

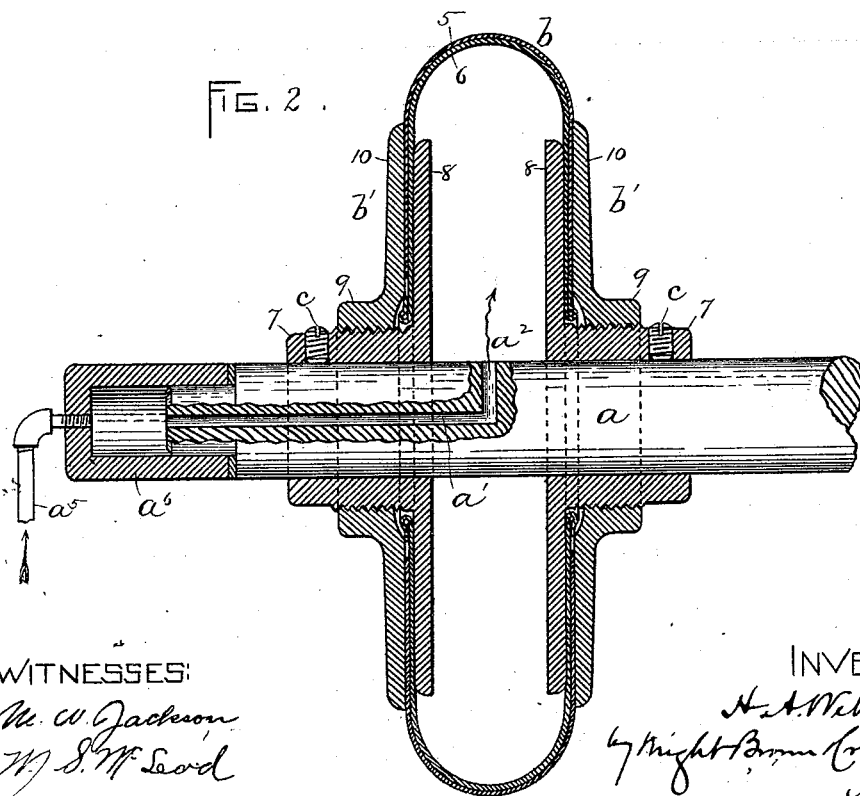
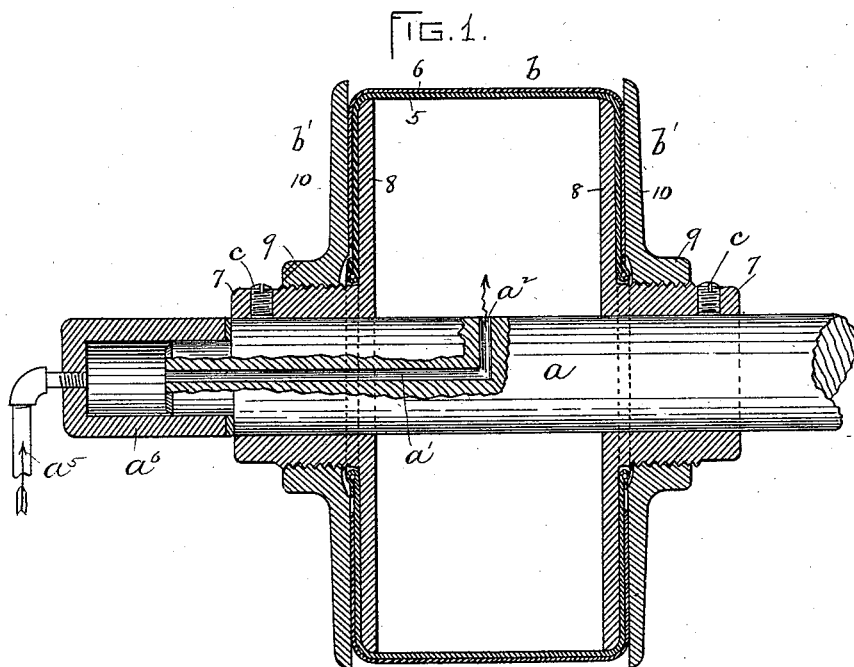
(No Model.)

2 Sheets—Sheet 1.

H. A. WEBSTER.
BUFFING WHEEL.

No. 493,002.

Patented Mar. 7, 1893.



WITNESSES:

W. W. Jackson
W. S. M. Lord

INVENTOR

H. A. Webster
by Knight, Brown & Conley
Attys.

(No Model.)

2 Sheets—Sheet 2.

H. A. WEBSTER.
BUFFING WHEEL.

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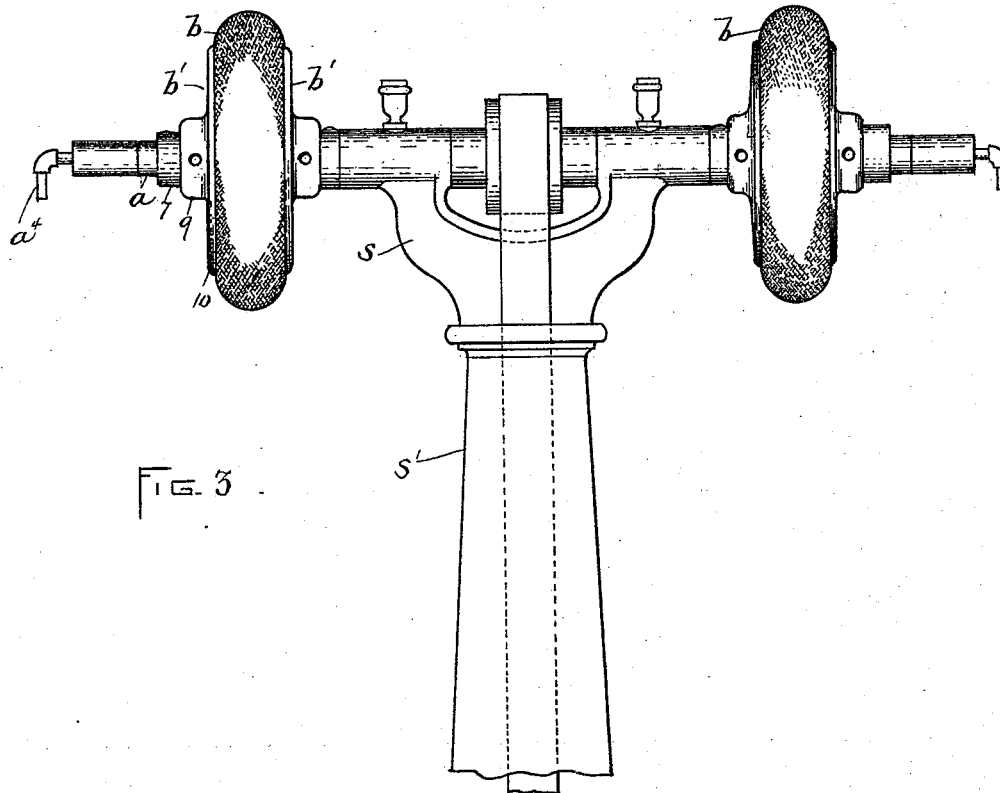


FIG. 3.

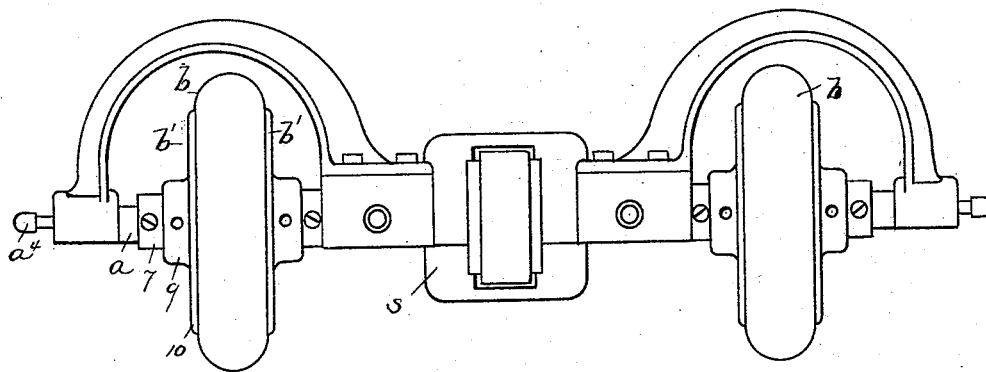


FIG. 4.

WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

HAROLD A. WEBSTER, OF HAVERHILL, ASSIGNOR TO GEORGE H. P. FLAGG,
OF BOSTON, MASSACHUSETTS.

BUFFING-WHEEL.

SPECIFICATION forming part of Letters Patent No. 493,002, dated March 7, 1893.

Application filed October 18, 1892. Serial No. 449,218. (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 Rotary Polishing-Wheels, of which the following is a specification.

This invention relates particularly to rotary tools or appliances for burnishing or polishing heels and other parts of boots and shoes in accordance with a process which involves the following steps, viz: First the application of a composition containing wax or resinous matter and coloring matter to the surface to be burnished, and secondly, the presentation of said surface to a rapidly moving polishing tool having a yielding acting surface.

My invention has for its object to provide a rotary burnishing polishing tool having a yielding acting surface which is supported by a constantly maintained air cushion, and to this end it consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings forming a part of this specification, Figures 1 and 2 represent sectional views of my improved burnishing or polishing device. Fig. 1 showing it before inflation and Fig. 2 after inflation. Fig. 3 represents a side view of an organized machine including two of said devices. Fig. 4 represents a top view of the construction shown in Fig. 3.

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

In the drawings—*a* represents a shaft journaled in suitable bearings and provided with a longitudinal air passage *a'* which is connected in any suitable way, as by a pipe *a⁴* (Figs. 3 and 4) or by a pipe *a⁵* and chambered bearing *a⁶*, Figs. 1 and 2, with an air pump or forcing apparatus of any suitable kind which is continuously operated by the power that rotates the shaft so that a constant air pressure is maintained. To said shaft is affixed a burnishing wheel which comprises in its construction a flexible periphery or acting portion *b* composed preferably of a sheet or piece of canvas or other textile fabric, and rigid holders *b' b'*, affixed to the shaft and to the edges of the said sheet or piece. Each of said holders is here shown as composed of a

collar 7 externally screw threaded and provided with a flange 8, and an internally threaded collar 9 having a flange 10. The collars 7 are affixed to the shaft *a* by set screws *c c*. The flanges 8 and 10 constitute jaws between which the edges of the sheet *b* are clamped. The holders *b' b'* and flexible sheet *b* inclose an annular air chamber surrounding the shaft and communicating with the air passage in the latter through one or more orifices *a³* therein, so that air may be forced into said chamber by the air pump above mentioned to constitute a yielding cushion for the flexible periphery *b*. In practice I make the said flexible periphery sufficiently loose to enable the air pressure to distend it and give it a convex outer surface as shown in Fig. 2, thus adapting it to act on the surfaces of a boot, heel and sole, without liability of contact of the holders *b' b'* with said surfaces. The flexible periphery may be caused to project more or less by adjusting the holders toward or from each other, one or both of the holders being preferably made capable of adjustment for this purpose.

In assembling the parts of the tool or wheel I prefer to separate the holders sufficiently to hold the cloth periphery taut as shown in Fig. 1 and then by adjusting one or both of the holders give the said periphery the desired fullness.

It will be seen that by constructing a burnishing wheel with rigid sides and a flexible periphery the whole inclosing an air chamber, and maintaining a constant pressure of air in said chamber through air passages in the shaft which carries said wheel, I provide a durable and efficient rotary burnishing or polishing device which is sufficiently flexible to meet all requirements.

I do not limit myself to the described construction of the wheel and may variously modify the same without departing from the spirit of my invention. The shaft may be provided with more than one of the improved wheels as shown in Figs. 3 and 4, in which I show the shaft provided with two wheels and journaled in bearings in a supporting frame *s* on a standard *s'*.

In Figs. 1 and 2 I show the flexible periphery *b* composed of two sheets or thicknesses

5, 6, the inner one of which is, or may be, permanently attached to the flanges 8 of the holders *b' b'*, the outer sheet being clamped between the two parts or jaws of each holder.

5 The outer sheet may therefore be removed and replaced by a new one whenever desired.

I claim—

1. A burnishing or polishing device, comprising a shaft having an air passage, and a
10 wheel affixed to said shaft, said wheel being composed of rigid sides and a flexible periphery, the whole inclosing an air chamber which communicates with the air passage of the
15 shaft, so that the flexible periphery may be pressed outwardly and yieldingly supported by air pressure in said chamber, and means for continuously maintaining pressure in said chamber, as set forth.

2. A burnishing or polishing device comprising a shaft having an air passage, rigid
20 holders affixed to said shaft, and a flexible periphery secured to said holders, one or both of said holders being adjustable on the shaft

to vary the shape of said periphery, as set forth.

3. A burnishing or polishing device composed of a shaft having an air passage, two
25 part holders attached to said shaft, and a flexible periphery clamped at its marginal portions between the parts of said holders, as
30 set forth.

4. A burnishing or polishing device composed of a shaft having an air passage, holders attached to said shaft and each composed
35 of an inner and an outer jaw, and a flexible periphery composed of an inner sheet permanently attached to the inner jaws and an outer sheet clamped between said jaws, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of
40 two subscribing witnesses, this 13th day of October, A. D. 1892.

HAROLD A. WEBSTER.

Witnesses:

C. F. BROWN,

M. W. JACKSON.