

(No Model.)

J. H. STEVENS.
Buffing Machine for Boot and Shoe Soles.

No. 236,271.

Patented Jan. 4, 1881.

Fig:1.

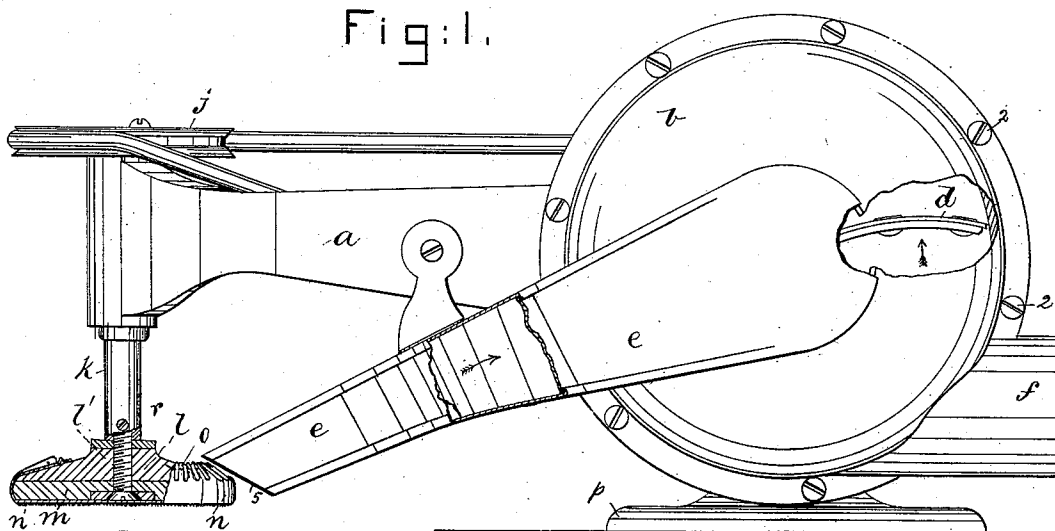


Fig:2.

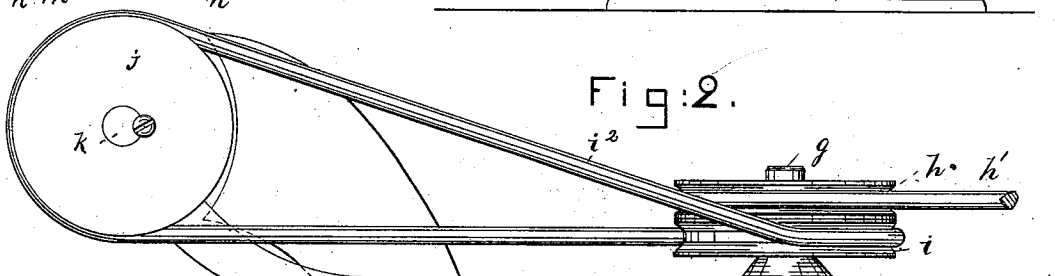
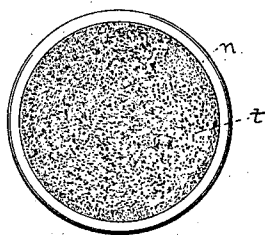


Fig:3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN H. STEVENS, OF LYNN, MASSACHUSETTS.

BUFFING-MACHINE FOR BOOT AND SHOE SOLES.

SPECIFICATION forming part of Letters Patent No. 236,271, dated January 4, 1881.

Application filed November 12, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. STEVENS, of Lynn, in the county of Essex and State of Massachusetts, have invented an Improvement in Buffing-Machines for Soles of Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to improvements in buffing-machines for soles of boots and shoes; and my invention consists in a novel foot to receive the abrasive pad which acts directly upon the sole; also, in the combination, with a foot and abrasive pad, of a suction or exhaust pipe having its mouth located at the rear and above the bottom of the said pad, whereby the shoe held by the operator against the under surface of the pad may be freely moved in any direction without contact with the said pipe.

In buffing-machines heretofore employed the foot has been composed of a rigid disk covered with felt at its under side to serve as a backing for the emery or other abrasive cloth which is clamped thereto, and in connection with such foot there has been employed a suction-pipe extended upward from below the pad, its mouth or dust-receiving opening terminating near but at the under side of the foot, as in United States Patent No. 221,647. So, also, the abrasive surface in this class of machine has been backed up by a flexible stuffing, as in United States Patent No. 227,839.

In this my invention the foot is composed of a flexible or yielding disk of india-rubber and a layer of felt or other soft backing incased or covered within a pouch-like pad of emery or glass coated fabric. The disk of india-rubber permits the foot to yield and adapt itself to the surface of the sole to be buffed or abraded, and imitates the action of the human hand as when an operator with his hand holds a piece of sand-paper and abrades the sole.

Figure 1 represents, in side elevation and partial section, a buffing-machine containing my invention; Fig. 2, a top view thereof, and Fig. 3 an under-side view of the emery-coated pouch or pad.

The frame-work of my buffing-machine consists of an arm, *a*, having fixed with relation to it two annular chambered plates, *b c*, having

their rims *b' c'* attached together by suitable screws 2, to constitute a case or shell for the reception of an exhaust-wheel, *d*, (shown partially in Fig. 1.) This exhaust-wheel is and may be of any usual construction common to exhaust-fans of the Sturtevant or other well-known exhaust-fans, so that it will draw a strong current of air through the exhaust-pipe *e*, in the direction of the arrow thereon, into the center of the said casing composed of the said hollow plates *b c*. The air and leather-dust sucked into the pipe *e* by the operation of the fan or wheel is discharged from the case or shell through the outlet *f*.

The shaft *g* of the fan has at one end two pulleys, *h i*, the former receiving a belt, *h'*, driven in any usual way to rotate the fan-shaft, while the latter is connected by belt *i'* with the scored pulley *j* on and so as to rotate the spindle *k*, provided at its lower end with the buffing-foot. This foot is composed of a flexible or yielding annulus or disk, *l*, of india-rubber or other equivalent material, secured to the spindle by a screw, *l'*. At the under surface of the said elastic disk is a thick washer or backing, *m*, of felt, the latter being held in place by the screw *l'*, before referred to, the head of the screw being let into a recess cut for it in the face of the said washer. This elastic disk and washer are incased or covered by an abrasive pouch or pad, *n*, composed of cloth or fibrous material made or coated at its under side with emery or with glass or other equivalent abrasive material. The upper or open portion of this pouch or pad, to extend above the disk *l*, is provided, as herein shown, with a string, *o*, by which to contract or close the open part of the pad when slipped over the said disk, as in Fig. 1. This string *o* at the mouth of the pouch or pad enables it to be contracted and closed about the disk and washer, or to be readily detached therefrom, without disturbing the other parts of the foot. If desired, the ends of the string *o* of the pouch or pad may be fastened to the screw *r*, or to some part of the spindle or foot, to prevent the pad slipping on the disk or washer. These pouches or pads are provided at their under side, as at *t*, Fig. 3, with a coating of emery or glass of the required fineness, and such pouches or pads will constitute articles of manufacture

to be sold with, and to be readily applied to or removed from, the disk *l*. This flexible disk yields to the pressure of the sole against it as the shoe or boot, held in the hand of the operator, is pressed upward against it. This yielding of the foot enables it to adapt itself to the shape of the sole and abrade it evenly.

In other buffing-machines employing a rotating foot the abrasive surface of the foot has been composed of a disk of emery or glass coated cloth or paper held against a felt backing or washer at the under side of a rigid disk by means of a band of cloth turned to cover the edges of the emery cloth or paper, felt, and rigid disk, and the said band has been clamped upon the top of the rigid disk by a clamping-washer of metal.

In this my invention the pouch or pad is made as one piece, is coated directly upon its under side with emery or glass, and is provided at its mouth with a cord by which to close the mouth of the pouch above the flexible disk.

The exhaust-pipe *e* has its mouth 5 located at the rear of and just above the bottom of the foot and pad, and the leather-dust removed from the sole will be drawn or sucked therein and forced out of the pipe *f* by the exhaust-fan. The location of the pipe *e* and its mouth with relation to the foot leaves below the foot and about its edges in all directions an entirely unobstructed or free space, which will permit the boot or shoe to be readily turned or moved in any direction without obstruction from the pipe or its mouth, as would be the case were the pipe *e* connected with an exhaust-fan extended upward to the foot.

The arm *a* and the hollow disks *b c*, constituting the fan case or shell, and the pipe *e*, extended therefrom to the foot, form a very compact arrangement and combination of parts, which may be readily attached upon a work-bench by means of screws through the base-flange *p*, the arm *a* in such case and the foot extending forward over the bench.

I claim—

1. The shaft *k*, its flexible india-rubber pad *l*, and washer *m*, combined with the abrasive pouch or pad applied thereto, to operate substantially as described.

2. As an improved article of manufacture, an abrasive pouch or pad composed of cloth adapted to be applied to the foot and to be gathered or contracted about and above the disk *l*, substantially as described.

3. In a buffing-machine, the arm *a*, case or shell *c*, forming a part thereof, the shell *b*, connected with shell *c*, and the rotating spindle and foot composed of a disk and an abrasive pouch or pad, combined with the exhaust-fan, and with the draft-pipe having its mouth 5 located just at the rear of and above the bottom of the foot, to leave an unobstructed space all about the edge of the said foot to permit the boot or shoe to be moved freely under the said foot, substantially as described.

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

JOHN H. STEVENS.

Witnesses:

G. W. GREGORY,
ARTHUR REYNOLDS.