(No Model.) 2 Sheets—Sheet 1.

# G. A. FULLERTON.

## MACHINE FOR BUFFING BOOT OR SHOE SOLES.

No. 382,967. Patented May 15, 1888.

Fig. 1.

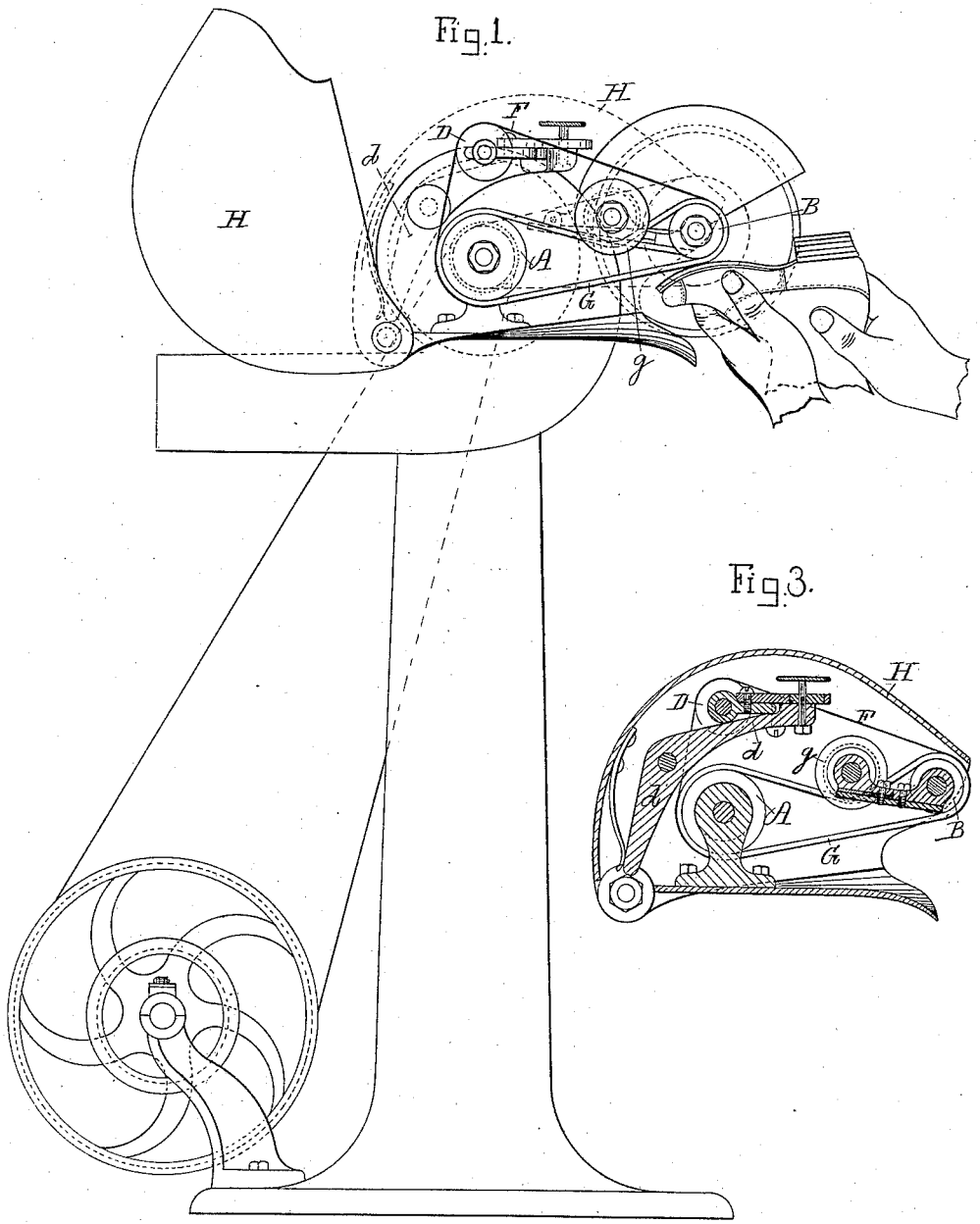


Fig. 3.




Witnesses.
Laurtz W. Möller.
John R. Snow.

Inventor.
George A. Fullerton.

(No Model.) 2 Sheets—Sheet 2.

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No. 382,967. Patented May 15, 1888.

Fig. 2.

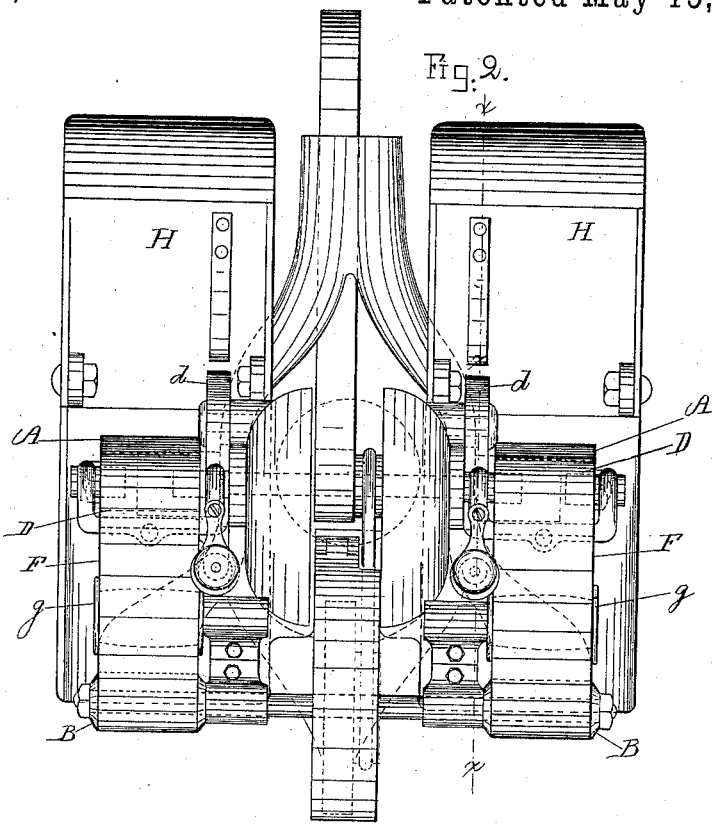
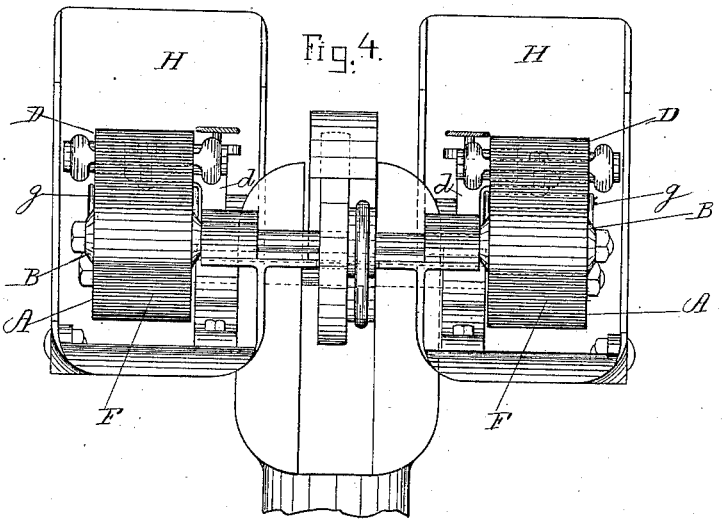



Fig. 4.

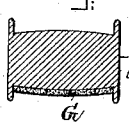



Witnesses.

Laurits N. Möller.

John R. Snow.

Fig. 5.




Inventor.

George A. Fullerton

# UNITED STATES PATENT OFFICE.

GEORGE A. FULLERTON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO GEORGE H. P. FLAGG, TRUSTEE, OF SAME PLACE.

## MACHINE FOR BUFFING BOOT OR SHOE SOLES.

SPECIFICATION forming part of Letters Patent No. 382,967, dated May 15, 1888.

Application filed September 13, 1884. Serial No. 142,971. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE A. FULLERTON, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Machine for Buffing Boot or Shoe Soles, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a machine embodying all parts of my invention. Fig. 2 is a plan. Fig. 3 is a section on line *x x*, Fig. 2. Fig. 4 is a front elevation of the upper part or head of the machine. Fig. 5 is a detail.

My invention is an improvement on that class of buffing-machines in which the sand-paper or other abrasive material is used in belt form; and it consists, primarily, in running the belt over a driving-pulley and a cushioned pulley, both in stationary boxes, and over a third pulley in boxes which are movable toward and from a line through the centers of the driving-pulley and the cushioned pulley.

Another feature of my invention is the combination, with the abrasive belt and pulleys, of a hood covering the belt and pulleys, except at the front, the interior of the hood communicating with a fan-chamber, whereby the dust is more effectually removed than in former machines of this class.

A third feature of my invention consists in a novel arrangement of the carrier-belt and the belt carried by it, whereby the stretch of the carrier-belt has no effect upon the belt carried by it.

In the drawings, A, B, and D represent the three pulleys, and F the abrasive belt carried by them, the boxes of the pulleys A and B being stationary and that of D movable to regulate the tension on the abrasive belt F, and also in order that belt F may be readily removed and replaced. This constitutes the main feature of my invention, and is applicable whether the cushioned pulley B be cushioned in the usual way, or whether it be cushioned by means of a carrier-belt, as shown in the drawings, or whether a stationary cushion be used, as in certain buffing-machines lately patented; for this feature of my invention relates principally to removing and replacing the abrasive belt and is equally applicable, whatever be the cushioning device. By moving the pulley D in a direction to bring it between the driving-pulley A and the cushioned pulley B, belt F is slackened so much that it is readily removed and a new one is readily put in place over the pulleys A, B, and D without stopping the machine. Heretofore this has been accomplished by mounting one of the two pulleys corresponding to the pulleys A and B of my machine in movable boxes, so that one of the pulleys can be moved toward or from the other; but this is objectionable, for the reason that it is not practical in machines of this class to move the driving-pulley—which is the pulley A in my machine—and there are many objections to moving the cushioned pulley B, and it was in the endeavor to overcome these objections that I made this part of my invention.

In practice the boxes of the pulley D are on the short arm of a bell-crank lever, *d*, the long arm of which is controlled by a weight or spring to give the necessary tension to belt F, which is slight when a carrier-belt, G, is used.

I am aware that it is not new to mount an abrasive belt on two or on three pulleys, one of which serves as a tightener, and therefore do not claim, broadly, an abrasive belt mounted on three pulleys, and limit myself to the combination of an abrasive belt, a driving-pulley in stationary boxes, a second pulley also in stationary boxes, and a third pulley in movable boxes, which serves as a tightener and also as a means whereby the abrasive belt can be readily removed and replaced without stopping the machine, the two pulleys in stationary boxes being the one a driving-pulley and the other corresponding with the cushioned pulley in the ordinary form of machine, or with the pulley nearest the cushion in those forms of machine in which the cushion is stationary, this latter pulley being commonly called the cushioned pulley. The working-surface of the abrasive belt is that surface near but below the cushioned pulley.

The second feature of my invention relates to disposing of the dust, and consists in a cover, H, adapted to cover the abrasive belt

and its pulleys, except near the lower side of the cushioned pulley B, where it is so shaped as to form a mouth, in which the work is mainly done, all the dust being drawn back by the belt, except such as adheres to the belt until it is shaken off by the passage of the belt over the driving-pulley. The hood H opens into a dust-passage (see dotted lines in Fig. 2) directly under the abrasive belt, which while running draws the dust into the passage, so that it is very perfectly carried away. This feature of my invention is novel and important.

The third feature of my invention consists in a novel combination of a carrier-belt and the belt carried by it, by means of two pulleys, which are common to both belts, and two other pulleys, one to tighten the carrier-belt, the other to tighten the sand-paper belt. When all the pulleys used are common to both the carrier-belt and the belt carried by it, any stretch of the carrier belt will produce an increased strain upon the carried belt, and as in practice the carried belt is composed of paper or other thin sheet material coated with glue and sand, it cannot be stretched to any great extent without injury; whereas the carrier-belt, made in practice of leather and an endless cushion of felt, or the like, will continue to stretch in use, so that after a few days' use it will be found that the sand-paper belts are too short for the carrier-belt. To remedy this, I use a pulley, *g*, with the carrier belt, which is adjustable, in order to keep the carrier-belt G always under the desired strain; and another pulley, D, to keep the carried belt always under the proper strain, which will be found very light, for the friction between the inner surface of the sand-paper belt F and the outer surface of the carrier-belt G will be ample without any great strain on belt F. Another material advantage of the pulley *g* is that it tends to keep the felt cushion or the carrier-belt G in proper shape—that is, curved inwardly, as shown in Fig. 5, which is a cross-section of the carrier-belt G and a longitudinal section of pulley *g*. Of course the cushion on belt G may be of other shapes, and the shape of pulley *g* will vary accordingly, or the cushion may be omitted for certain kinds of work.

I am aware of Winslow and Fifield's patent, No. 221,647, of 1879; H. C. and J. N. Tower's patent, No. 175,882, of 1876; and Hawkins' patent, No. 137,304, of 1873, and disclaim all that is shown in them.

What I claim as my invention is—

1. In combination, the driving-pulley A, with fixed boxes, the cushioned pulley B, also with fixed boxes, the movable pulley D, with movable boxes, and the abrasive belt F, all arranged as shown—that is, both the driving-pulley and the cushioned pulley being in stationary boxes and arranged at nearly equal distances from the movable pulley D, which is brought nearly between the pulleys A and B in order to remove or replace the belt, and into the position shown to tighten the belt.

2. In combination, abrasive belt F and its pulleys, with hood H, the hood closing a chamber in which the belt runs, except at its mouth, for the introduction of the work, and at its outlet, which is under the abrasive belt and communicates with the fan-chamber, as set forth.

3. In combination, abrasive belt F, carrier-belt G, and pulleys A, B, D, and *g*, the pulleys A and B being common to both belts, the pulley D serving to tighten or slacken the belt F, and the pulley *g* to tighten or slacken belt G, substantially as described.

GEORGE A. FULLERTON.

Witnesses:
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J. E. MAYNADIER.