoted and oscillating cross-head J, as described.

6. In a machine, of substantially the described construction, the combination of the devices E i L K for holding the boot or shoe, and the devices W Q R I, and cross-head J, having the polishers, (as described,) for burnishing the heel, all constructed and arranged as set forth.

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

CHARLES H. HELMS.

Witnesses:

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