No. 648,890. Patented May 1, 1900.

A. G. WILLIAMS.

BURNISHING ROLL.

(Application filed Dec. 23, 1899.)

(No Model.)

Fig. 1.

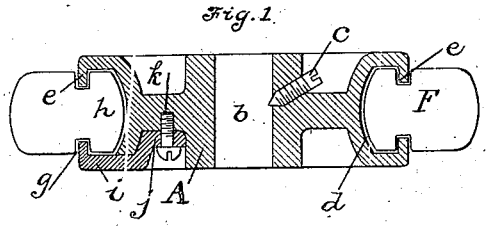


Fig. 2.

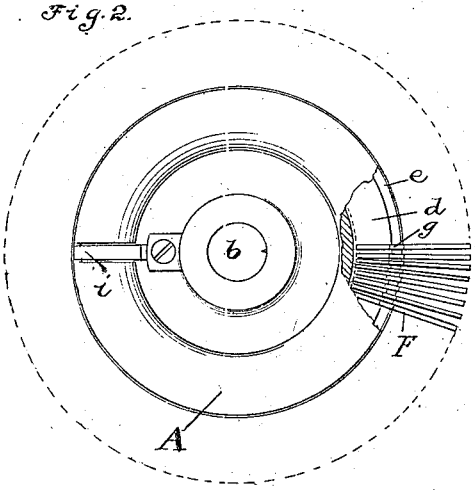


Fig. 3.

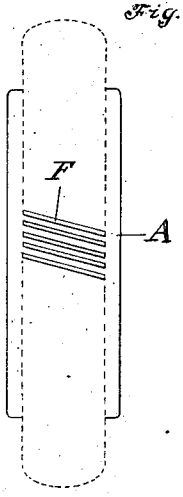
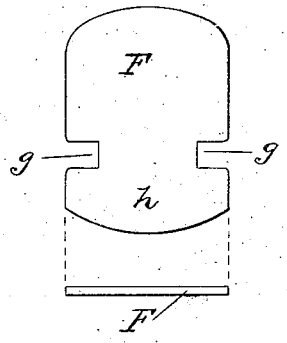


Fig. 4.



Witnesses:—

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UNITED STATES PATENT OFFICE.

ALLEN G. WILLIAMS, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO WILLIAM H. CLARK, OF SAME PLACE.

BURNISHING-ROLL.

SPECIFICATION forming part of Letters Patent No. 648,890, dated May 1, 1900.

Application filed December 22, 1899. Serial No. 741,233. (No model.)

To all whom it may concern:

Be it known that I, ALLEN G. WILLIAMS, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Burnishing-Rolls, of which the following is a specification.

This invention relates to a novel construction of burnishing-rolls for use on certain parts of boots and shoes, such as the shanks and heel edges, which have been coated with blacking composition.

The object of the invention is to provide a wheel or rotary body of suitable material, such as metal, and to loosely attach to the perimeter of said wheel radiating leather paddles, whereby the burnishing action on the article to be burnished will consist, essentially, of slight blows or taps rapidly applied. By the construction herein described there is an absence of a spring or yielding pressure of the burnisher on the surface that is treated and an absence of a yielding rubbing friction on said surface.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a diametrical section of the burnishing-roll. Fig. 2 is a side view of the burnishing-roll, the outer broken circle indicating the ends of the leather paddles, and a portion of the wheel-rim being broken away to show the inner loosely-attached ends of the paddles. Fig. 3 is an edge view of the burnishing-roll, showing that by reason of the loose attachment of the leather paddles they may assume a diagonal position crosswise of the wheel-rim. Fig. 4 shows one of the leather paddles detached.

The wheel or rotary body A may be made, and preferably is made, of a single piece of metal. It has a central bore *b* to receive a revoluble shaft, on which it is to be secured by any suitable means. In the present instance a set-screw *c* is shown for this purpose. The rim of this wheel has a groove *d* around it, and an inward-turned flange *e* is on each side of the groove. The two flanges *e* confront each other, and the space between said two flanges is the entrance to the groove and is narrower than the groove itself.

The paddles F may be made of any suitable material; but I prefer leather of uniform thickness. Each paddle has two square notches *g* near its inner end, one on each edge, and the two being directly opposite each other. The square or rectangular notch forms on the exposed part of the paddle a right-angled shoulder *g'* on each edge. These notches are larger than the inward-turned flanges *e* on the wheel, and the inner end *h* of the paddle is slightly smaller than the groove *d* crosswise. It will thus be seen that the paddles may be loosely attached to the perimeter of the wheel by simply inserting the inner end *h* of each paddle into the groove *d* and allow the two notches *g* of each paddle to loosely engage the two flanges *e*, as shown in Fig. 1. Thus each paddle is perfectly loose in distinction to being clamped, and each is free to have slight movement in the channel independent of all other paddles, allowing the paddles to assume a slightly twisted or diagonal position. As the paddles are of uniform thickness from end to end, the inner ends *h* in the groove will be closer together than the outer ends, as seen in Fig. 2. Thus the burnishing ends or outer ends of the paddles are spaced apart, permitting each to make a tap or blow on the surface to be burnished. By thus having the outer ends of the paddles spaced apart there is an absence on the burnishing-rim of anything like a continuous rubbing-surface, and by the loose attachment of each paddle and its independence of movement there will be no friction, rubbing, or spring-pressure on the article that is being burnished, but instead the effect or action produced will be that of slight taps or blows very rapidly applied. When the paddles have had their ends inserted into the groove or channel *d*, where they are loose, the right-angled shoulders *g'* of the paddles bear on the peripheral rim of the wheel and serve to keep the loose paddles projected radially.

Where the paddles are made of leather, the inner ends *h* can be inserted in the groove *d* by bending; but special provision is made for inserting the paddles to the groove. At one side of the wheel-rim the flange *e* has a radial slot opening into the groove and wide enough to admit one paddle edgewise at a time. The paddles are to be placed into the groove *d* by

simply entering them one at a time through the slot and when each paddle has been entered sliding it along the groove to allow another to be inserted. After all the paddles have been entered the slot is closed or filled by a block *i*, which exactly fits into the slot. This block has a flange *j* resting on the side of the wheel, and a screw *k* retains it in position. The outer ends of these paddles, by reason of their looseness in the channel, may be made to assume a diagonal position crosswise of the wheel-rim, as seen in Fig. 2.

The paddles in my wheel being loose may be easily detached and removed when worn. By wear they become too short for use. When thus worn, new paddles may readily be inserted loosely in the solid metal wheel.

The velocity of the revolving wheel will maintain all the loosely-attached paddles in radial lines, and the tap or blow which each one makes on the article that is being burnished will not develop any injurious effects, such as burning the article.

The paddles are to be cut by means of a die from scraps of sole-leather or split leather. In this way many scraps or small pieces can be utilized.

It is obvious that the invention is not limited to making the metal body or wheel in the form of a solid single piece, as shown in the drawings.

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

1. In a burnishing-roll the combination of a wheel having a circumferential channel each side of which is provided on its peripheral rim with an inturned flange; paddles which are separate and independent of each other and each having square notches which form right-angled shoulders and take loosely over the said inturned flanges—the said right-angled shoulders bearing on the peripheral rim of the wheel, whereby the loose paddles are kept projected radially and one or more paddles may be removed or inserted without changing the wheel or disturbing the other paddles.

2. A burnishing-roll having in combination a wheel provided on its rim with a circumferential groove; paddles fitting loosely in said groove and radiating from the wheel and free to move in the groove independently; and means to retain the movable paddles in said groove in their radial position.

3. A burnishing-roll having in combination a wheel or circular body provided on its rim with a circumferential groove having inward-turned flanges; and paddles of uniform thickness from end to end and independent of each other and each having two notches larger than the said inward flanges over which they take loosely whereby when the wheel revolves the paddles may have movement in said groove and assume a slightly-twisted or diagonal position.

4. A burnishing-roll having in combination a wheel comprising a circular body made in a single piece having a circumferential channel provided with inturned flanges; and radiating paddles movable in said channel.

5. A burnishing-roll having in combination a wheel or circular body provided with a circumferential groove having inward-turned flanges and a slot through one flange opening into said groove; means to close said slot; and paddles secured in said groove loosely by the said inward-turned flanges.

In testimony whereof I affix my signature in the presence of two witnesses.

ALLEN G. WILLIAMS.

Witnesses:
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