3 Sheets—Sheet 1.

R. C. LAMBART.

MACHINES FOR BURNISHING THE HEELS OF BOOTS AND SHOES.

No. 177,726. Patented May 23, 1876.

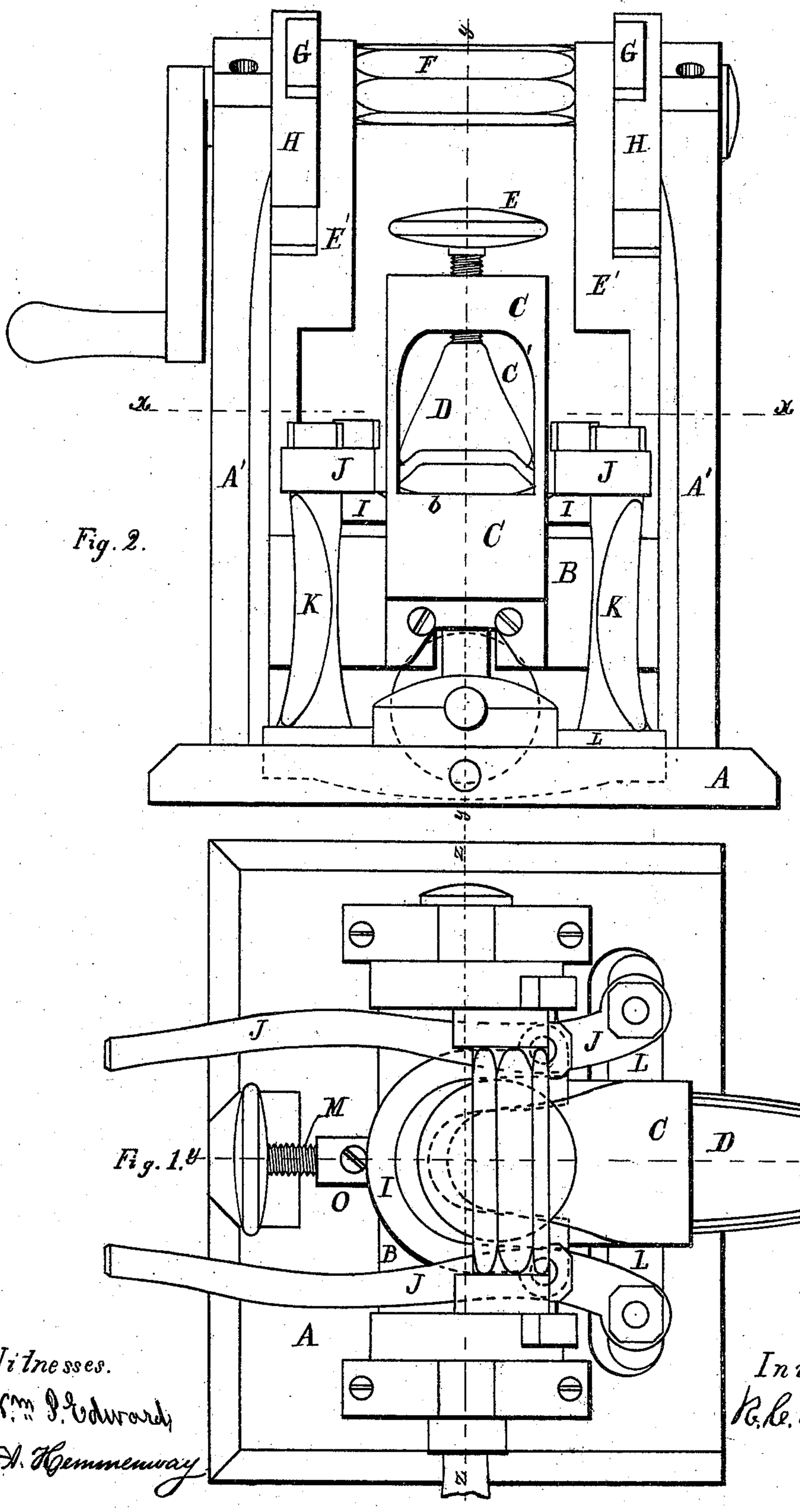

Fig. 2.

Witnesses.
Wm. P. Edwards
E. A. Hemmenway

Inventor.
R. C. Lambart.

3 Sheets—Sheet 2.

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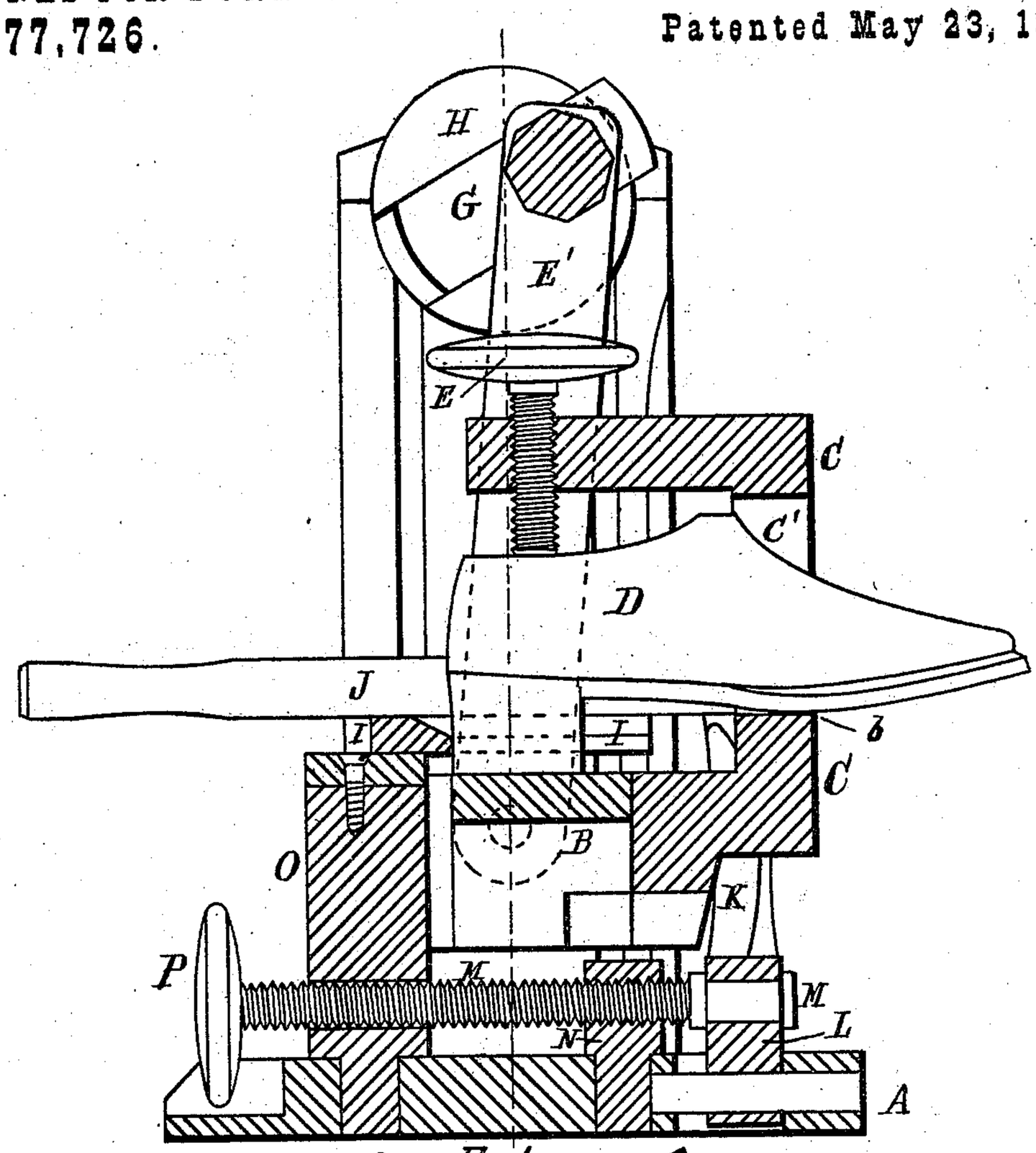

Fig. 4.

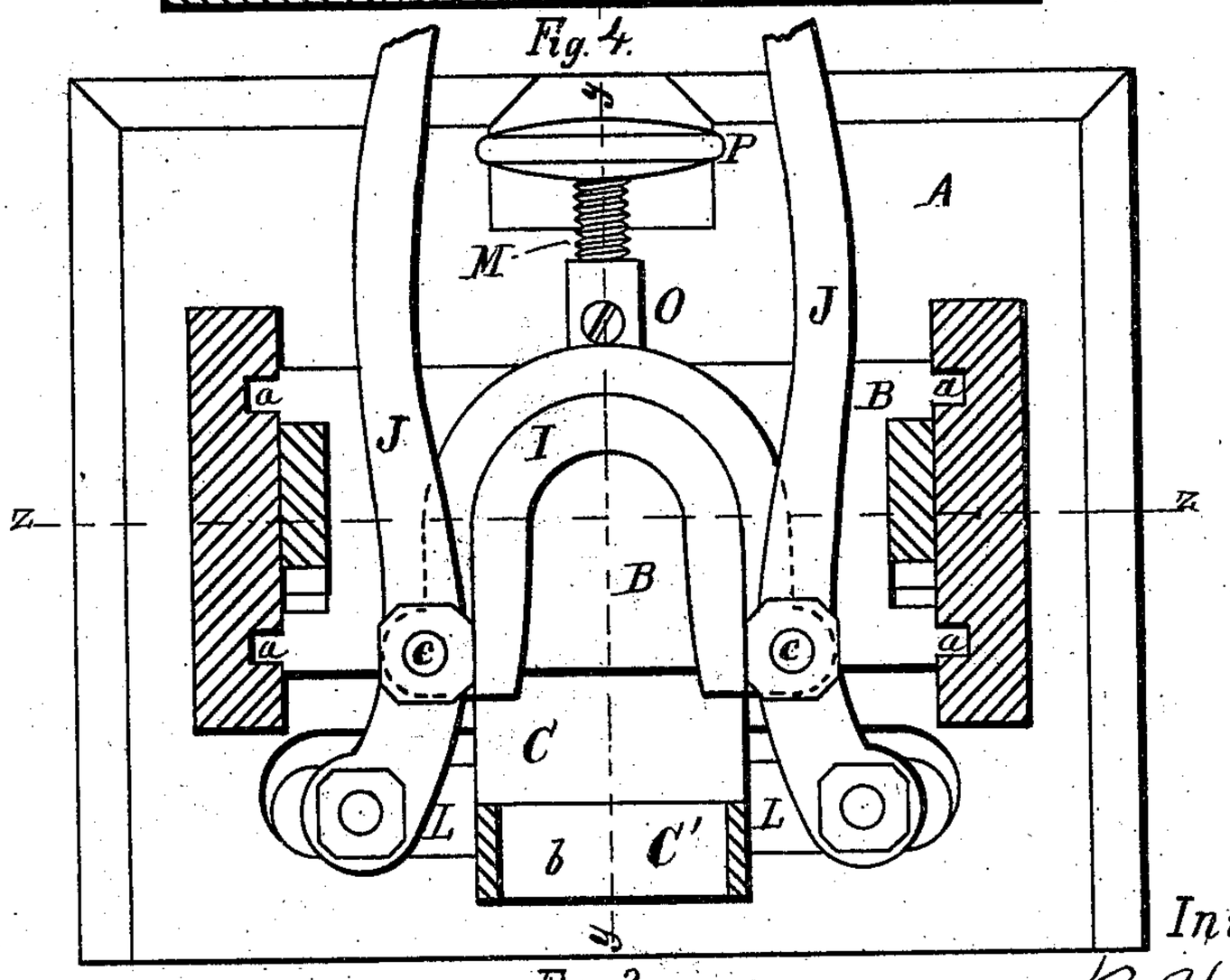

Fig. 3.

Witnesses.

Wm. B. Edwards.

E. A. Hemmenway.

Inventor.

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3 Sheets—Sheet 3.

R. C. LAMBART.

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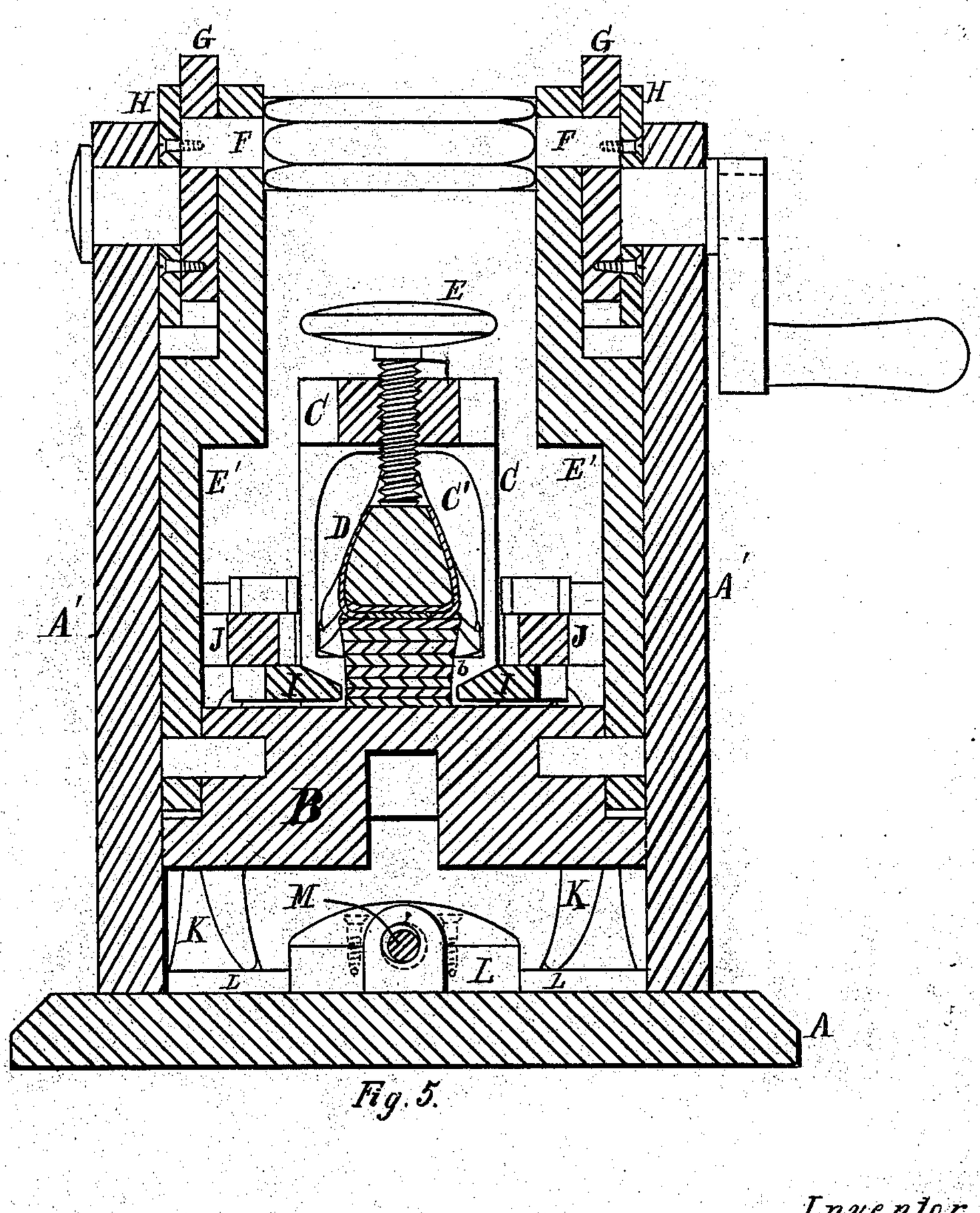

Fig. 5.

Witnesses.
Wm. P. Edwards,
E. A. Hemmenway.

Inventor.
R. C. Lambart.

UNITED STATES PATENT OFFICE.

RICHARD C. LAMBART, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO THEODORE A. DODGE, TRUSTEE.

IMPROVEMENT IN MACHINES FOR BURNISHING THE HEELS OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **177,726**, dated May 23, 1876; application filed March 9, 1876.

To all whom it may concern:

Be it known that I, RICHARD C. LAMBART, of Brockton, 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:

My invention relates to the construction and mode of operating the burnishing-tool and the jack for holding the boot or shoe; and it consists, first, in the use of a burnishing-tool, made somewhat in the form of a horseshoe, arranged to surround the heel of the boot or shoe, with its inner edge nearly parallel to the exterior of the heel, and adapted to be pressed against the surface of the heel at any desired point in its periphery, so as to act successively upon all parts of the surface of the edge of the heel that it is desired to burnish, motion being applied to the burnishing-tool or to the boot or shoe while the tool is in contact therewith, so that a reciprocating rubbing action takes place between the surface of the edge of the heel and the inner edge of the burnisher in a direction at right angles to the tread-surface of the heel.

My invention further consists in pivoting the horseshoe burnishing-tool at its two ends to two hand-levers, which, in turn, are pivoted to the upper ends of two spring-supports, set in opposite ends of a beam or lever, pivoted at its center and adapted to be oscillated about said pivots, to enable the operator, by means of the hand-levers, to control the position of the burnishing-tool and bring it to bear upon any desired portion of the heel.

My invention further consists in so hanging the oscillating beam which carries the levers that control the burnisher that it may be adjusted in the direction of the length of the boot or shoe, to adapt the tool to the proper position relative to the rear end of the heel.

My invention further consists in the use of a jack for holding the boot or shoe, adapted to be reciprocated in a direction at right angles to the tread-surface of the heel, or in the direction of the thickness of the heel, as will be more fully described.

My invention further consists in so constructing the jack and mechanism for operating it that the length of its reciprocation may be adjusted to adapt it to the thickness of the heel to be burnished.

My invention further consists in the use of a jack for holding the boot or shoe, consisting of a table or bed, provided with suitable bearing-surfaces for the heel and ball of the boot or shoe to rest upon, and a bifurcated standard rising therefrom upon either side of the ball of the boot or shoe, and uniting above the same in a single arm projecting toward the heel of the boot or shoe parallel with the tread-surface thereof, and provided with a set-screw adapted to bear upon the last directly over the heel for the purpose of securing the boot or shoe firmly in position.

Figure 1 of the drawings is a plan of a machine embodying my invention. Fig. 2 is a rear elevation. Fig. 3 is a horizontal section on line *x x* on Fig. 2. Fig. 4 is a vertical section on line *y y* on Figs. 1, 2, and 3, and Fig. 5 is a vertical section on line *z z* on Figs. 1, 3, and 4.

In Figs. 1, 2, and 4, the jack is shown as having started on its downward stroke, while in Fig. 5 the jack is at the extreme of its upward movement.

A is the base of the machine, from which rise the two standards A′ A′, provided upon their inner faces with one or more vertical grooves, *a a*, as shown in Fig. 3. B is the bed of the jack, fitted to slide vertically in the grooves *a a* in the standards A′ A′, and having secured to or formed upon its rear side at the middle of its length the bent standard or bracket C, through the vertical portion of which is cut an opening, C′, large enough to pass the boot or shoe through, dividing the standard into two parts, and forming at *b* a rest for the ball of the boot or shoe.

The upper portion of the bracket C extends horizontally above the shoe D toward its heel, and is provided with the set or clamping screw E, adapted to rest upon the rear portion of the last directly over the heel of the shoe, as shown in Fig. 4. E′ E′ are two connecting-rods pivoted at their lower ends to the bed B, and embracing at their upper ends the crank-pin F, as shown. The crank-pin F has firmly

secured to either end thereof a cross-bar, G, each of which is fitted to, and secured in, a groove cut in the inner face of one of the disks H in such a manner that it may be adjusted therein to give a greater or less throw to the crank-pin F, and, consequently, a longer or shorter reciprocation to the jack and the shoe contained therein. Each of the disks H is provided with a short shaft or hub, which has a bearing in the top of one of the standards A′ A′, said short shafts or hubs, the disks H H, cross-bars G G, and crank-pin F when secured together forming a rigid crank-shaft, to which motion is imparted by means of the crank H′, or by a pulley, substituted therefor, and a belt leading from said pulley to any suitable driving-shaft. I is the burnishing-tool, having an interior outline substantially corresponding to the outline of the heel, as seen in plan, and pivoted at *c c* to the hand-levers J J, which in turn are each pivoted to the upper end of one of the spring-standards K K, as shown. The standards K K are set one in each end of the rocking beam L, which is journaled at its middle upon the rear end of the screw-shaft M, about which it is free to oscillate to allow of a free movement of the burnishing-tool to cause it to bear successively upon all parts of the edge of the heel. The screw-shaft M has its bearings in the nut N and standard O, and has secured to its front end a hand-wheel, P, by turning which the beam L and its accessories, which make up the burnishing device, may be adjusted in a direction lengthwise of the shoe to adapt the burnishing-tool to a larger or smaller heel.

That portion of the burnishing-tool I which is toward the front of the machine and acts upon the rear end of the heel rests upon the top of the standard O, by which it is prevented from moving downward with the shoe, and it is prevented from moving upward with the shoe by the operator pressing downward upon the levers J J, in an obvious manner.

What I claim as new, and desire to secure by Letters Patent of the United States, is as follows:

1. The U-shaped burnishing-tool I, encircling the outer curved edge of the heel, and adapted to bear upon and burnish all portions either by an intermittent reciprocation of the burnisher or the heel in a direction at right angles to the tread-surface of the heel, as and for the purposes described.

2. The combination, in a heel-burnishing machine, of the U-shaped burnishing-tool I, the hand-levers J J, spring-standards K K, and rocking-beam L, all constructed, arranged, and adapted to operate substantially as described, for the purposes specified.

3. The combination of the burnishing-tool I, levers J J, spring-standards K K, rocking beam L, screw-shaft M, and nut N, all arranged and operating substantially as described.

4. In a machine for burnishing the edges of boot or shoe heels, a jack for holding the boot or shoe mounted in fixed guides, and adapted to be automatically reciprocated at right angles to the tread-surface of the heel, in combination with a burnishing-tool, adapted to be successively brought to bear upon all parts of the outer circumference of the heel, as and for the purpose described.

5. In a machine for burnishing the edges of boot or shoe heels, a jack, adapted to hold the boot or shoe, and to be automatically reciprocated in a direction at right angles to the tread-surface of the heel by means of mechanism, the throw of which is adjustable to vary the movement of the jack, and adapt it to the thickness of the heel to be burnished, substantially as described.

Executed at Boston this 4th day of March, 1876.

RICHARD C. LAMBART.

Witnesses:
WM. P. EDWARDS,
E. A. HEMMENWAY.