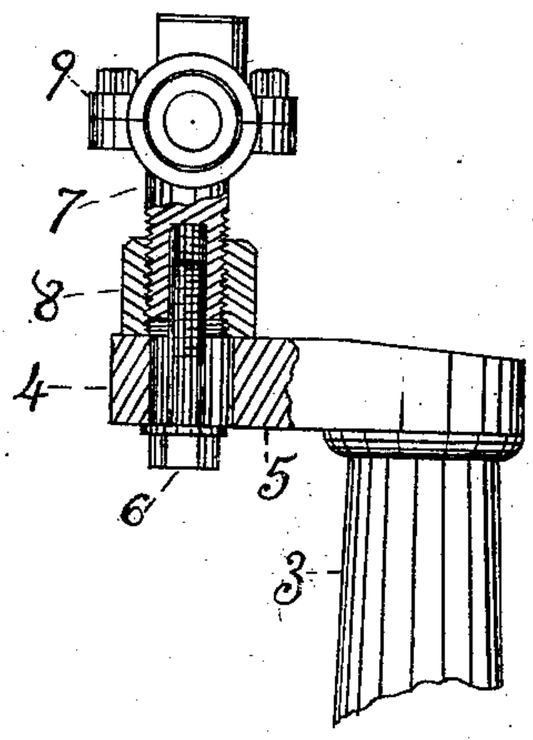
(No Model.)

G. W. EMERSON.

BUFFING MACHINE.

No. 281,355. Patented July 17, 1883.



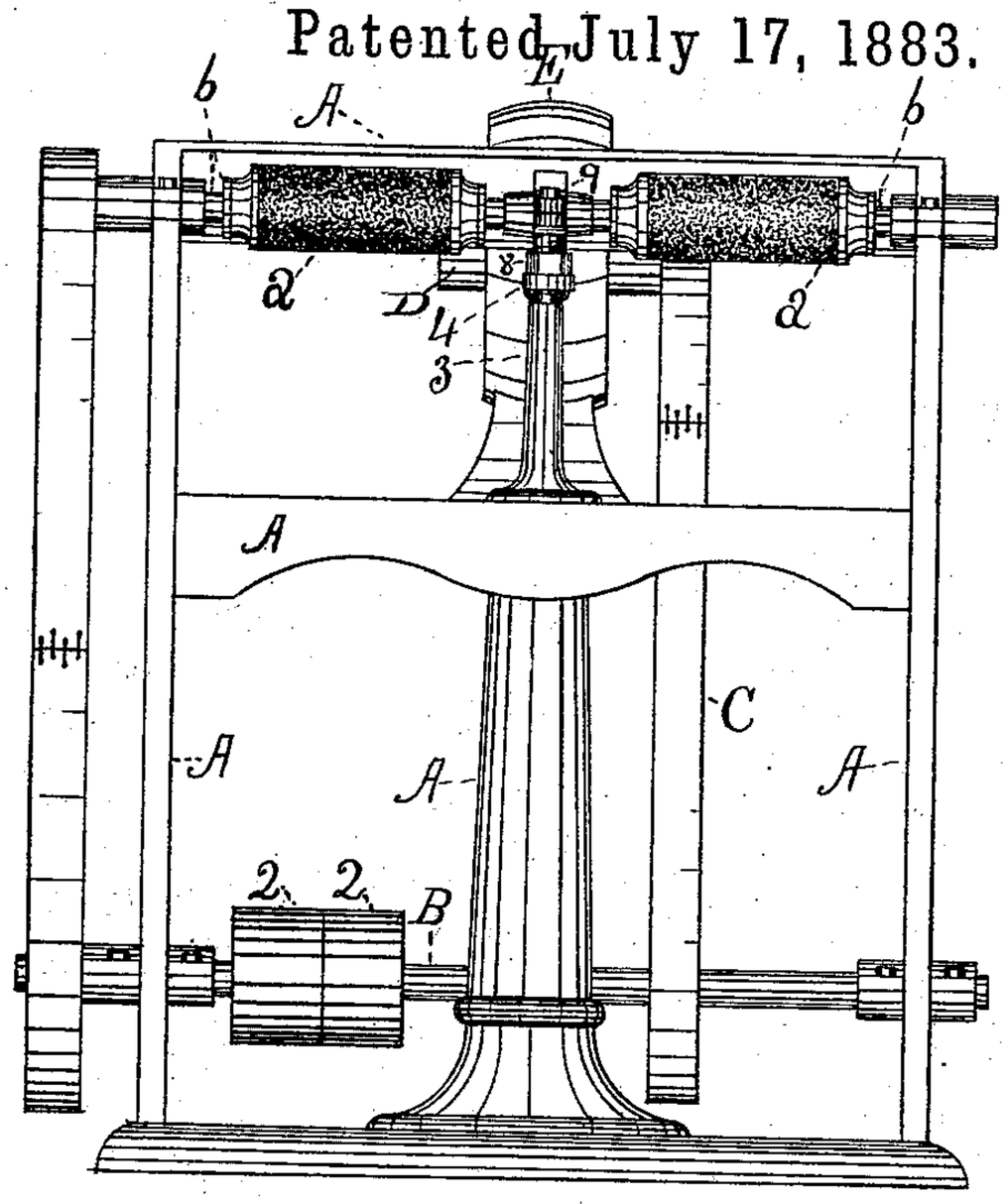


Fig. 1.

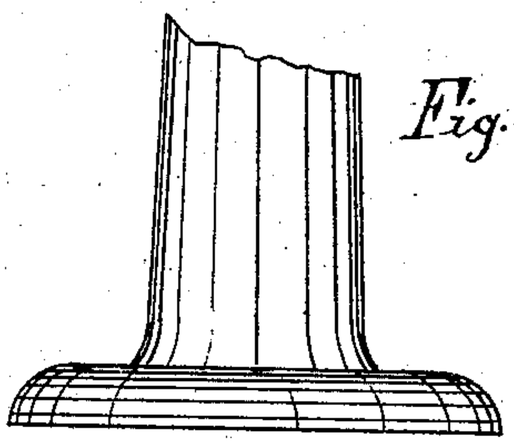


Fig. 2.

Witnesses;
C. Ruth
James W. Carver

Inventor.
George W. Emerson
by C. B. Tuttle
Attorney.

UNITED STATES PATENT OFFICE.

GEORGE W. EMERSON, OF LYNN, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND NATHAN C. ELLIS, OF SAME PLACE.

BUFFING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 281,355, dated July 17, 1883.

Application filed December 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. EMERSON, of Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Buffing-Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to that class of machines commonly used for scouring or buffing the heels and soles of boots and shoes, and particularly to machines for which Letters Patent of the United States No. 100,229 have already been granted, though it may be applied to other machines.

In buffing-machines as heretofore constructed it is customary to mount the buffing-roll in two bearings only, one of which is located at each end of the roll-shaft, and in case two or more rolls are employed they are secured together, and each end of the system is mounted in the bearing. In operation this roll is made to revolve with very great rapidity, and this great speed, which is essential to the successful operation of the machine, causes the roll to spring or jump when the shoe is held up against the same, and however nicely balanced the roll may be it soon gets out of true and shakes, so that it is with difficulty that good work can be done; hence, too, arises the necessity of no inconsiderable expense and loss of time to keep the machine in working order.

To obviate the aforesaid difficulties is the main object of this invention; and to that end the invention consists in a third bearing, located between the end bearings, before mentioned, and adapted to steady the roll at that point, and in arranging said bearing so as to permit of being adjusted to suit the varying tendency of the roll-shaft, all of which are hereinafter more fully described and claimed.

In the drawings, Figure 1 is a front elevation of a machine embodying this invention. Fig. 2 is a view representing the supplementary bearing or the invention proper detached from the machine.

The frame-work of the machine represented in the drawings and designated by the letters A A A A A is of the ordinary construction. Shaft B is provided with pulleys 2 2, and connects by belt C with horizontal shaft D, on which is a fan-wheel adapted to operate in the casing E, so that power applied to shaft B operates to turn the fan and remove the dust taken off by sand-paper rolls *a a*. The construction of said rolls *a a* is fully described in Letters Patent of the United States No. 100,229, to which reference may be had, if desired. It is only necessary to remark here that they consist of an outer shell arranged on an inner rod, *b*, which operates the same, and as this construction of the roll necessitates a smaller rod or shaft than otherwise might be used it renders the importance and necessity of my invention all the more plain. Heretofore the method of arranging these rolls has been to journal the shaft *b* in a suitable box at each end of the shaft, and in case two or more rolls have been used they are secured together in one system, and each end of the system only is provided with a bearing, which method results in more or less vibration when the roll-shaft is rapidly revolved, as before described.

Fig. 2 of the drawings, which illustrates the construction of my invention, shows a column, 3, having on its top end an offset, 4, which in turn is provided with slot 5, as shown. Said slot 5 is adapted to receive the screw 6, and is sufficiently large to permit considerable lateral play to the screw while placed therein. Said screw is arranged to screw into the end of vertical standard 7, on the top of which is mounted an ordinary journal box or bearing, 9. The standard 7 is also provided on its outside with a screw-nut, 8, which, in connection with the screw 6, may be made to clamp the standard securely to its supporting-arm in an obvious manner. It will also be observed that this combination permits the standard 7 to be moved vertically or laterally, so as to adapt the journal-box 9 to fit the center line of the roll-shaft. In combining this with the machine, as represented in Fig. 1, the standard 3 is mounted upon the cross-bar A sufficiently far back to not interfere with the work as it is passed from one roll to the other, and with the arm 4 extending forward, so as to bring the bearing 9 into position to embrace the roll-shaft at a point between the rolls. The journal-box, while in this position, may be various-

ly and nicely adjusted by means of the screw 6 and nut 8, as before described, so as to compensate for any nice imperfection in the balance of the rolls, whether the same be due to the imperfect construction or unevenness in the wear thereof. In this manner I have succeeded in obviating the springing and jumping which are common in connection with the rolls of buffing-machines heretofore constructed, and I am also, by means of this adjustable bearing, enabled to compensate for any nicety of balance that may appear only when the machine is in rapid operation, or which may be developed only by extended use of the machine, and thus I am enabled to lessen, and for a longer time to delay, the necessity of repairs.

What I claim, and desire by Letters Patent to secure, is—

1. In a buffing-machine, the combination, with the roll-shaft having double rolls mounted thereon, and provided with end bearings, as set forth, of an intermediate third bearing arranged to hold and support the roll-shaft at a point between the rolls, said intermediate bearing being adapted to permit of vertical or lateral adjustment in reference to the shaft, substantially as and for the purposes described.

2. In a buffing-machine, the combination, with the roll-shaft having double rolls mounted thereon, and provided with end bearings, as set forth, of an intermediate bearing composed, essentially, of the supporting-column 3, having arm or offset 4, with slot 5, the screw 6, arranged loosely in said slot, the standard 7, having its end adapted to receive the screw 6, the nut 8, arranged to operate in a thread on the standard and in connection with the screw 6 to clamp the standard to its supporting-arm, and the box or bearing on said standard, arranged to grasp and support the roll-shaft at a point between the rolls, substantially as and for the purposes described.

In testimony whereof I have signed this specification in presence of two witnesses.

GEORGE W. EMERSON.

Witnesses:

S. RUTH,

C. B. TUTTLE.