

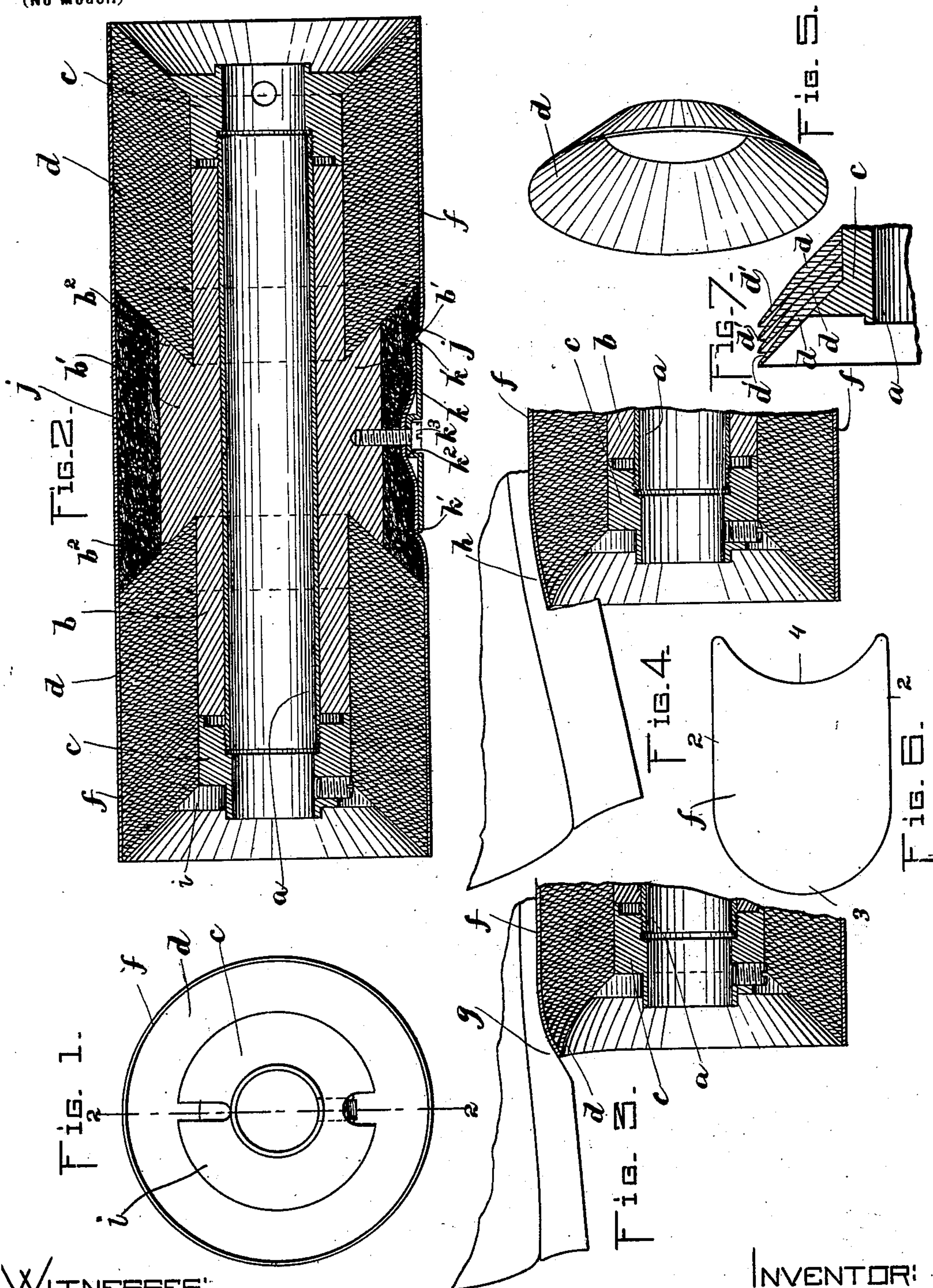
No. 667,272.

Patented Feb. 5, 1901.

H. A. WEBSTER.
BUFFING ROLL.

(Application filed June 4, 1900.)

(No Model.)



WITNESSES:
C. C. Stecher
A. D. Harrison

INVENTOR:
Harold A. Webster
By Night Brown Quincy
Atty.

UNITED STATES PATENT OFFICE.

HAROLD A. WEBSTER, OF HAVERHILL, MASSACHUSETTS. ASSIGNOR OF
ONE-HALF TO HERBERT B. NEWTON, OF SAME PLACE.

BUFFING-ROLL.

SPECIFICATION forming part of Letters Patent No. 667,272, dated February 5, 1901.

Application filed June 4, 1900. Serial No. 18,953. (No model.)

To all whom it may concern:

Be it known that I, HAROLD A. WEBSTER, of Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Buffing-Rolls, of which the following is a specification.

This invention relates to a cylindrical buffing-roll comprising a rotary hub or core adapted to be mounted on a shaft or spindle and a cylindrical yielding cushion surrounding the core and adapted to support a flexible abrasive cover of sand or emery paper.

The invention has for its object, first, to provide a yielding cushion or cover-support so formed at its ends that it will permit the abrasive cover to yield to a greater extent than at the center, and thus conform accurately to the more abruptly-curved surfaces of a boot or shoe or other article requiring to be buffed.

The invention also has for its object to provide a construction whereby the end portions of the cushion or cover-support which are subjected to the greatest wear in use may be readily removed and replaced by new portions.

The invention also has for its object to provide other improvements relating to an appliance of this character.

The invention consists in the several improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents an end elevation of a buffing-roll embodying my invention. Fig. 2 represents a longitudinal section of the same on the line 2 2 of Fig. 1. Figs. 3 and 4 represent sectional views of the end portion of the roll, illustrating its action on different kinds of work. Fig. 5 represents a perspective view of one of the flexible annular sections of the cushion. Fig. 6 represents a plan view, on a reduced scale, of the preferred form of abrasive cover. Fig. 7 represents a sectional view of a portion of the roll.

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

The embodiment of my invention shown in Figs. 1 and 2 includes a hub or core composed of a metal tube *a* and a sleeve *b*, of

wood or other suitable material, surrounding the tube *a*, said sleeve having a thickened central portion *b'*, the ends *b²* *b²* of which are oppositely beveled or dished. The ends of the metal tube *a* project beyond the ends of the sleeve *b* and are externally threaded and engaged with internal threads formed in collars *c* *c*, which constitute the movable end portions of the hub, the object of said movable end portions being stated hereinafter.

The hub above described supports a yielding cushion or cover-support which comprises a series of annular dished flexible sections *d*, of the form shown in Fig. 5, nested together on the hub and composed, preferably, of leather, each section *d* having the general shape of a hollow cone frustum. Each section may be made by splicing together the ends of a segmental blank of leather or other suitable flexible material. The sections *d* are nested closely together upon the portions *b* and *c* of the hub, and their inner edges may be cemented to the said portions *b* and *c*. The outer edges of the sections *d* collectively constitute the peripheries of two parts of a cylindrical cushion, the said parts being at opposite ends of the thickened central portion *b'* of the hub. The dish or inclination of the sections *d* is such as to fit the beveled faces *b²* of the hub, so that the sections at one end of the cushion are dished oppositely from those at the other end of the cushion, as shown in Fig. 2. It will be seen that this construction gives to the ends of these parts of the cushion formed by the sections *d* a dish form, the periphery of the cushion at its ends overhanging the central portion, so that the abrasive cover *f*, supported by said cushion, is enabled to yield more freely at the ends of the cushion than elsewhere, thus accommodating the various abruptly-curved surfaces, such as the breast *g* of a spring-heel or bottom *h* of the shank, as shown in Figs. 3 and 4, the dish form also enabling the pad-cover to work into the angle formed by the shank and the breast of the heel, as shown in Fig. 4.

Owing to the fact that the sections *d* at the ends of the cushion are subjected to greater flexure than the intermediate sections and are therefore sooner worn out or made inoperative, the said end sections are secured to

the removable collars *c*, so that when they become limp and inoperative they may be readily removed and new sections applied to the collars *c*. The inner portions of the sections of the collars *c* are supported by flanges *i*, formed on the collars, as shown in Fig. 2, said flanges covering only the inner portions of the dished outer surfaces of the end sections *d*, so that the outer portions of said sections overhang the flanges.

j represents a cushion, of felt or other suitable yielding material, placed upon the thickened portion *b'* of the hub, between the two series of sections *d*, the ends of the felt cushion *j* being beveled to fit the section *d*, as shown in Fig. 2. The thickened central portion *b'* of the hub and the felt cushion *j* provide for the convenient engagement with the device of means for clamping the abrasive cover *f* upon the cushion. As here shown said means comprise a clamping-bar *k*, having inwardly-projecting ends *k'* *k'*, a central boss *k²*, and a screw *k³*, the head of which is seated in the said boss, the screw passing through the boss and through the cushion *j* into the thickened portion *b'* of the hub. The cover *f* is wrapped around the cushion with its ends overlapping, and the bar *k* is placed upon the outer surface of the outer layer or overlapping end of the cover, and the screw *k³* is inserted in the boss of the bar *k* and forced through the layers of the cover *f* and engaged with the socket formed for its reception in the hub, the screw being turned in until the bar *k* and the portions of the cover under it sink into the felt cushion *j* sufficiently to prevent the bar from striking the work presented to the buffing-roll.

The cover *f* is preferably made in the form shown in Fig. 6, said cover having the two parallel edges 2 2, the salient curved end 3, and the reëntrant curved end 4, said ends 3 and 4 being cut upon the same circle, so that a sheet or strip of material may be cut up into covers of the form shown without waste. When the cover is applied to the roll, the end 3 overlaps the end 4, the fastening-bar *k* bearing on the sheet in close proximity to the end 3.

I do not limit myself to making each section *d* in the form of an independent annulus. A modification which I consider no departure from the spirit of my invention is an elongated strip of flexible material similar to that from which the annular sections *d* are made, said elongated strip being wound helically on the hub or core and formed so that its convolutions form dished flexible sections which are the equivalent of the annular sections *d*.

The outer portions of the dished sections *d*

may be skived or beveled, as shown at *d'*, Fig. 7, to increase the flexibility of the outer portion or periphery of the cushion.

I claim—

1. A buffing-roll comprising a supporting hub or core, and dished flexible sections surrounding the core and nested together thereon, said sections collectively forming a cover-support or cushion, the ends of which are dished so that the periphery of the support overhangs the central portion at the ends of the roll.

2. A buffing-roll comprising a supporting hub or core, dished flexible sections surrounding the core, and forming a cylindrical cover-support or cushion with dished ends, the end portions of said cushion being separable from the body portion, and means for detachably securing said end portions.

3. A buffing-roll comprising a supporting hub or core, having end portions which are separable from the central or body portion, means for detachably securing said end portions to the central portions, and a yielding cushion composed of end portions attached to the end portions of the hub, and a central portion attached to the central portion of the hub.

4. A buffing-roll comprising a supporting hub or core, having end portions which are separable from the central or body portion, means for detachably securing said end portions to the central portion, and a yielding cushion composed of end portions attached to the end portions of the hub, and a central portion attached to the central portion of the hub, the end portions of the hub having flanges bearing against the end portions of the cushion.

5. A buffing-roll comprising a hub or core, and a yielding cover-support or cushion, composed of a central yielding portion having oppositely dished or beveled ends, and two series of annular dished flexible sections nested on the core at opposite ends of the central portion, the inner sections bearing against the dished ends of the central portion of the cushion.

6. A yielding cushion-section composed of a dished or frusto-conical annulus of flexible material.

7. A buffing-roll composed of a hub or core, and two series of annular dished or frusto-conical sections nested on the hub.

In testimony whereof I have affixed my signature in presence of two witnesses.

HAROLD A. WEBSTER.

Witnesses:

C. F. BROWN,

A. D. HARRISON.