

A. C. CAREY.

Sole and Heel Burnishing-Machines.

No. 147,551.

Patented Feb. 17, 1874.

Fig. 1.

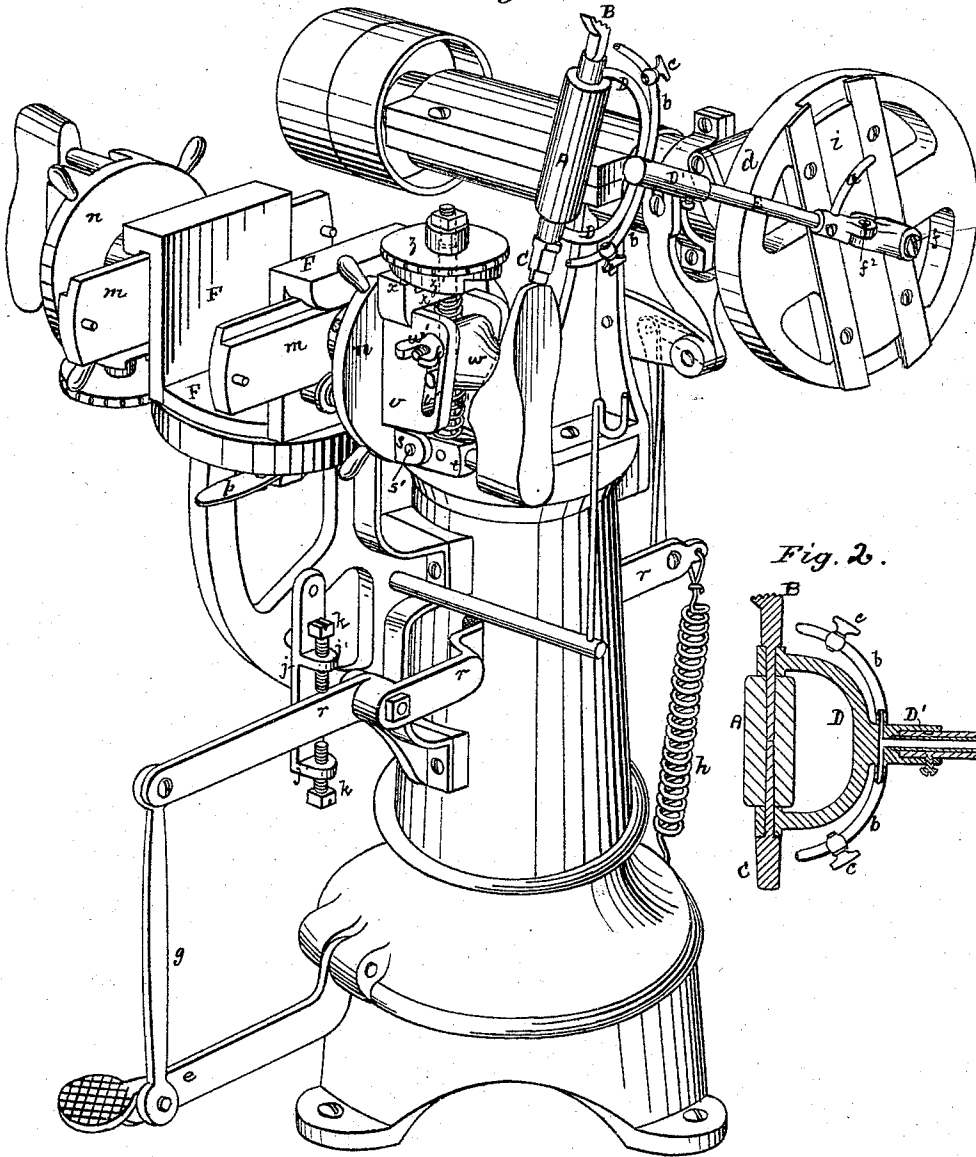


Fig. 2.

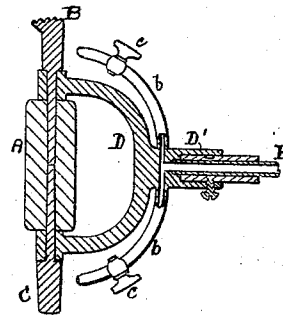
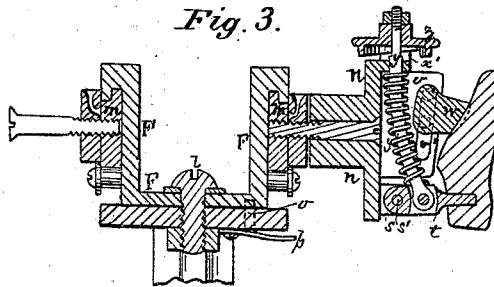


Fig. 3.



Witnesses
Evel Wick
Wm E. Chaffee

Inventor.
Augustus C. Carey
by atty Rollins

UNITED STATES PATENT OFFICE.

AUGUSTUS C. CAREY, OF MALDEN, MASSACHUSETTS.

IMPROVEMENT IN SOLE AND HEEL BURNISHING MACHINES.

Specification forming part of Letters Patent No. **147,551**, dated February 17, 1874; application filed January 30, 1874.

To all whom it may concern:

Be it known that I, AUGUSTUS C. CAREY, of Malden, Middlesex county, Massachusetts, have invented certain new and useful Improvements in Sole and Heel Burnishing Machines, of which the following is a specification:

My present invention is directed particularly to the burnishing of the edges of boot and shoe soles and heels; some of its features, however, are susceptible of application to machinery of an analogous kind—as, for instance, to edge setting or trimming machines, or other machines employed in the operation of finishing the soles or heels of boots and shoes.

In the accompanying drawing, Figure 1 is a perspective view of a machine embodying my improvements. Fig. 2 is a section of the burnisher in the plane of its axis, and the axis of its supporting arm or stem. Fig. 3 is a longitudinal vertical section of the jacking device, but one of the two jacks being represented.

My invention relates both to the burnishing devices proper, and mechanism for operating the same, and also to the jack mechanism.

1. My invention, as regards the burnishing devices, consists, first, in a double burnishing-tool consisting of a shank or handle carrying at each end a burnisher, adapted more particularly the one for heel and the other for sole edges, and reversible, so that either burnisher can at pleasure, and instantly, be brought into position to operate on the work. This feature is clearly shown in Figs. 1 and 2. The burnishing-tool consists of the handle A and two burnishers, B C, one at each extremity of the handle. The support of the tool consists of a bracket or yoke, D, whose arms form bearings, in which the tool can rotate on its axis, and which is fast to a central sleeve, D', that is connected to and swiveled on the end of the burnisher-arm E, as described in my Letters Patent No. 132,749, dated November 5, 1872. The arm E thus constitutes the axis upon which the tool can be turned, both to reverse it end for end, to bring either burnisher into action, and to vary the position with relation to the work of the burnisher thus brought into action. Second, in forming the gas-conduit for supplying gas to the burnisher-heating devices in the burnisher-arm, on which the burnisher-tool is swiveled. This feature is

also shown in Figs. 1 and 2. The arm E, which is jointed by a vertical pin, f^2 , to a projection from a sleeve loose on the crank-pin f of crank-wheel d , as shown in my Letters Patent above referred to, is tubular or hollow. A small pipe, a , opens into it at the end nearest the crank-wheel, on which pipe is fitted the end of the flexible gas-tubing used to conduct the gas from a suitable source of supply. The gas, passing through arm E, issues therefrom through a suitable pipe on sleeve D', which pipe is in communication through the sleeve with the interior of the tubular arm, and is provided with a suitable burner or gas-tip, located in such position that the gas issuing from it will, when lighted, properly heat the burnisher proper. In this way—that is, by combining the hollow arm with a gas-pipe on the swiveled support of the burnishing-tool—the burner and burnisher move together, and occupy invariably, under all conditions, the same position with relation to each other. In the present instance, inasmuch as the burnishing-tool is double, I use two branch pipes, b , extending from the central sleeve D out to their respective burnishers, each pipe being provided with a stop-cock, c , and terminating in a burner. My improvement, however, is applicable to single tools as well as to double ones, as will be understood without further explanation. Third, in the combination, with the treadle and lever mechanism for varying the distance of the crank-pin from its center of motion, of a stop whereby the extent of movement of said crank-pin in either direction can be controlled and limited at pleasure. This portion of my invention is shown in Fig. 1. The burnisher-arm E, and consequently the burnishing-tool, derives a reciprocating movement from the crank-pin f , which is attached to a slide, i , held and adapted to slide on the face of the wheel d , as described in my Letters Patent hereinbefore referred to. The movement of slide i is produced by mechanism similar in the main to that described in my said Letters Patent, and that mechanism, therefore, requires no description here, except in those respects in which it departs from the mechanism described in said Letters Patent. The lever r is here connected to a treadle, e , by a rod, g , jointed at one end to the treadle,

and at the other end to the front end of the lever. The rear end of the lever is held down by a spring, *h*. At a suitable point with respect to and by the side of the lever *r*, there projects from the main frame or pillar of the machine a bracket, *j*, provided with two horizontal shelves, *j'*, which extend across the lever, the one above and the other below the lever. These shelves or ledges form bearings for vertical set or regulating screws *k*—the one passing downward through the upper shelf, the other passing upward through the lower shelf. The play of the lever is limited by the distance between the opposing points of these screws, and by adjusting the screws the extent of movement of the lever in either direction can be regulated at pleasure. Inasmuch as the extent of movement of the lever determines that of the crank-pin *f*, it will be seen that the reciprocations of the burnishing-tool can be readily controlled and accurately limited.

II. My invention, as regards the jacking mechanism, consists in a reversible double jack, consisting of a head-block with upright sides or standards, pivoted at about its center to the machine-frame on a vertical axis, and carrying on each upright side a jacking mechanism mounted on a horizontal axis, the said reversible double jack being arranged substantially as herein shown and described with relation to the burnishing devices. This feature of my invention, while here described with reference to burnishing machinery, is, however, also applicable to edge setting or trimming machinery. Under this arrangement above indicated, while the one jack is under the burnisher which is operating on the shoe carried by said jack, the other jack is out of action, and in position to permit an attendant—a boy, for instance—to jack a shoe or boot, and thus have it in readiness for the workman by the time the burnishing of the other shoe is finished. Thus the workman need lose no time. As soon as one shoe is burnished he swings around the head-block, and brings to the front the other jack, with a shoe fitted thereon, and while the burnishing of this shoe is proceeding, the boy attendant removes the shoe just burnished from its jack and jacks another shoe, to be subjected in its turn to the burnishing operation. An illustration of this feature of my invention is shown in Figs. 1 and 3.

F is the head-block, pivoted at *l* to a supporting-bracket projecting from the main pillar or standard of the machine. On each side of the pivot the upright sides of the head-block are grooved or otherwise suitably formed on their exterior opposite faces to receive the slides *m*, one for each jack. To these slides are pivoted, on horizontal axes, the jack heads or wheels *n*, upon the outer faces of which are carried the jacks proper. The head-block, under this arrangement, is capable of rotating upon its axis, and thus presenting each of the two jacks in succession to the burnishing mechanism. The advantage of this arrangement

has been above stated and need not be repeated. In order to hold the head-block in proper position to assure each jack in place under the burnishing-tool, I provide a spring-stop or locking-pin, *o*, that is attached to and projects up through the table on the upper end of the bracket that supports the head-block. On the under face of the head-block are provided two holes, one for each jack, so located that when either one is brought opposite to the pin, so as to allow the latter to spring into it, and thus lock the head-block, one of the jacks will be in proper position to be acted upon by the burnishing mechanism. The locking-pin can be depressed at any time, so as to disengage it from the head-block, by pressing on the extension or thumb piece *p* of the spring-arm, to which the pin is attached.

In the combination, in a jack with a hinged heel-post, an adjustable toe-rest, and a draw-rod jointed to said heel-post at a point between the hinge of said post and its free end, of a rotary tightening-cam mounted on the outer end of said draw-rod, and working against inclines on the jack-frame, and a recoil-spring for throwing back the heel-post to its normal position when the draw-rod is not acting on the same. This combination embraces a special jack mechanism, (shown clearly in Figs. 1 and 3,) and adapted equally well for edge-setting and other finishing machines. Upon the outer face of the jack wheel or head is formed the bearing *s* of the heel stud or post *t*, which is hinged to said bearing by a pivot-pin, *s'*. This bearing is near one of the edges of the jack-wheel. Extending directly across the face of the wheel, toward the opposite side thereof, are the side pieces *v*, which constitute the bearings for the toe-rest *w*. This toe-rest is provided on its sides with pins, that project into inclined slots *v'* in said side pieces, as indicated in Fig. 1, and by dotted lines in Fig. 2. One of these pins is longer than the others, and is screw-threaded to receive a thumb-nut, *w'*, by which the toe-rest can be secured in any desired position. This arrangement permits the toe-rest to be adjusted nearer to or farther from the heel-post, as desired, and also to be projected more or less from between the side pieces *v*. At the end of the side pieces *v* opposite that at which the bearing *s* is located is a cross-bar, *x*, through which passes loosely a rod, *y*, hinged at one end to the heel-post *t*, and having its other end projecting beyond cross-bar *x*. On this projecting end is mounted a rotary disk, *z*, held thereon by a nut, as shown in Fig. 3, and the disk is provided on its face with an annular cam-flange, *z'*, that works against beveled projections *x'* on cross-bar *x*. The rod *y* is encircled by a spring, *y'*, bearing at one end against the cross-bar *x*, and at the other end against the heel-post *t*.

The operation of these devices is as follows: The last, with the shoe thereon, is fitted or driven on the heel-post *t*; then, in order to hold the last securely in place, the cam-disk *z* is rotated to bring the more projecting portions of

its cams against the bevel x' . By this means the rod y will be caused to turn the heel-post on its pivot or hinge, so as to draw it forward toward the toe-rest, and thus depress the toe of the last toward and cause it to become tightly clamped on the outer face of the said toe-rest. In order to release the last, the cam-disk is turned in the opposite direction, and then the recoil of the spring y' , compressed by the previous action, will throw back the heel-post, and consequently lift the toe of the last from the toe-rest. The last can then be removed from the heel-post in the usual way.

G is a rest, similar to the devices shown and described in my Letters Patent No. 132,749, before referred to, for supporting the burnisher when out of operative action.

Having now described my invention, and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. In burnishing machinery for boots and shoes, a reversible double burnishing-tool, swiveled to its supporting-arm, substantially as and for the purposes shown and described.

2. In burnishing machinery for boots and shoes, the combination, with a hollow burnisher-arm, which supports the burnishing-tool and connects with the source of gas-supply, as described, of a burnishing-tool swiveled on said arm, and carrying a branch gas-pipe and burner, communicating with the interior of said arm, and adapted to heat the burnishing-tool, substantially as shown and set forth.

3. The combination of the hollow burnisher-arm, the swiveled reversible double burnishing-tool, and the two branch gas-pipes, one for each end of the tool, carried by and moving

with said tool, and communicating with the interior of the burnisher-arm, substantially as shown and described.

4. In combination with the crank-pin and lever mechanism for varying the distance of said pin from its center of motion, as described, an adjustable stop mechanism for regulating and limiting the range of movement of the crank-pin to and from said center, substantially as shown and set forth.

5. In burnishing or edge-setting machines, a reversible double jack, consisting of a head-block with upright sides or standards, pivoted to the frame of the machine on a vertical axis, and carrying on each upright side, or on a slide mounted on said side, a jacking mechanism, connected therewith by a horizontal pivot, as shown and described, said reversible double jack being arranged for operation, with relation to the burnishing or edge-setting devices, substantially as set forth.

6. The jack herein described, consisting of the hinged heel post or stud, the adjustable toe-rest supported in slotted side pieces, and the draw-rod jointed to said heel-post at a point between the hinge and the free end of said post, in combination with the recoil-spring and the tightening-cam mounted on the outer end of the draw-rod, and working against inclines on the jack-frame, as shown and set forth.

In testimony whereof I have hereunto signed my name this 28th day of January, A. D. 1874.

AUGUSTUS C. CAREY.

Witnesses:

GEO. T. ANGELL,
ALFRED T. PERRY.