

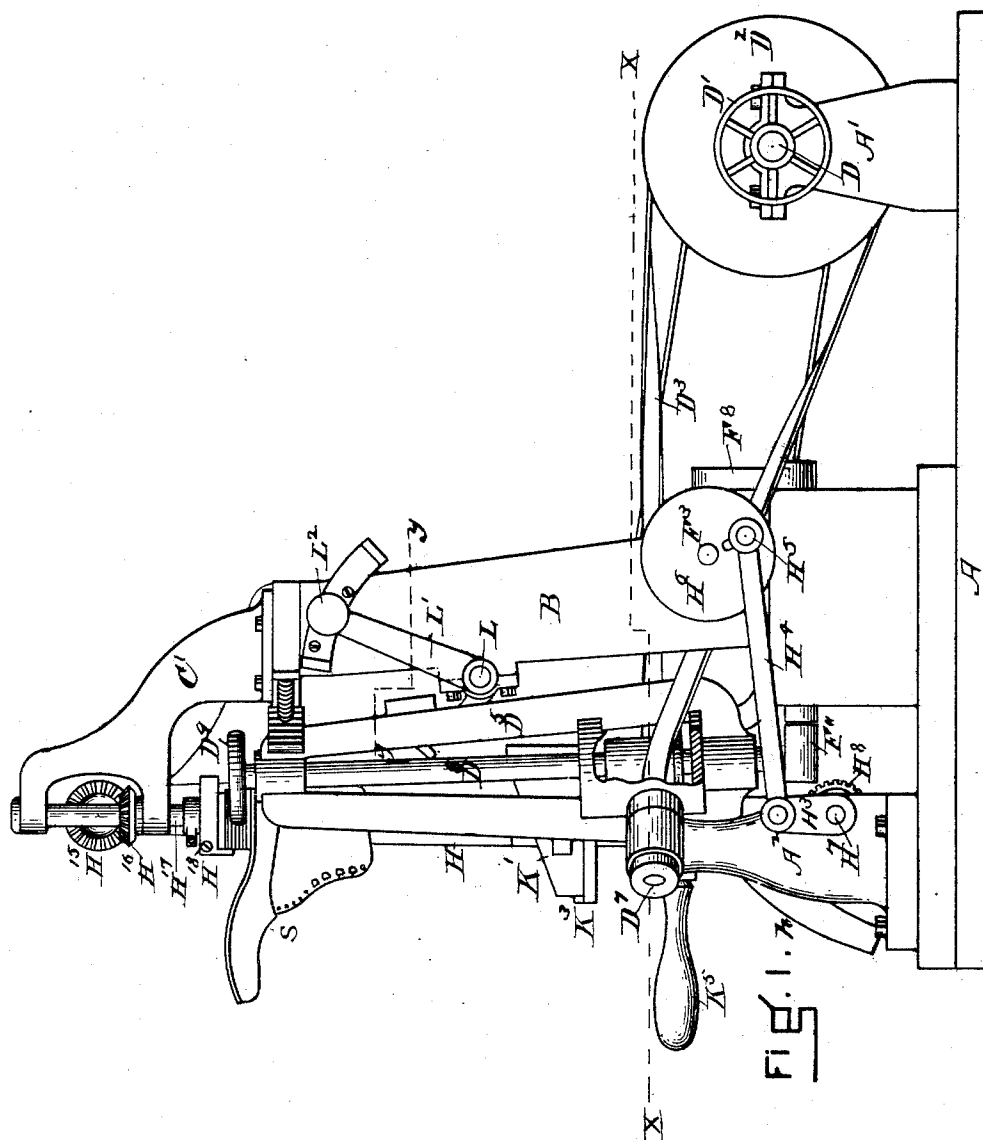
(No Model.)

4 Sheets—Sheet 1.

J. O'CONNELL.
HEEL BURNISHING MACHINE.

No. 468,428.

Patented Feb. 9, 1892.



WITNESSES

Frank L. Parker
Matthew M. Blunt.

INVENTOR.

John O'Connell

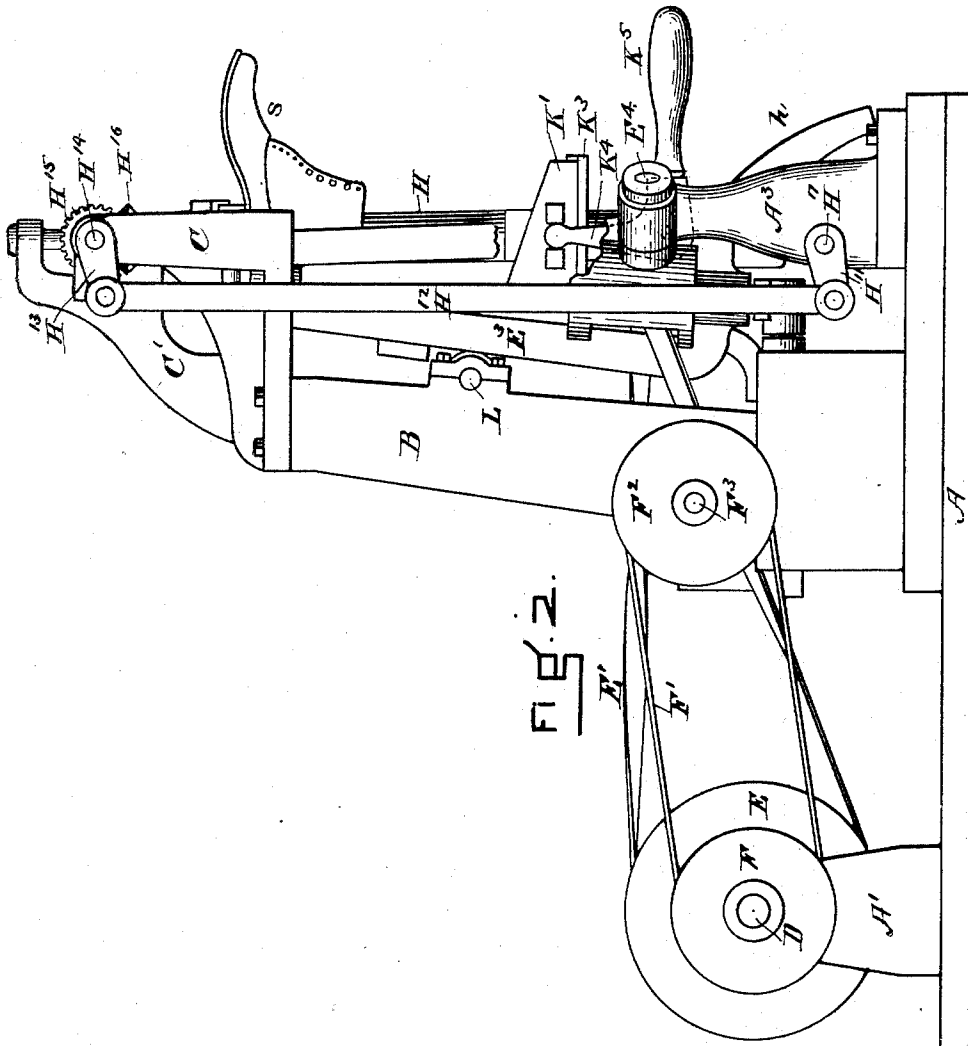
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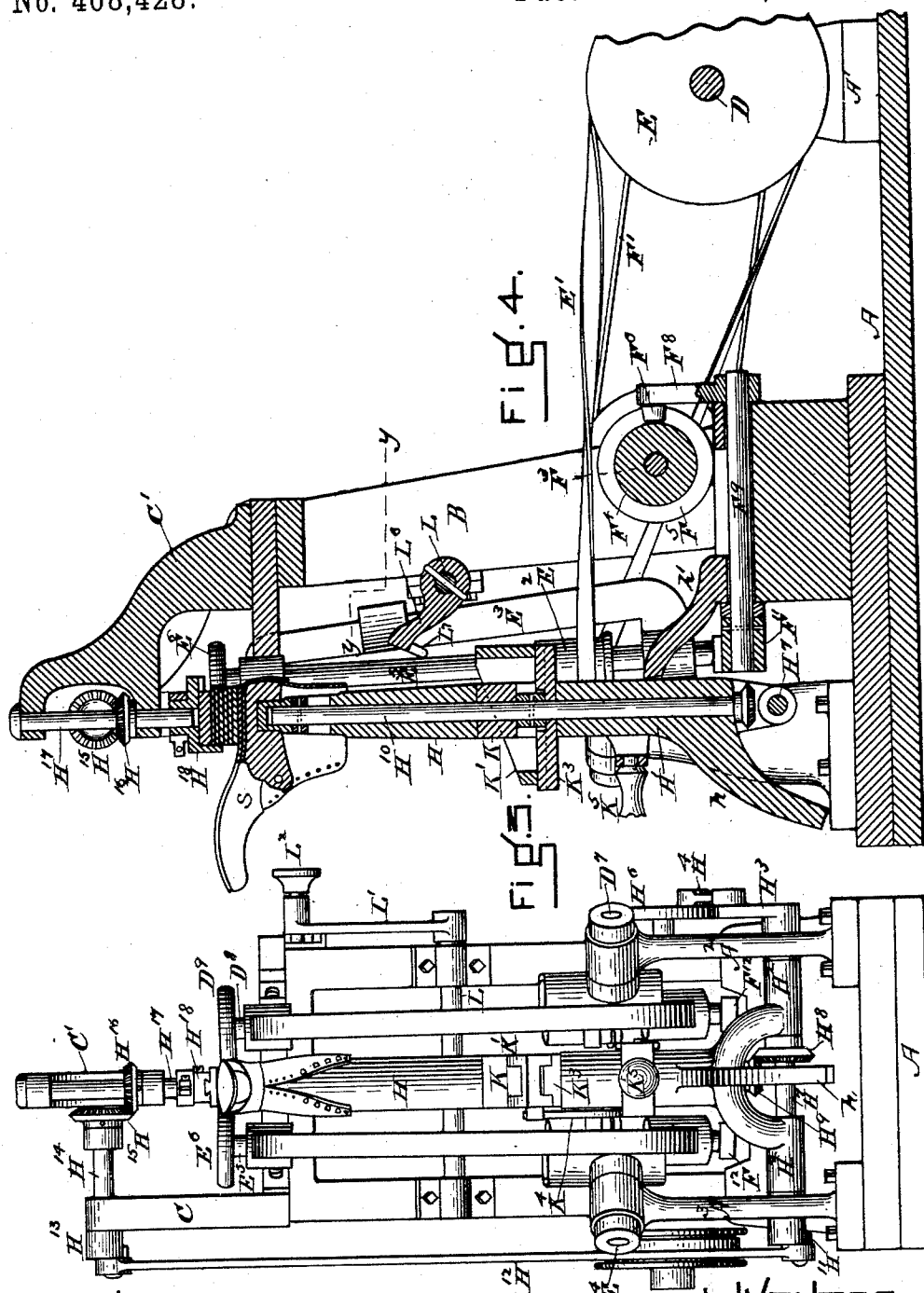
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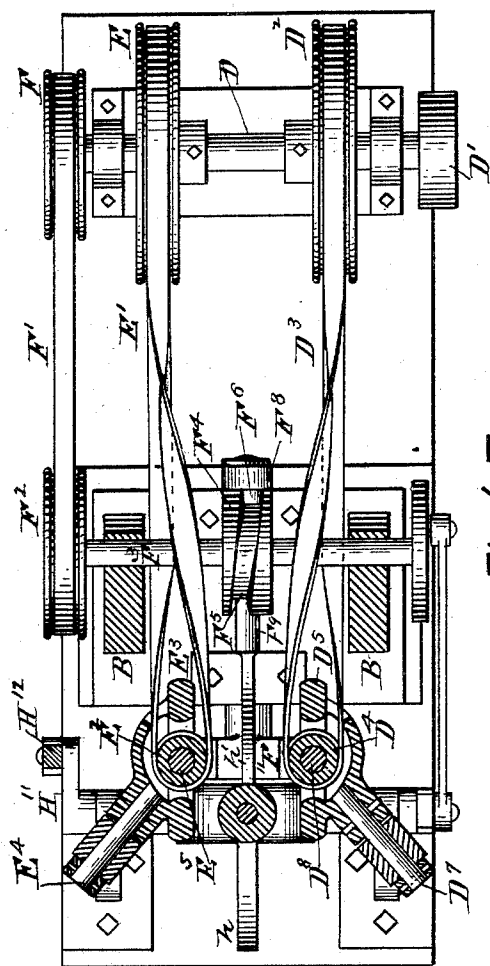
INVENTOR

John O'Connell

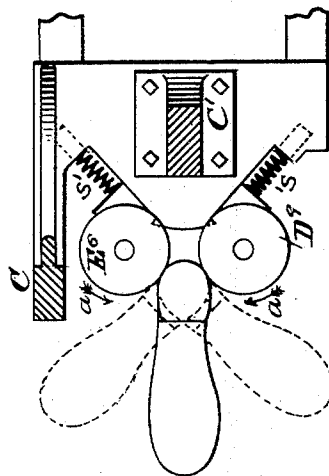
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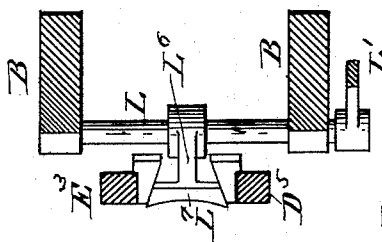


Fig. 7.

Frankl. Parker
Matthieu M. Blunt.

John Cornwall

UNITED STATES PATENT OFFICE.

JOHN O'CONNELL, OF PLYMOUTH, MASSACHUSETTS.

HEEL-BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 468,428, dated February 9, 1892.

Application filed March 30, 1891. Serial No. 387,036. (No model.)

To all whom it may concern:

Be it known that I, JOHN O'CONNELL, of Plymouth, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Heel-Burnishing Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my invention is to so improve the construction and arrangement of parts of a heel-burnishing machine that it shall be much more nearly automatic in its action than any that are now in use. Its exact construction and use may be best understood by reference to the accompanying drawings and specification.

The drawings referred to consist of the following, of which—

Figures 1 and 2 are elevations of the sides of the machine. Fig. 3 is a front elevation of the same. Fig. 4 is a longitudinal vertical section of the same. Fig. 5 is a view, partly in plan and partly in horizontal section, the section being taken on line *x x* of Fig. 1. Fig. 6 is a view of details, shown in plan and horizontal section. Fig. 7 is a view of details, shown in plan and horizontal section, taken on line *y y* of Figs. 1 and 3.

In the drawings, A represents the base of the machine, B the main standard, and C C' the upper standards. These parts—namely, the base A, standard B, and upper standards C C', together with the base-standards A' A² A³—form a frame-work to which the operating parts of my machine are attached.

D is the main shaft, driven by a belt-pulley D'. This main shaft D has upon it three pulleys D², E, and F. (See Fig. 5.) From the pulleys D² and E belts D³ and E' transmit power to pulleys D⁴ and E², and through these pulleys to the vertical shafts D⁵ and E⁵. These vertical shafts D⁵ and E⁵ have at their upper ends, respectively, the burnishing-wheels D⁹ E⁶, which are caused to revolve rapidly in the directions of the arrows *a a*, Fig. 6. These wheels D⁹ E⁶, besides rotating, move up and down, alternating with each other in this motion. This up-and-down motion of the wheels D⁹ E⁶ is given them by the following device: Upon the shaft F³, which is driven by the pulley F, belt F', and pul-

ley F², has upon it a peripherally-grooved cam F⁴, this cam having a groove F⁵, (see Fig. 5,) which works a pin F⁶ on the upright oscillating lever F⁸. This lever F⁸ operates an oscillating shaft F⁹, which has upon its forward end a horizontal cross-arm F¹¹, the ends of which F¹² F¹³ serve as rests for the lower ends of the shafts D⁵ E⁵. From this construction it will be seen that as the cam-wheel F⁴ 60 revolves it, acting through the above-described mechanism, will give a rising and falling motion to the burnishing-wheels D⁹ E⁶, the said motion alternating.

Besides the motion already described that the burnishing-wheels D⁹ E⁶ have, I give them still another motion—that is, a motion to and fro in regard to each other. This last motion is not automatic, but is given to them by means of the hand-lever L', which is provided with a handle L². This hand-lever L' operates the shaft L, which in turn operates an arm L⁶, Figs. 4 and 7, the said arm L⁶ having at its upper end a wedge-shaped piece L⁷, which is adapted to operate upon corresponding wedge-shaped projections on the standards D⁵ E⁵, (it will be observed that these standards D⁵ E⁵ support, respectively, the shafts D⁵ and E⁵), upon which the burnishing-wheels D⁹ and E⁶ are mounted. The springs S' S', Fig. 6, serve to throw the standards D⁵ E⁵ together against the action of the wedge-shaped piece L⁷ and also to cause the burnishing-wheels to bear against the heel.

To admit of the wheels D⁹ E⁶ having the above-described to-and-fro motion in regard to each other, the standards D⁵ and E⁵, which support the shafts D⁵ E⁵, are attached to horizontal shafts D⁷ E⁴, which in turn are mounted in housings A² A³, as shown in Fig. 5, and in which they are free to rock.

The boot or shoe to be operated upon is represented by S, and is mounted upon a jack-shaft H¹⁰, Fig. 4, which is inclosed and supported by a hollow standard H H'. This standard H H' terminates in a forked foot-piece H² H², which is supported upon a shaft H⁷, which passes loosely through it.

h is an arm extending outward and downward from the hollow standard H H' and serves to prevent the upper end of the standard from being swung outwardly too far, its

motion being limited by coming in contact with the base. The fixture-bracket *h'* serves to limit the motion of the jack inwardly.

A partial rotation is given to the shoe on the jack-shaft *H*¹⁰ by the following device: A crank-disk *H*⁶, mounted upon the shaft *F*³, has a crank-pin *H*⁵, which, operating through the link *H*⁴ and arm *H*³, gives a rocking motion to the shaft *H*⁷. This rocker-shaft *H*⁷ has upon it a beveled gear *H*⁸, which engages with the corresponding gear *H*⁹ on the jack-shaft *H*¹⁰, thus giving this shaft a part rotation back and forth. By this motion of the shaft *H*¹⁰ the heel of the boot or shoe is turned, so as to present all parts of its edge to the action of the burnishing-wheels *D*⁹ *E*⁶.

To assist in holding the shoe in place, I have an upper heel-clamp *H*¹⁸, (see Figs. 1, 2, 3, and 4,) which is attached to the lower end of the shaft *H*¹⁷, which is made to rotate back and forth in unison with the jack-shaft *H*¹⁰ by the following device: To the rear end of the shaft *H*⁷, I attach a rocker-arm *H*¹¹. This rocker-arm, acting through the link *H*¹², Figs. 2 and 4, the rocker-arm *H*¹³, shaft *H*¹⁴, beveled gears *H*¹⁵ *H*¹⁶, gives motion to the vertical shaft *H*¹⁷ and upper heel-clamp *H*¹⁸.

For the purpose of adjusting the jack to any desired height I have the following device: *K'*, Figs. 2, 3, and 4, upon the inclined top of which a buttress-piece *K*, connected to the part *H* of the jack, rests, the lower edge of the slide-piece *K'* rests upon a table *K*³, upon which it is free to slide. A sliding motion is given to the wedge-piece *K'* by means of the bent hand-lever *K*⁴ *K*⁵. (See Fig. 2.)

The wheels *D*⁹ *E*⁶ may act as burnishing-

wheels or stoning-wheels, and they may be made of any material and in any desired style.

I claim—

1. In a heel-burnishing machine, the combination of burnishing-wheels *E*⁶ *D*⁹, mounted, respectively, on shafts *E*⁵ *D*⁸, and shafts *E*⁵ and *D*⁸, adapted to oscillate on horizontal shafts *D*⁷ *E*⁴ and having driving-pulleys *E*² and *D*⁴, whereby a rotating motion to the said burnishing-wheels is given, with the cross-arm *F*¹¹, oscillating shaft *F*⁹, lever *F*⁸, and cam *F*⁴, all substantially as and for the purpose set forth.

2. In a heel-burnishing machine, the combination of two burnishing-machine wheels operating together, as described, and having shafts mounted upon oscillating housings, whereby said burnishing-wheels may be set at any required distance apart, with hand-lever *L'*, shaft *L*, having an arm *L*⁶ and wedge-shaped piece *L*⁷, and standards *D*⁵ *E*³, all operating together substantially as and for the purpose set forth.

3. In a heel-burnishing machine, the combination of an oscillating rotating jack and a wedge *K'*, located on said jack, with the buttress-piece *K*, table *K*³, and bent lever *K*⁴ *K*⁵, all operating together substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 25th day of March, A. D. 1891.

JOHN O'CONNELL.

Witnesses:

FRANK G. PARKER,
MATTHEW M. BLUNT.