No. 894,807. PATENTED AUG. 4, 1908.

A. BATES.

BUFFING MACHINE.

APPLICATION FILED SEPT. 27, 1906.

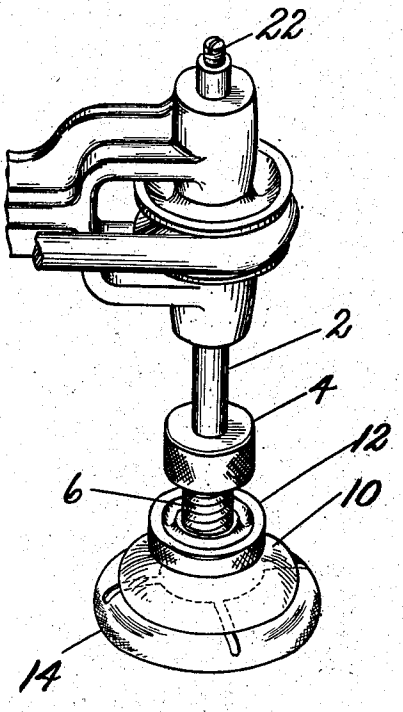



Fig. 1.

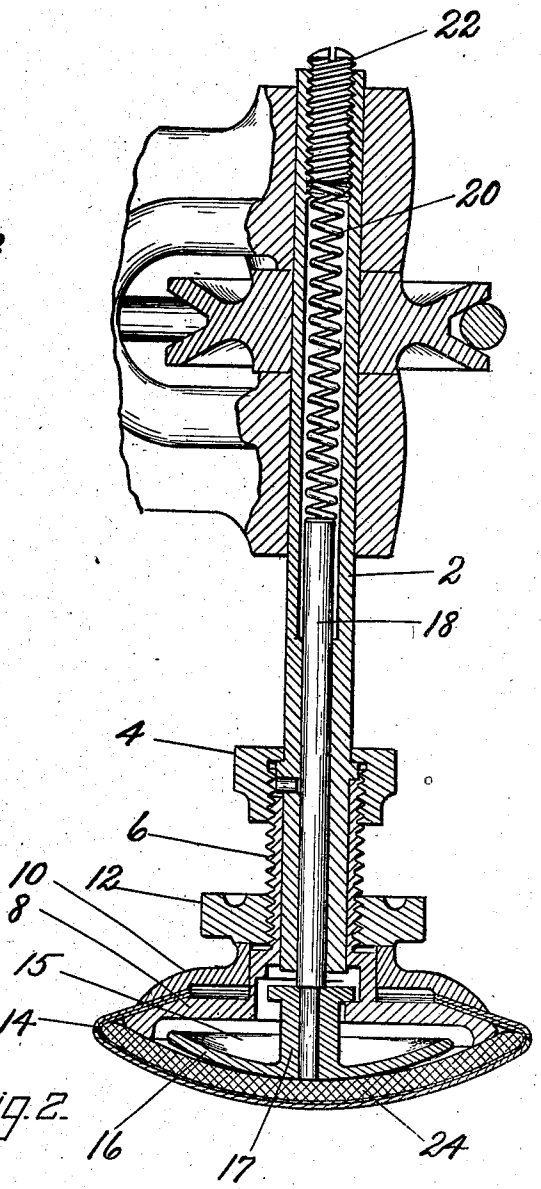



Fig. 2.

WITNESSES.
Bertha H. Hathaway
Bertha M. Hutchinson

INVENTOR.
Arthur Bates
By his Attorney,
Nelson B. Howard

# UNITED STATES PATENT OFFICE.

ARTHUR BATES, OF LEICESTER, ENGLAND, ASSIGNOR TO SIDNEY W. WINSLOW, TRUSTEE, OF BEVERLY, MASSACHUSETTS.

## BUFFING-MACHINE.

No. 894,807. Specification of Letters Patent. Patented Aug. 4, 1908.

Application filed September 27, 1906. Serial No. 336,493.

*To all whom it may concern:*

Be it known that I, ARTHUR BATES, a subject of the King of England, residing at Leicester, in the county of Leicester, England, have invented certain Improvements in Buffing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to buffing and the like machines and particularly to machines employed for finishing the bottoms of boots and shoes.

An object of the invention is to provide a buffing device in which the acting face of the buffing or abrading element is yieldingly supported by means which is certain and reliable in its operation and simple and inexpensive in construction.

To this end an important feature of the invention consists in a rotatable abrading device comprising a holder, an abrading element, and yielding means for supporting the abrading device against pressure of the work during operation.

More specifically the invention consists in the combination with a rotatable support, of a holder, an abrading element carried by the holder, a reinforcing plate for the abrading element, and means for yieldingly supporting the reinforcing plate against pressure of the work during operation of the machine.

In the illustrated embodiment of the invention the buffing device comprises a holder secured to a rotatable sleeve, an abrading element, and a reinforcing plate or support for the abrading element having a stem slidingly mounted in the sleeve and acted upon by a spring which forces the plate or support against the abrading device so that said device may yield to the thrust of the work. A pad or backing of rubber, felt, or the like may be interposed between the abrading element and the reinforcing plate, if desired, and preferably when such a backing is used it will be arranged to extend over the lower face of the holder as well as over the reinforcing plate.

In the drawings, which represent a preferred construction embodying this invention, Figure 1 is a side elevation and Fig. 2 is a central vertical section.

The sleeve 2, which may be connected in any suitable way to the means for actuating the buffing device, is provided with a collar 4 on its lower end, which has screw-threaded engagement with the hub 6 of the lower member 8 of the holder. Said hub receives loosely the upper member 10 of the holder and is screw-threaded on its outer side to receive a nut 12 by means of which the upper member 10 of the holder is forced against the lower member for clamping the marginal portion of the abrading element 14, which is shown as a sheet of abrasive material, to hold the latter in operative position.

The lower member of the holder is recessed as at 15 to receive the reinforcing plate 16, which is shown as having an upwardly extending cylindrical block 17 which is received in the hub 6. This provision of the block 17 guided in the hub allows the reinforcing plate to slide vertically, but prevents loose rocking or lateral movement of said reinforcing plate. The plate is also provided with a stem 18 which extends upwardly through the hub 6 and the sleeve 2 and is acted upon by a spring 20, the tension of which may be regulated by adjusting screw 22. A pad or backing 24, which may be of rubber, leather, or the like, is shown as interposed between the abrasive covering on one side and the lower face of the clamping member 8 and the reinforcing plate 16 on the other side. The pad thus bridges the joint or space between said member 8 and the reinforcing plate and presents a continuous support for the abrasive covering. The reinforcing plate yieldingly supports the abrasive covering against the thrusts of work presented to the buffing device.

A buffing device made in accordance with this invention has many of the desirable characteristics of such a device in which the abrading element is supported by a pneumatic cushion, while having the advantage that it is simple in construction and not liable to get out of order.

It will of course be understood that any convenient form of abrading element and appropriate holder may be used with this invention.

Having now fully explained the invention, I claim as new and desire to secure by Letters Patent of the United States:—

1. In an abrading device, a holder, an abrading element, and a single spring for yieldingly supporting the abrading element against pressure of the work upon it.

2. In an abrading device, a holder, an abrading element, a stiff reinforcing plate for the abrading element, and means for yieldingly maintaining the reinforcing plate in position to support the abrading element against pressure of work upon it.

3. In an abrading device, an abrading element, a holder comprising means for clamping the abrading element at its edge, a plate for supporting the acting face of the abrading element, and means for yieldingly maintaining the plate in supporting position.

4. In an abrading device, an abrading element, a holder comprising means for securing the abrading element in operative position and having provision for supporting the marginal portion of the acting face of said element unyieldingly against pressure of work upon it, and a plate for yieldingly supporting the central portion of the abrading element against pressure of the work.

5. In an abrading device, a holder, an abrading element, a reinforcing plate for the abrading element, means for yieldingly maintaining the reinforcing plate in position to support the abrading element, and a pad or backing of yielding material between the plate and abrading element.

6. In an abrading device, a holder comprising means for securing the abrading element in operative position and having provision for supporting the marginal portion of the abrading element, a yieldingly mounted plate for supporting the central portion of the abrading element, and a pad or backing of yielding material arranged between the abrading element and the yielding plate and bridging the space between said plate and holder.

7. In a machine of the class described the combination with a shaft, of an abrading device having its working face arranged perpendicularly to the shaft and comprising a holder, a reinforcing plate, an abrading element extending over the plate and secured to the holder, and a spring arranged against the plate to support the abrading element yieldingly.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR BATES.

Witnesses:
GRACE HOLMES,
ARTHUR ERNEST JERRAM.