(No Model.)

W. A. KNIPE.

HEEL BURNISHING TOOL.

No. 345,063. Patented July 6, 1886.

Fig. 1.

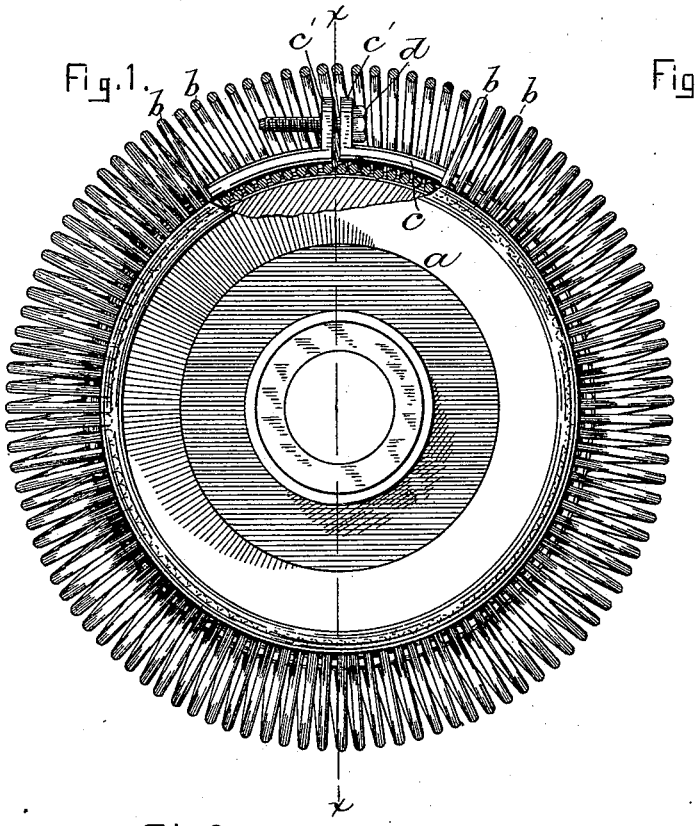


Fig. 2.

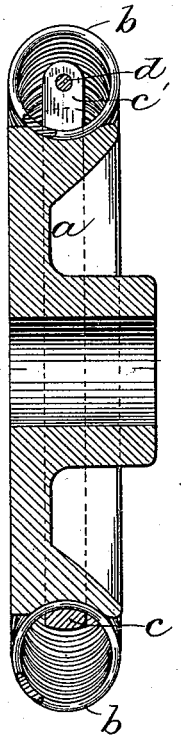


Fig. 3.

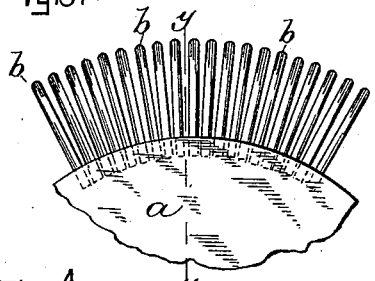
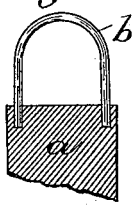


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM A. KNIPE, OF HAVERHILL, MASSACHUSETTS.

HEEL-BURNISHING TOOL.

SPECIFICATION forming part of Letters Patent No. 345,063, dated July 6, 1886.

Application filed May 15, 1885. Serial No. 165,580. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. KNIPE, of Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Heel-Burnishing Tools, of which the following is a specification.

This invention consists in a rotary heel-burnishing tool having a series of independent rubbers or burnishers, each adapted to yield slightly to the heel pressed against the tool, and each separated from those adjacent to it by open spaces, which prevent the clogging of the burnisher with wax and other matter removed from the heels by the action of the tool, said rubbers or burnishers collectively constituting a convex external burnishing-periphery, as I will now proceed to describe.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a side view of a rotary burnishing-tool embodying my invention. Fig. 2 represents a section on line *x x*, Fig. 1. Fig. 3 represents a side view of a part of a rotary burnishing-tool, showing a modification. Fig. 4 represents a section on line *y y*, Fig. 3.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents a wheel adapted to receive and be secured to a rotary arbor, and *b b* represent metallic burnishing arms or rubbers, suitably affixed to and projecting from the periphery of the wheel. Each arm is sufficiently elastic or springy to enable it to yield slightly to such pressure as would usually be exerted upon it by a workman in presenting the heel to be burnished to the tool. The outer ends or acting portions of said rubbers are curved to approximately fit the curvature of a heel from top to bottom, and are polished and rounded, so that they present no angles to the heel.

Between each rubber and the next is an open space, which extends inwardly to the body of the tool. Said space enables the wax, blacking, &c., that may be scraped from the heel by the arms or rubbers to escape without accumulating in solid masses between the rubbing or burnishing surfaces.

In rotary burnishing-tools which are corrugated on their peripheries to form unyielding burnishing projections, the corrugations eventually become filled with wax, &c., so that the surface of the wheel becomes practically continuous or without projections. This cannot occur with my improved wheel.

The yielding nature of the arms or rubbers enables the burnishing operation to be performed with a lighter pressure of the heel against the tool, and therefore with less labor, and at the same time more thoroughly and effectually than when a tool with an unyielding burnishing surface or surfaces is used. I prefer to make all the arms or rubbers from a continuous length of stout wire wound into the form of a spiral spring and secured to the grooved periphery of the wheel *a* by a suitable clamping ring or band, *c*, placed in the spring, as shown in Figs. 1 and 2. In this case the outer portions of the convolutions of the wire constitute the burnishing-surfaces. The ring or band has ears *c' c'*, which are connected by a screw, *d*, whereby the band may be tightened and loosened by a wrench inserted between the arms. This form is perhaps the most simple and inexpensive of any of which I am aware; but I do not limit myself to it. Figs. 3 and 4 show a modification in which each arm or rubber is made in a separate piece rigidly secured to the wheel *a*, each arm being preferably a U-shaped piece of wire.

Other modifications may be employed without departing from the spirit of my invention.

This improvement may be used in tools that oscillate or reciprocate, as well as in those which rotate.

It will be seen that the burnishing arbors or rubbers *b b* collectively form a convex external burnishing-periphery to which a heel may be readily presented, the surrounding space being unobstructed, so that the boot or shoe can be freely presented and moved as may be required to properly burnish the heel.

I am aware that a channel-flap layer or wiper has been before used, composed of a spirally-bent wire secured to a holder, and presenting an internal or concave surface adapted to act on the convex portion of a sole. My invention is adapted for a different class of work, which cannot be accomplished by the flap-layer referred to, because the space which the boot or shoe must occupy during the operation is within the acting surface formed by

the spiral wire, and is circumscribed thereby to such an extent that a boot or shoe could not be properly presented to the acting surface in the manner required in burnishing the heel.

I am aware that a shank-burnisher is known having a ring of coiled wire at the end of a hub and partly covered by an annulus extending from the end of the hub. Such I do not claim.

I do not herein claim a buffing-wheel wherein a number of coils of wire are mounted loosely on a hub, the axis of the coils of wire extending lengthwise or in the direction of the axis of the hub.

I claim—

1. A circular hub, and in combination therewith a series of elastic wire loops or arches, the series forming a complete circle extending around the circumference of the hub, each loop or arch extending in the general direction of the axis of the hub and firmly secured to said hub, substantially as described.

2. A hub having an external groove, and in combination therewith a coiled wire extending round said hub, the coil lying partly in the groove in the hub, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 7th day of May, 1885.

WILLIAM A. KNIPE.

Witnesses:
BENJ. A. HILLIARD,
JOSEPH H. INGHAM.