

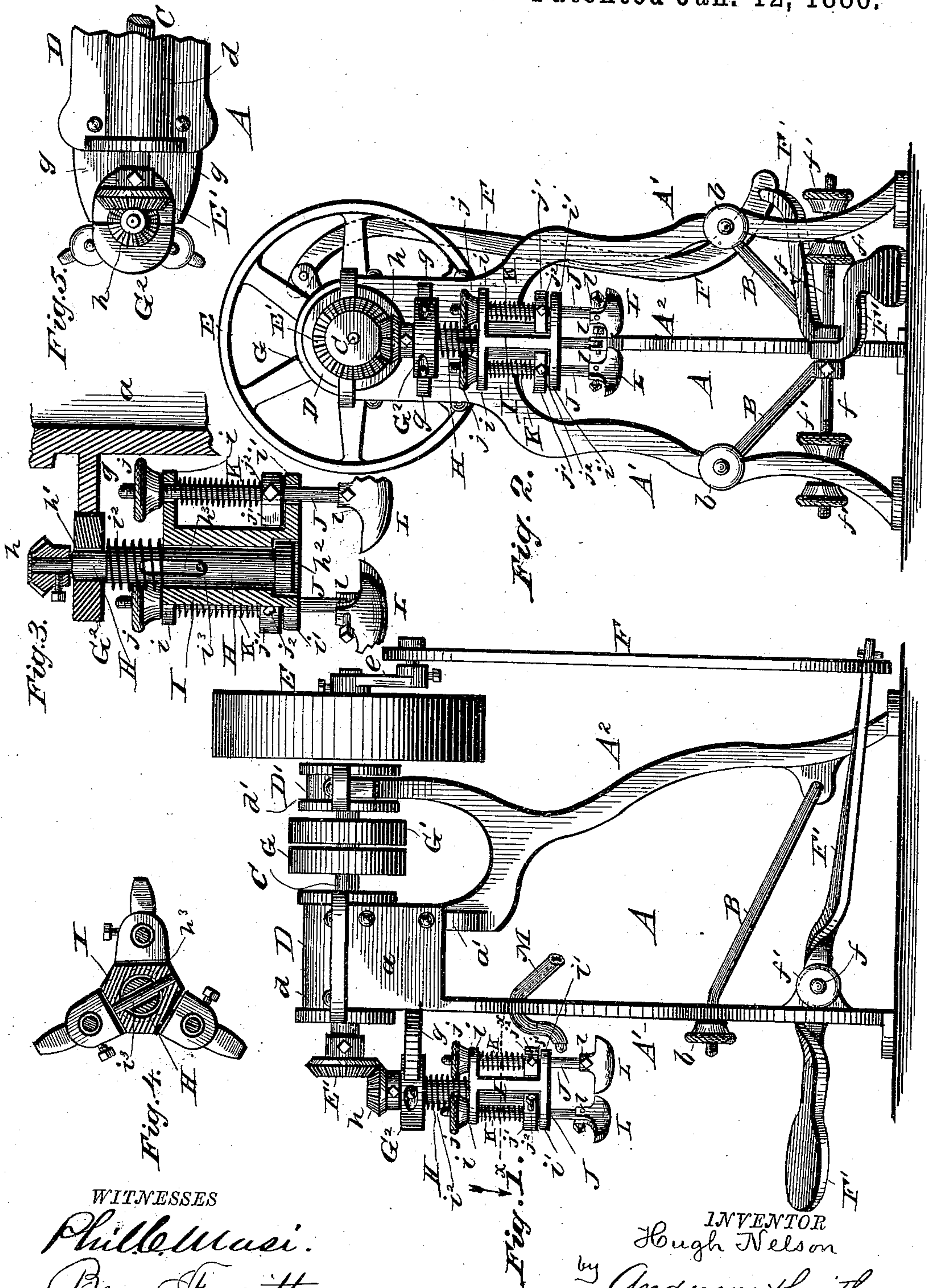
(No Model.)

H. NELSON.

MACHINE FOR BURNISHING BOOTS AND SHOES.

No. 334,394.

Patented Jan. 12, 1886.



WITNESSES

Phil. Masi.
Ben Fugitt.

INVENTOR

Hugh Nelson

by Anderson & Smith

his Attorneys

UNITED STATES PATENT OFFICE.

HUGH NELSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO DANIEL M. SHUMO, OF SAME PLACE.

MACHINE FOR BURNISHING BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 334,394, dated January 12, 1886.

Application filed October 17, 1885. Serial No. 180,161. (No model.)

To all whom it may concern:

Be it known that I, HUGH NELSON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Burnishing the Button-Shanks and Top Lifts of Boots and Shoes; and I do 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a side elevation of the machine. Fig. 2 is a front elevation of the same. Fig. 3 is an enlarged sectional detail. Fig. 4 is a cross-sectional view taken on lines *xx* of Fig. 1, and Fig. 5 is a detail plan view taken above the gears *E'* and *h*.

This invention relates to improvements in machines for burnishing the bottoms, shanks, and heels of boots and shoes by rotary motion, its object being to perform the work with ease and facility; and it consists in the construction and novel arrangement of parts hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings by letter, *A* designates the main frame of the machine, consisting of the front part, *A'*, and the rear part, *A''*, as shown. The front part, *A'*, rests upon two legs, and has upon its top two parallel rearwardly-extending plates, *a a*, between the ends of which is bolted the vertical plate *a'*, which rises from a frontwardly-extending arm of the single leg of the rear part, *A''*. Through a lug on the said leg near its bottom runs the bent stay-rod or brace *B*, the arms of which extend frontward and upward and pass through the legs of the front part, *A'*, being held in place by the nuts *b b* on the threaded ends, as shown.

C is the horizontal driving-shaft of the machine, turning in the bearing-boxes *D D'* on the respective tops of the front and rear parts, *A' A''*, of the main frame. The lower part of the bearing or journal-box *D* is fitted into a proper bed, groove, or recess in the part *A'*,

and has its cap *d* bolted upon it. The lower part of the journal-box *D'* is similarly fitted into the top of the part *A''*, and is similarly provided with a cap, *d'*. Both caps have oil-holes on their tops to lubricate the bearings.

E is a fly-wheel on the rear projecting end of the shaft *C*.

E' is a bevel gear-wheel on its front projecting end, and *e* is a crank-arm on its rear end, outside of the fly-wheel.

F is a link or rod connecting the crank-arm to the rear arm of a treadle, *F'*, which has its foot-plate on its front arm and is pivoted upon a transverse bar, *f*, which runs through rearwardly-projecting lugs on the legs of the front part, *A'*, near their bottom, and is held in place by the nuts *f'* on its threaded ends, there being a nut both outside and inside of each lug. By the described means the shaft *C* can be rotated by foot-power. To rotate it by a motor, the shaft has a pulley, *G*, secured on it between the parts *A' A''*, and a loose pulley, *G'*, on which to run the belt of the motor when running the shaft by foot-power.

G² is a bearing or journal block composed of an outer and inner part bolted together, the bolts running into a plate, *g*, standing horizontally outward from the front part of the main frame, and in which the inner part of the journal-block has its seat.

H is a vertical shaft turning near its upper end in the journal-block *G²*, and having on said end above the block a bevel gear-wheel, *h*, which meshes with the bevel gear-*E'*.

h' is a circumferential shoulder on the shaft below the block, so as not to allow it to rise therein. Below the shoulder the shaft is enlarged, as shown, and on its lower end it has a circular head, *h²*.

I is a sleeve, triangular in section, traveling upon the shaft *H*, and having the lower end of its base countersunk or reamed out to accommodate the head *h²*. The sleeve has standing horizontally out from the upper end of its sides the three lugs or ears *i i i*, and from the lower ends of the same the similar lugs or ears, *i' i' i'*.

i² is a coiled spring surrounding the shaft above the sleeve and bearing upon the latter and upon the journal-block *G²*. The sleeve is caused to rotate with the shaft *H* by means of

a longitudinal slot, h^3 , in the latter, and a pin, i^3 , passing through the sleeve and slot. Each upper ear, i , and lower ear, i' , has passing through them a vertical finishing-tool rod, J, which has on its threaded upper end above the ear i a retaining-nut, j , and above the ear i' a collar, j' , the squared side of which rests against the side of the sleeve, so that the sleeve cannot rotate as it slides up and down with the burnishing-tool rod.

j^2 is a set-screw by which the collar is fixed at the desired position in the said rod.

K is a coiled spring surrounding the burnishing-tool rod between the collar and ear i , and acting against the same.

L is a burnishing-tool on the lower end of the rod J. The face or lower surface of the tool L is slightly convex from end to end, and has its edges rounded, and from the center of its upper surface rise the ears l l , between which the lower end of the rod J is pivoted. The three tools are so hung that their inner points all look permanently toward the axial line of the shaft H, as the rods J do not turn in the ears i i' .

M is a gas-tube having a burning-point on its end arranged to discharge upon the burnishing-tools while revolving. The tube M comes from any proper source of supply, and the burning gas therefrom properly heats the burnishing-tools. The gear-wheel h is made considerably smaller than the gear-wheel E, so as to speed the shaft H, or give it greater relative motion.

It is evident that the number of rods J and burnishing-tools need not be limited to three; but that number is most convenient. When the shaft C rotates, the intermeshing gears E' and h rotate the shaft H, which carries with it the sleeve-rods J and burnishing-tools, and the coiled springs i^2 and K allow the tools to raise and give them easy motion while passing over the leather.

In operation, a shoe is placed beneath the burnishing-tools, which, when the machine is in operation, are given a rotary motion. It will be seen that when power is applied to the treadle or pulley G the main shaft C will be turned, and consequently the gear E thereon, which imparts a similar movement to the spring-surrounded shaft H through the medium of its gear h . When the shaft H has been rotated, the sleeve I and the burnishers will also receive a simultaneous rotation, and the burnishers act upon the shoe.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the main shaft, rotated by means substantially as described, the vertical rotating shaft actuated by the main shaft, and the sleeve on and rotating with the vertical shaft and carrying one or more burnishing-tools, by means substantially as specified.

2. The combination of the main shaft, rotated by means substantially as described and having a gear-wheel on its end, the vertical shaft having a gear-wheel on its upper end meshing with that on the main shaft, the sleeve sliding on and rotating with the vertical shaft, the coiled spring bearing against the journal of the vertical shaft and against the top of the sleeve, the burnishing-tool rods passing through ears on the sleeve, and the burnishing-tools pivoted to the lower ends of said rods, substantially as specified.

3. The combination, with the main shaft, provided with the gear-wheel E', the vertical shaft H, having the gear-wheel h and provided with the longitudinal slot h^3 , the sleeve I, provided with the ears i i' and pin i^3 , the spring i^2 , depressing the sleeve, the rods J, passing through the ears of the sleeve, the springs K, acting against the collars j' , and the burnishing-tools L, pivoted to the lower ends of the rods A J and their inner ends pointing to the axial line of the shaft H, substantially as specified.

4. The combination, in a boot and shoe burnishing machine, of a vertical rotating shaft, and a vertically-yielding sleeve arranged on the said shaft, rotating therewith and carrying burnishing-tools, substantially as specified.

5. The combination, in a boot and shoe burnishing machine, of a vertical rotating shaft a vertically-yielding sleeve arranged on said shaft and fixed with relation to its rotative movements, and vertically yielding and adjustable burnishers carried by the said sleeve, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

HUGH NELSON.

Witnesses:

WILLIAM COX,
WM. S. CHAPMAN.