J. C. ANDREWS.

POLISHING BODY FOR BURNISHING BARRELS.

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1,218,158. Patented Mar. 6, 1917.

Fig. 1.

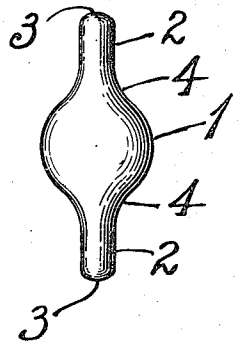
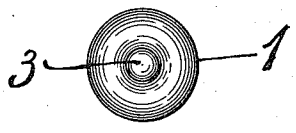


Fig. 2.



J. C. Andrews Inventor

By his Attorneys

Bartlett & Brownell.

UNITED STATES PATENT OFFICE.

JOSEPH C. ANDREWS, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO AMERICAN HARDWARE CORPORATION, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

POLISHING-BODY FOR BURNISHING-BARRELS.

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To all whom it may concern:

Be it known that I, JOSEPH C. ANDREWS, a citizen of the United States, residing at New Britain, county of Hartford, State of Connecticut, have invented a certain new and useful Improvement in Polishing-Bodies for Burnishing-Barrels, of which the following is a full, clear, and exact description.

My invention relates to improvements in polishing bodies for use in burnishing barrels, and has for its object to produce a tumbling element, which is adapted to contact with surfaces having varying curvatures and irregularities on the object to be burnished, without being liable to enter or be caught in holes or corners, and consists of a special shaped tool composed of a solid body of hard metal, formed with a central spheroid section, and having conoidal extensions at two points,—each extension having a rounded end and at its base flaring outward in a curve to join the surface of the central spheroid.

The following is a description of an embodiment of my invention, reference being had to the accompanying drawing, in which:

Figure 1 shows a side elevation of a polishing body embodying my invention;

Fig. 2 is an end view of the same.

Referring more particularly to the drawings, the tool is made up of a central portion 1 in the shape of a spheroid on the opposite sides of which are conoidal extensions 2—2, each having a blunt rounded end 3, and flaring abruptly outward at its base 4 in a curve to join the surface of the central spheroid. The surface of the tool as a whole is preferably a surface of revolution about an axis passing through the centers of ends of the two conoidal extensions. The sides of the extensions are substantially parallel, except near their bases, so that their body portions are substantially cylindrical and do not tend to wedge in any opening in which the ends can easily enter, so as to be loose therein. The absence of a taper near the ends prevents wedging at those portions, unless the articles being polished have holes into which the ends will tightly fit, and the abrupt flaring near the base of the extensions prevents those portions from acting as wedges, which would be liable to become stuck in any opening. Even if the articles being polished had openings in which the ends of the extensions might enter and fit closely, there would be small chance of having the extensions enter such holes. The chance of having the ends so enter such holes would be much less than if the ends had a considerable taper.

This special shaped tool will burnish articles having angular or curved surfaces, and because of its large central portion will not enter and become caught in holes of less diameter than the spheroid and substantially larger than the ends of the extensions, or in corners of the articles with which it is used, while the small diameter of the ends permits the ends to successfully burnish the angles and curves.

By its use one is not obliged to have available for burnishing so many different sized balls since the presence of the central spheroid and the rounded ends of the conoidal extensions provide surfaces of a large diameter and a small diameter in the same device, so that the single special shaped polishing device offers a combination of large and small rolling surfaces. In case articles such as metallic door knobs, having large holes for the shanks, are to be polished, the bodies are made so that the central spheroid is of such size as not to enter the holes. If there are also smaller holes the bodies used should have ends of either larger diameters than those holes or of considerably smaller diameters, the proportions of spheroid and extensions being preferably substantially as shown. The presence of the conoidal extensions of smaller diameter permit the device to contact with reëntrant curved and angular portions, so that all portions are acted upon by the polishing device, even though the polishing device, as a whole, cannot enter the opening in the device to be polished.

The device can be used for polishing or burnishing articles either before or after plating. In use the devices are placed in a tumbling-barrel, together with the articles to be polished and a medium of soap and water, and operated in a manner similar to the way in which plain spherical balls have been operated. The peculiar shape of the device, however, enables the operator to do

a greater variety of work with a smaller number of sizes of polishing elements, and, furthermore, the polishing elements, by reason of the flaring curves at the bases of the conoidal extensions, make a more extended contact with convex surfaces upon the articles to be polished, so as to produce better and more efficient results than can be produced with polishing bodies which do not have such flaring surfaces.

It is preferable to have two conoidal extensions, and have these conoidal extensions extend along a common axis, since they thereby tend to balance each other, although some of the advantages can be obtained where the conoidal extensions are not in line with the same axis or where one of them is omitted. For many purposes it is desirable to have the spheroid section seven-sixteenths of an inch in diameter, and to make the total length one inch. These dimensions and proportions, however, may be varied to meet varying conditions.

As will be evident to those skilled in the art, my invention permits of various modifications, without departing from the spirit thereof, or the scope of the appended claims.

What I claim is:

1. A metal polishing-body for tumbling-barrels, which has a spheroidal portion and a conoidal extension therefrom, said conoidal extension having a surface at its base, curved so as to abruptly flare outwardly to join the surface of the spheroidal portion.

2. A metal polishing-body for tumbling-barrels, which has a spheroidal portion and two conoidal extensions therefrom, each conoidal portion having a curved surface at its base, so as to abruptly flare outwardly to join the surface of the spheroidal portion and a substantially cylindrical portion between its end and said spheroidal portion.

3. A metal polishing-body for tumbling-barrels, which has a spheroidal portion and two conoidal extensions therefrom, each conoidal portion having a curved surface at its base, so as to abruptly flare outwardly to join the surface of the spheroidal portion, said conoidal extensions having rounded ends and substantially cylindrical body portions between said rounded ends and said spheroidal portion.

JOSEPH C. ANDREWS.