A. J. WILBUR.

BURNISHING-MACHINE FOR BOOTS AND SHOES.

No. 172,539. Patented Jan. 18, 1876.

Fig. 1

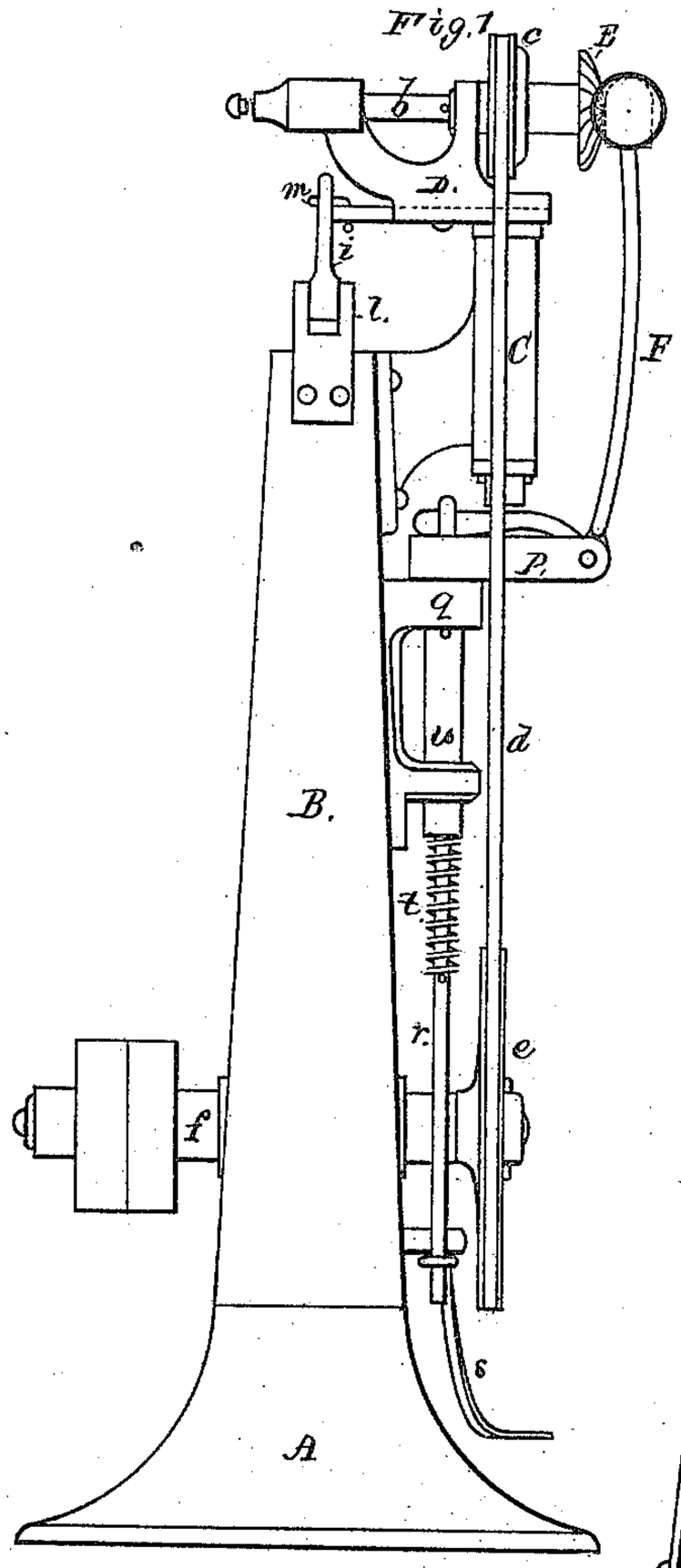


Fig. 2

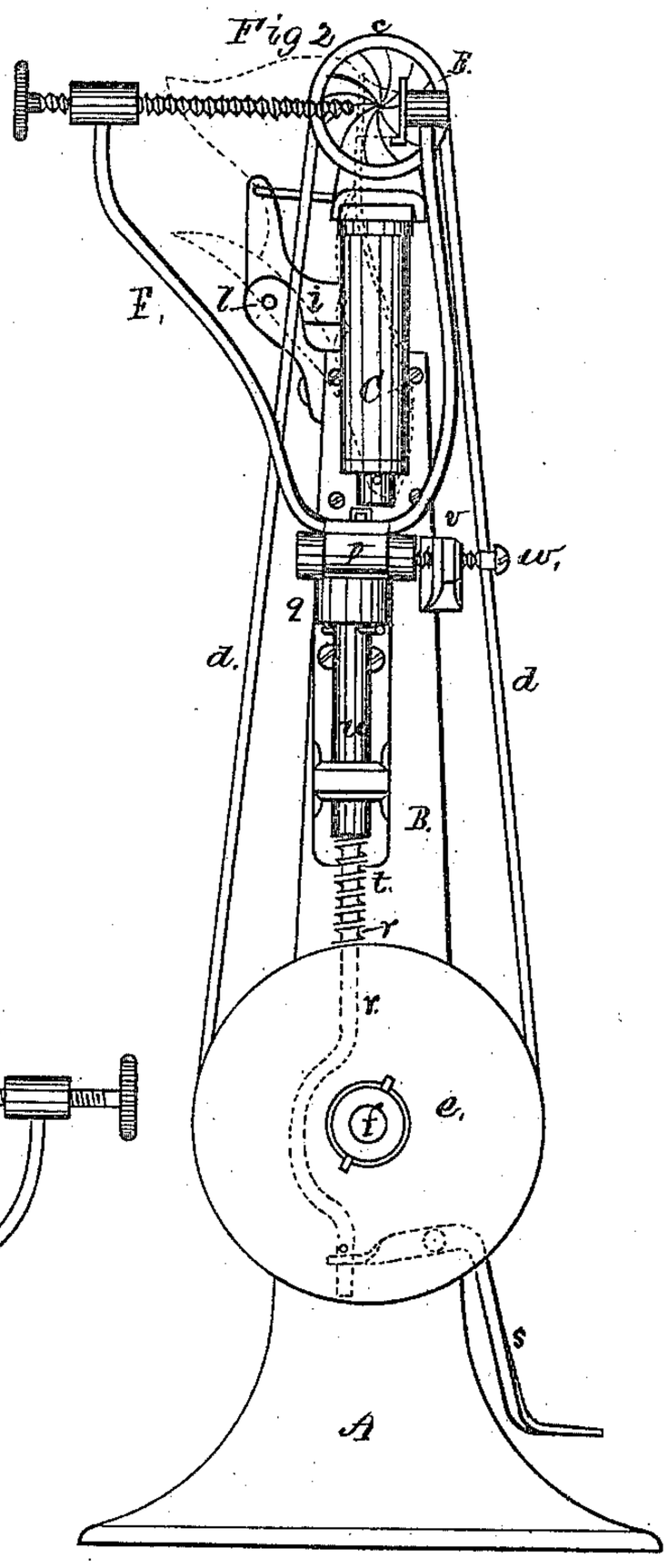
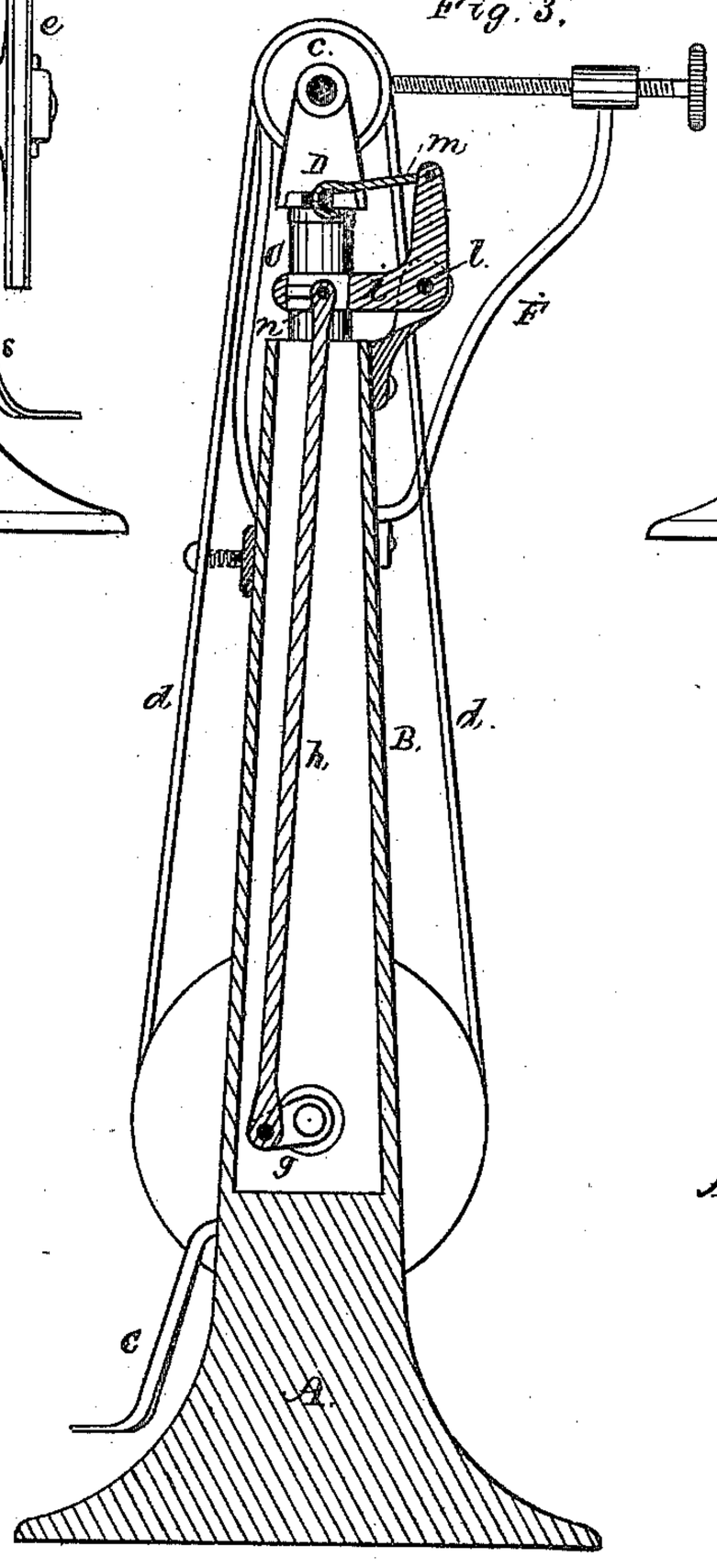


Fig. 3.



Witnesses.
Geo. Gray
F. P. Hale

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UNITED STATES PATENT OFFICE.

ANDREW J. WILBUR, OF RAYNHAM, MASSACHUSETTS.

IMPROVEMENT IN BURNISHING-MACHINES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **172,539**, dated January 18, 1876; application filed December 8, 1875.

To all whom it may concern:

Be it known that I, ANDREW J. WILBUR, of Raynham, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Machines for Burnishing the Heels of Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

In such drawings, Figure 1 is a side elevation, Fig. 2 a front elevation, and Fig. 3 a vertical section, of a heel-burnisher embodying my invention.

The object of my invention is to provide a simple and effective machine, whereby the burnishing of boot and shoe heels may be effected in a better manner than by devices of this character, as ordinarily constructed; and my invention consists in combining, with a jack or means of supporting a boot or shoe, a rotary automatically reciprocating or vibrating burnishing-wheel, so arranged with respect to the jacks or shoe-supporting mechanism, as to give a downward action or pressure during one-half the arc of its vibration, and an upward action during the other half thereof, such serving to better consolidate the edge and give a smoother finish than is effected by machines of this character as ordinarily constructed, in which the burnishing-wheel has only a rotary motion.

In the drawing, A denotes the base of the apparatus. B is a hollow shaft or column extending up therefrom. C is a hollow arm, which is affixed to the side of the column B, and near the top thereof. D is the burnishing-wheel carriage or carrier, which is supported upon the upper end of the arm C, and is pivoted thereto by a rod, *a*, extending down vertically through the same. *b* is a shaft which extends horizontally through the carrier D, and has its journals supported therein. E is the burnishing-wheel, which is arranged on one end of the said shaft, and has its face corrugated or channeled in the usual manner. *c* is a pulley arranged on the shaft. *d* is an endless band which travels around this pulley *c*, and another, or driving-pulley *e*, supported upon a shaft, *f*, extending horizontally through the column B, as shown in the drawings. The burnishing-wheel carrier is so applied to its supporting-arm as to be capable of being moved horizontally through any required arc of circle, whereby the desired vibrating reciprocating movements may be imparted to the wheel E. These vibrating reciprocating movements of the burnishing-wheel are for the purpose of causing the wheel to act on the edge of the heel with a downward force during one-half of its arc of vibration, and with an upward force during the other half thereof, whereby an effect is attained like that produced by ordinary hand-burnishing.

The mechanism for imparting these movements to the carrier and its wheel is the following: Attached to that part of the driving-shaft, which is within the hollow column B, is a crank, *g*, to the outer end of which is affixed a rod, *h*, whose upper end is affixed to the lower arm of a two armed rocker-lever or bell-crank, *i*, the said lever being pivoted at *l* to an arm affixed to the side of the column B, and near the top thereof, as shown in Figs. 1, 2, and 3, the upper arm of the lever *i* being connected by a pitman or link, *m*, to a projection from the lower part of the wheel-carrier D.

If, now, the driving-shaft be put in revolution the burnishing-wheel carrier and wheel E, by means of the mechanism last described, will have reciprocating segmental horizontal movements imparted to them. In order to regulate the extent of these vibratory movements the lower arm of the rocker-lever *i* is formed with a long horizontal or longitudinal slot, a set-screw, *n*, provided with a nut, extending through the same, and being connected with the end of the pitman *h*, such arrangement enabling the latter to be moved, either outward or inward, with respect to the center of motion of the lever *i*, and thereby give either a greater or less movement to the burnishing-wheel, as may be desirable. F is the jack for supporting the boot or shoe while its heel is being burnished, this jack being arranged at right angles to the burnishing-wheel, its base *p* being supported upon a bracket or projection, *q*, affixed to the side of the column B, a rod, *r*,

extending down through the said bracket, and being connected at its lower end with a bent foot-lever, *s*, which is supported upon a stud projecting from the side of the column B, as shown in Figs. 1 and 2. *t* is a coiled spring, which envelopes the rod *r*, one end thereof resting against the lower end of the sleeve *u*, through which the said rod slides, and the other against a pin extending through the rod.

By depressing the foot-lever the boot or shoe heel will be thrown out of action with the burnishing-wheel. By removing the pressure on the foot-lever, the spring will serve to return the jack to its former position. Affixed to the side of the pillar or column B is an arm, *v*, which carries on its outer end a set-screw, *w*, which rests against the base of the jack, the same enabling the jack to be readily adjusted to the treatment of heels of different heights.

I would remark that the wheel E may have any desired convexity, or different wheels having different convexities may be employed in accordance with the nature of the work.

In adapting the jack or the heel of the boot or shoe thereon to the burnishing-wheel the center of the heel, and the center of vibration of the wheel, should be set in one and the same line to operate to the best advantage, although such is not essential to the effective operation of the machine.

I would also further observe that I do not limit my invention to the precise mechanism, as shown, for giving the vibrating movements to the burnishing-wheel, as this may be effected in various other methods, without departing from the spirit of my invention, the essential feature of which is the combination of a burnishing-wheel having compound or rotary and automatic vibratory reciprocating movements, with a jack or means for supporting a boot or shoe, whose heel is to be burnished.

In operating with my machine the operator takes hold of the boot or shoe and turns the same in a vertical direction, so as to bring the entire edge of the heel in contact with the burnishing-wheel in the ordinary manner, the jacking and unjacking of the boot being effected in the usual way.

Having described my invention, what I claim is—

In a machine for burnishing the edges of boots and shoes, the combination, with a jack or means of holding the boot or shoe, of an automatically rotary reciprocating vibratory burnishing-wheel, substantially as shown and described.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

ANDREW J. WILBUR.

Witnesses:

F. P. HALE,

F. C. HALE.