

(No Model.)

Z. BEAUDRY.
BURNISHING TOOL.

No. 510,398.

Patented Dec. 12, 1893.

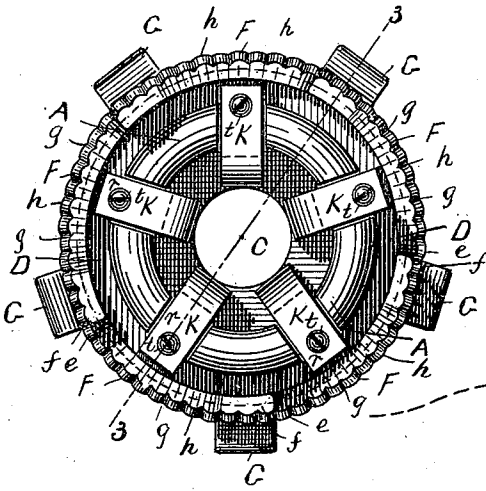


Fig. 1.

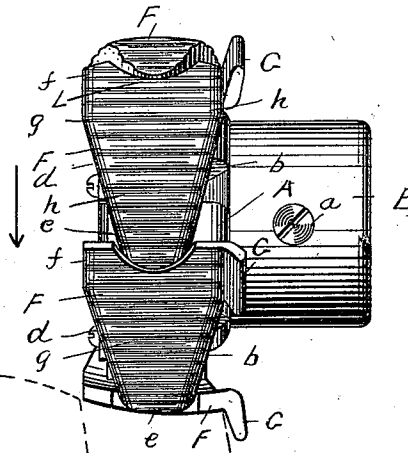


Fig. 2.

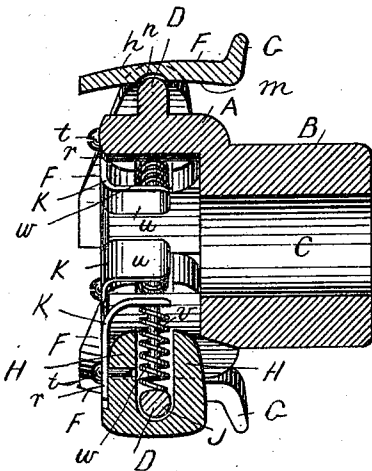


Fig. 3.

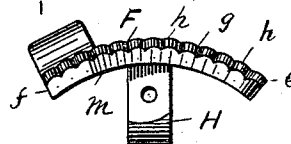


Fig. 4.

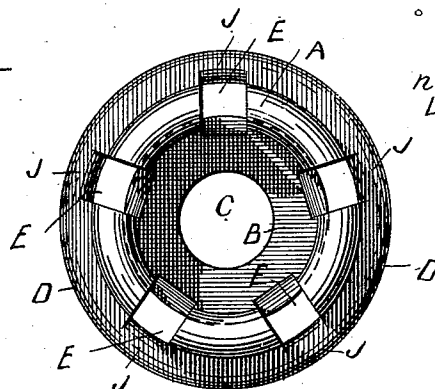


Fig. 5.

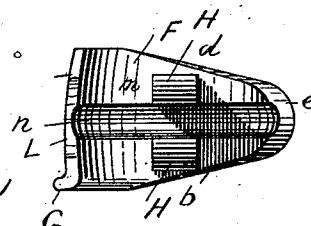


Fig. 6.

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ATTY -

UNITED STATES PATENT OFFICE.

ZOTIQUE BEAUDRY, OF LYNN, MASSACHUSETTS.

BURNISHING-TOOL.

SPECIFICATION forming part of Letters Patent No. 510,398, dated December 12, 1893.

Application filed March 29, 1892. Serial No. 426,981. (No model.)

To all whom it may concern:

Be it known that I, ZOTIQUE BEAUDRY, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Tools for Burnishing Heels of Boots or Shoes, of which the following is a full, clear, and exact description.

This invention consists of a rotary burnishing tool for burnishing the heels of boots and shoes constructed and arranged all substantially as hereinafter fully described, reference being had to the accompanying sheet of drawings in which is illustrated a burnishing tool for burnishing the heels of boots and shoes constructed and arranged for operation in accordance with this invention.

Figure 1, is an end view. Fig. 2, is a front or side view. Fig. 3, is a cross section on line 3—3, Fig. 1. Figs. 4 and 5, are edge and side views respectively of one of the parts. Fig. 6, is a view of the holder.

In the drawings A represents a rim shaped head or block as shown, having a shank portion B through which is a central passage or hole C, which is adapted to receive a shaft adapted to be rotated in any suitable manner and to be secured thereto by a set screw *a*, the head preferably projecting beyond the end of the shaft to be free all round it for the operation of the tool.

The head A has on its circumference a ring or bead D, and at equal distances apart in the head are cut radial openings E, through the thickness of the rim, the ring or bead however extending completely around the head. As this ring is for a bearing surface for the working irons of the tool it is preferably made of steel and secured in any suitable manner to the head, which head and shank are preferably made of cast iron and turned as desired.

F are the burnishing irons, in the present case five in number, and all constructed alike, the description of one and the mode of securing it to the head and its operation answering for all. In Fig. 4, is shown one of these irons in edge view a front view being shown more particularly in Fig. 2, in Fig. 5, a back view and a cross section in Fig. 3.

The iron F, is made of a curved plate or piece of steel its curvature being concentric and corresponding substantially to the periphery of the head, its two edges *b*, *d*, pref-

erably tapering from the end *e*, to the other end *f*, and having its outer or convex or working surface *h*, transversely corrugated as at *g*, making ribs or beads *h* between the corrugations. It has a lip or flange G, at its larger end extending outward therefrom, substantially at right angles, its outer or working surface *h*, being somewhat round transversely as shown in cross section in Fig. 3. The transverse round working surface of each is made so that at its small end it will have a circle or circumference of less diameter than the large end which is a little more flat, it being of a circle of larger diameter and the two surfaces from one end to the other gradually merging into each other. Its inner or concave side *m*, has a longitudinal semicircular groove *n*, extending from one end to the other, which is longitudinally concentric with and adapted to fit circumferentially the ring or bead D, so that within certain limits the iron when placed thereon can rock transversely, the ring serving as a long pivot or bearing therefor. Extending radially from the inner or convex side *m*, of the iron and at right angles are two arms H, H, which are sufficiently apart to fit freely over the portion J, of the bearing ring D, and of a length to extend through an opening E, and a short distance in the chamber of the head.

Each iron F, is placed on the head for its arms H, to extend into an opening E in the head and for the bearing *n*, in each iron to rest upon the peripheral ring D and when in such positions a right angular piece K, is secured by one *r*, of its arms by a screw *t*, to the side of the outer arm H, of each iron, its other arm *u* extending down over the ends of the arms and having a pin or wire *v*, rigidly secured thereto which extends into the opening between the two arms, as shown in Fig. 3, and over this pin is a spiral spring *w*, which when the iron is in place bears against the inner side of the ring in the head opening and against the angular piece arm *u*, as shown in Fig. 3, and thus by its tension holding the iron in position on the head. The iron is held thus firmly in place on the head, but the spring allows of a certain amount of transverse rocking of the iron.

The operation of the tool is substantially

as follows:—The tool is attached to a suitable rotating shaft to turn the tool in the direction of the arrow, Fig. 2, and when revolving at a suitable speed, the boot or shoe heel is held up against the tool, either by a jack or by hand, so that the corrugated or ribbed surfaces of the irons as the tool is rotated will bear against the edge of the heel the lips or flanges G bearing against the treading surface of the heel as shown in Fig. 2, the boot being shown at its heel portion in dotted lines, the boot being turned back and forth, so that the whole edge of the heel from one end to the other will be presented to the corrugated surfaces of the series of irons and thus be fully polished. The transverse rocking movement of the irons on their bearing ring enables them to fit the curved depression of the heel edge and by their smaller ends moving first along the heel edge the surface is polished from its central line toward the outer edges by the gradual widening of the corrugated surface by which the entire surface of the heel is given a smooth and continuous finish and polish. The flanges G not only serve in some cases as a guide and support of the tool against the treading surface of the heel but also give a polish and finish to the corner of the heel at the same time, obviating the necessity of burnishing such corner in a separate machine or by hand, as is often done at the present time. The working surfaces of the irons being made tapering and their narrow ends preferably moving first along the edge surface of the heel, the heel is burnished by each iron from the central line of the heel each way to the outer ends of the heel insuring the full polish of the heel surface even if there should be any small cavities or slight depressions in such surface, and with the wide ends being substantially of the whole width of the heel, the smoothing and burnishing of the entire surface is insured.

The bearing *n*, of each iron extends the whole length of the same and rests upon the ring or bead of the head, and as such bearing surface is so near the working surface, it makes in effect such surface in the movement of the iron rock practically its own bearing not moving laterally from side to side but rocking as it were on the surface of the heel edge. Therefore, such bearing being the full length of the iron it will last a long time in use.

The wide end of each iron is hollowed out as at L to allow for the narrow end *e* of the iron next thereto projecting somewhat into such space to over lap joints and bring the irons closer together in their work.

The irons in lieu of being tapering in themselves can be of the same width throughout, but the surface of the iron that works and bears on the heel should be tapering, and in such case the portion of the iron each side of such working surface would be cut away so as not

to bear upon the heel edge at such portions and in preparing the working surface the smaller end should be of a circle transversely of smaller circumference than the wider end, which should be more flat or of larger circumference, the two surfaces approaching and merging into each other gradually.

Having thus described my invention, what I claim is—

1. A tool for burnishing the heels of boots and shoes composed of a circular head adapted to be secured to a rotating shaft, a circumferential ring or bead on the head, transverse radial openings in the head, burnishing irons, one for each opening, each curved longitudinally, radial arms adapted to project into an opening in the head, and embracing the ring or bead at such opening and each iron adapted to bear upon said ring and to be secured to the head for the purpose specified.

2. A tool for burnishing the heels of boots and shoes, composed of a circular head adapted to be secured to a rotating shaft, a circumferential ring or bead on the head, transverse radial openings in the head, burnishing irons one for each opening, each curved longitudinally, a longitudinal central bearing to bear on said ring, radial arms adapted to project into an opening in the head, and embracing the ring or bead at such opening and each iron adapted to be secured to the head for the purpose specified.

3. A tool for burnishing the heels of boots and shoes composed of a circular head adapted to be secured to a rotating shaft, a circumferential ring or bead on the head, transverse radial openings in the head, burnishing irons one for each opening, each curved longitudinally, and its working surface tapering from end to end, having transverse corrugations in its outer or convex surface, a longitudinal central bearing to fit on said ring or bead, and radial arms adapted to project into an opening in the head and embracing the ring or bead at such opening, and each iron adapted to be secured to the head for the purpose specified.

4. A tool for burnishing the heels of boots and shoes, composed of a circular head adapted to be secured to a rotating shaft, a circumferential ring or bead on the head, transverse radial openings in the head, burnishing irons, one for each opening, each curved longitudinally and tapering from end to end, a lip or rib at the wide end projecting forward substantially at right angles thereto, a longitudinal central bearing to fit on said ring or bead, and radial arms adapted to project into an opening in the head, embracing the ring or bead at such opening, and adapted to be secured to the head for the purpose specified.

5. A tool for burnishing the heels of boots and shoes composed of a circular head adapted to be secured to a rotating shaft, a circumferential ring or bead on the head, transverse radial openings in the head, burnishing irons

each curved longitudinally, a longitudinal central bearing to fit on said ring or bead and radial arms adapted to project into an opening in the head, and embracing the ring or bead at such opening, an angular arm secured to one of said radial arms, and extending over the end, and having a rod projecting between the two arms, a spiral spring on said rod adapted to bear against the inner side of the ring or bead at the opening in the head and against the arm of the angular piece.

6. A tool for burnishing heels of boots and shoes, consisting of a series of burnishing irons, each of a longitudinally curved plate, and all arranged substantially in a circular line around a suitable support, their outer or convex surfaces being the working surfaces, their inner sides having a bearing surface close to the outer surfaces on which each iron rocks transversely, and each having arms by which it is secured to its support.

7. In a tool for burnishing heels of boots and shoes, a head having a circumferential rib or bead, and a series of burnishing irons

secured to said head, and having a pivotal bearing upon said rib or bead.

8. In a tool for burnishing heels of boots and shoes, a head provided with openings and having a circumferential rib or bead, and a series of burnishing irons secured in said openings and having a pivotal bearing upon said rib or bead.

9. In a rotary tool for burnishing heels of boots and shoes, a series of burnishing irons arranged substantially in a circular line around a suitable support, each having its working face longitudinally convex, and transversely convex, one end of which is of less diameter transversely than the other end and the surface being graduated from one to the other.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ZOTIQUE BEAUDRY.

Witnesses:

EDWIN W. BROWN,
CARRIE E. NICHOLS.