

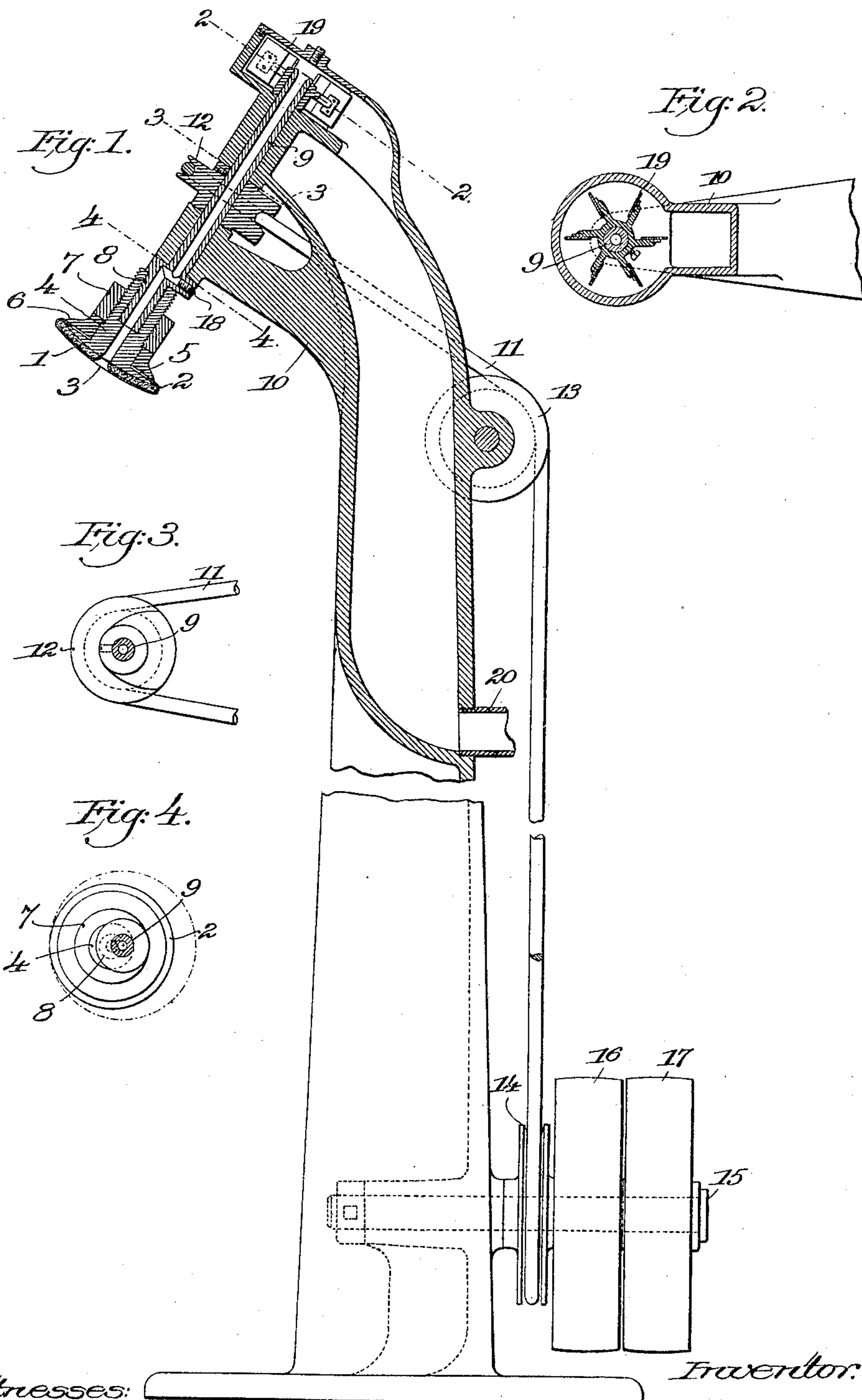
No. 681,836.

Patented Sept. 3, 1901.

J. R. SCOTT.
SOLE BUFFING MACHINE.

(Application filed Nov. 3, 1900.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

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SOLE-BUFFING MACHINE.

SPECIFICATION forming part of Letters Patent No. 681,836, dated September 3, 1901.

Application filed November 3, 1900. Serial No. 35,329. (No model.)

To all whom it may concern:

Be it known that I, JACOB R. SCOTT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sole-Buffing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to machines for buffing the soles of boots and shoes.

In the manufacture of boots and shoes it is customary to clean off the bottom of the soles and heels to provide a smooth clean surface suitable for receiving the stain or dressing and of thereafter being polished. This operation is performed by means of a buffing-machine, comprising a rapidly-moving buffing-pad, generally rotary. In such machines as heretofore constructed trouble has been occasioned by the rapid deterioration of the abrading-surface of the pad due to the collecting thereon of the dust removed from the surface of the sole, the abrading-surface rapidly becoming glazed over, and thereby necessitating the frequent renewal of such surface. Trouble has also been occasioned by the blackening of the surface of the sole due to the heat generated by the abrading action of the pad when the pad is run at a high rate of speed.

The object of my invention is to improve the construction and mode of operation of sole-buffing machines, and more particularly to provide a sole-buffing machine by which the defects enumerated above are obviated.

With this object in view my invention consists in the devices and combinations of devices hereinafter described and claimed.

A preferred form of my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of a sole-buffing machine embodying the same, the lower part of the machine-frame being shown in elevation; and Figs. 2, 3, and 4 are detail sectional views on the lines 2 2, 3 3, and 4 4 of Fig. 1.

Referring to the drawings, in which like

characters of reference indicate like parts, 1 indicates the buffing-pad, provided with a covering 2 of suitable abrasive material, such as sandpaper or emery-cloth. Formed in the working face of the buffing-pad and its abrasive covering is an aperture 3, and connecting with said aperture is a passage-way through which air is drawn by a suitable suction device or apparatus, as will be described. The buffing-pad may be of any desired shape and may be given any desired movement or series of movements by suitable actuating mechanism. The suction device or apparatus may also be embodied in any desired form, the essential features of the invention, broadly considered, consisting in a suitably-actuated buffing-pad provided with an aperture in its working face and a suction device or apparatus acting to draw air through said aperture. In the construction shown in the drawings the pad 1, of felt or any other suitable material, is circular and is secured to the lower face of a cylindrical block 4, provided with a projecting flange 5 at its lower end. The covering 2 is stretched over the pad, with its edges turned inwardly over the flange 5 and clamped between the flange and the clamping-ring 6, which is forced toward the flange by means of a nut 7, having a screw-threaded engagement with the cylindrical block 4 and bearing against the clamping-ring. The block 4 is secured to a crank-pin 8 of a shaft 9 by being screwed thereon. The shaft 9 is mounted in suitable bearings in the frame 10 and is rotated by means of a belt 11, passing over a pulley 12, provided on one side with a counterbalance secured to the shaft, said belt also passing over idle pulleys 13, mounted on the upper portion of the machine-frame, and a driving-pulley 14, secured to a driving-shaft 15, journaled in the lower portion of the machine-frame and provided with fast and loose driving-pulleys 16 and 17. The crank-pin 8 and shaft 9 are hollow, the passage-way formed by the hollow shaft and pin being connected by a transverse passage-way bored in the crank-disk at the lower end of the shaft 9 and closed by means of a screw 18. The aperture 3 in the buffing-pad communicates by means of a passage-way formed in the block 4 with the hollow crank-pin 8.

For drawing air through the aperture 3 and hollow crank-pin and shaft a fan 19 is secured to the upper end of the shaft 9. This fan is located in a chamber formed in the upper portion of the machine-frame, said chamber communicating with the hollow upper portion of the frame, from the lower part of which hollow portion a suitable delivery-pipe 20 leads.

- 10 By the construction above described the pad 1 will be rapidly rotated by the revolution of the shaft 9 and at the same time a draft of air up through the aperture 3 and hollow crank-pin 8 and shaft 9 will be created. This
15 draft of air will perform two important functions—first, it will remove the dust from the surface of the sole and pad, thereby keeping the abrasive surface of the pad clean and preventing the glazing over of such surface by
20 the accumulation of dust thereon, thus increasing the efficiency and prolonging the life of the abrasive surface, and, secondly, it will cool the surfaces of the sole and pad, and thereby allow the pad to be rotated at a high
25 rate of speed without danger of blackening the sole.

It will be noted that the aperture 3, although in the center of the pad, is eccentric to the axis of rotation, whereby the aperture
30 will move over the sole of a shoe presented to the pad. The suction device is thus rendered more effective than would be the case were the aperture concentric with its axis of rotation. It will also be noted that the circular
35 pad is mounted eccentrically on the shaft 9 by means of the crank-pin 8, so as to be rotatable about an axis eccentric to the center of the pad. By so mounting the pad the pad will travel over a larger area of the sole during each revolution than would be the case
40 were the pad rotated on an axis concentric with its center. The peripheral speed of the pad is also increased, and this, together with the increased area over which the pad travels,
45 gives an increased efficiency for a pad of a given size.

The specific arrangement of the suction apparatus shown in the drawings, by which the air is caused to pass through the driving-
50 shaft upon which the pad is mounted, in addition to affording a simple and compact construction serves as a means for cooling the bearings of the shaft.

The buffing-machine illustrated in the
55 drawings and above described as embodying my invention can be run at a high rate of speed without injurious results and in practical operation has proved highly efficient.

Having thus described my invention, I
60 claim as new and desire to secure by Letters Patent of the United States—

1. A sole-buffing machine, having, in com-

bination, a buffing-pad provided with an aperture in its working face, actuating means for the pad and a suction device acting to re-
65 move the dust from the surfaces of the sole and pad through said aperture, substantially as described.

2. A sole-buffing machine, having, in combination, a buffing-pad provided with an aperture in its working face, a hollow shaft for actuating the pad, means for actuating the shaft and a suction device acting to remove the dust from the surfaces of the sole and pad through said aperture and hollow shaft, sub-
70 stantially as described.

3. A sole-buffing machine, having, in combination, a buffing-pad provided with an aperture in its working face, a hollow shaft for actuating the pad, means for actuating the shaft, and an exhaust-fan mounted on the shaft acting to remove the dust from the surfaces of the sole and pad through said aperture and hollow shaft, substantially as described.
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4. A sole-buffing machine, having, in combination, a rotary buffing-pad provided with an aperture in its working face eccentric to its center of rotation, means for rotating the pad and a suction device acting to remove the dust from the surfaces of the sole and pad through said aperture, substantially as described.
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5. A sole-buffing machine, having, in combination, a buffing-pad provided with an aperture in its working face, a hollow shaft to which the pad is secured so as to rotate therewith, means for rotating the shaft and a suction device acting to remove the dust from the surfaces of the sole and pad through said aperture and hollow shaft, substantially as described.
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6. A sole-buffing machine, having, in combination, a hollow shaft, a buffing-pad secured eccentrically to said shaft provided with an aperture eccentric to said shaft, means for rotating said shaft and a suction device acting to remove the dust from the surfaces of the sole and pad through said aperture and hollow shaft, substantially as described.
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7. A sole-buffing machine, having, in combination, a buffing-pad provided with an aperture in its working face, means for rotating the pad and a suction device acting to remove the dust from the surfaces of the sole and pad through said aperture, substantially as described.
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In testimony whereof I affix my signature in presence of two witnesses.

JACOB R. SCOTT.

Witnesses:

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