

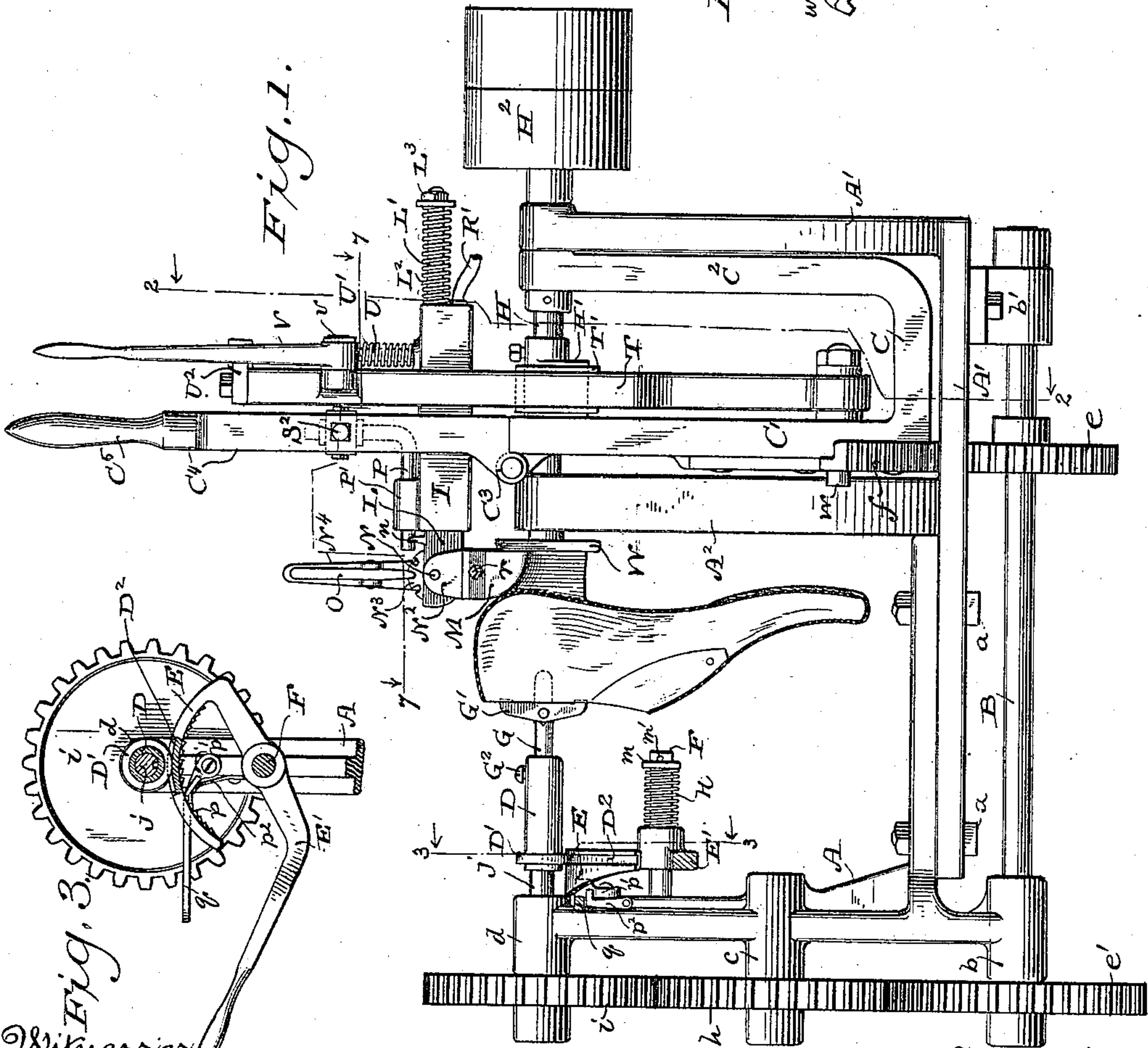
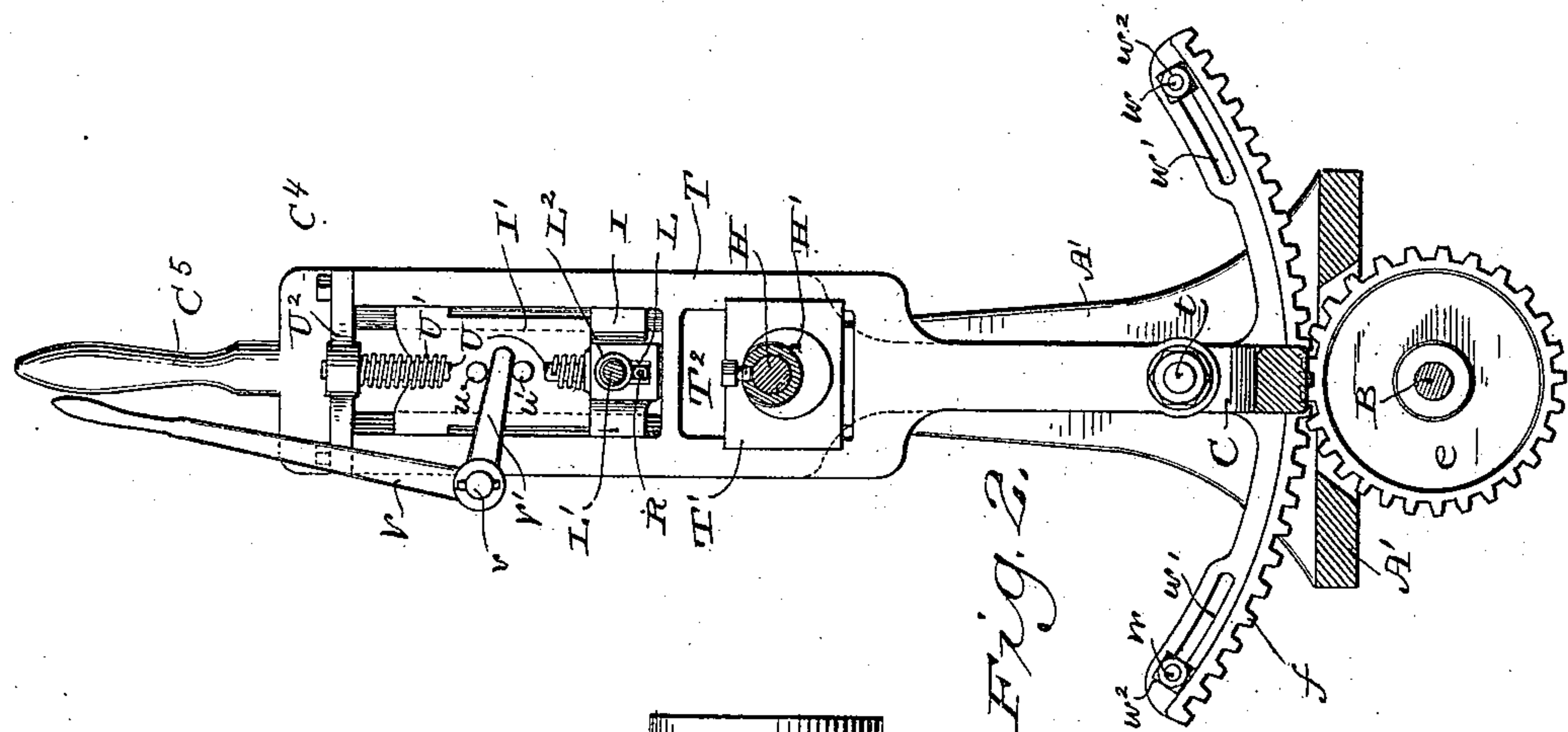
(No Model.)

3 Sheets—Sheet 1.

G. W. CEPERLEY.
HEEL BURNISHING MACHINE.

No. 441,398.

Patented Nov. 25, 1890.



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(No Model.)

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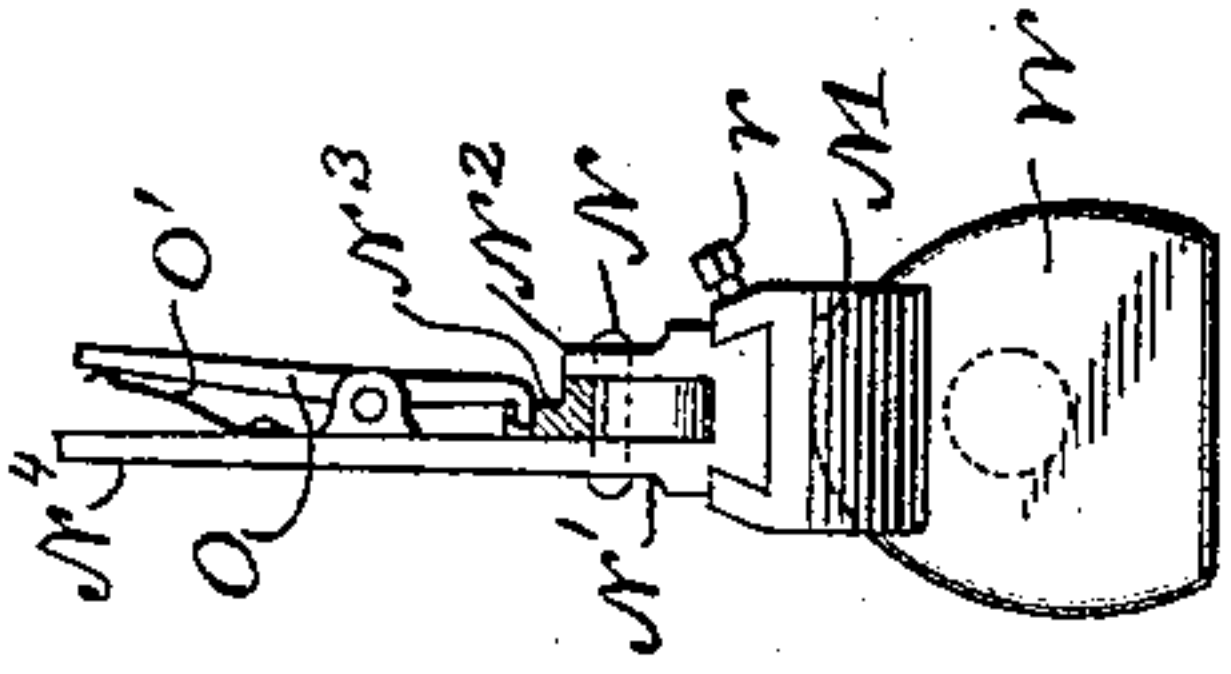
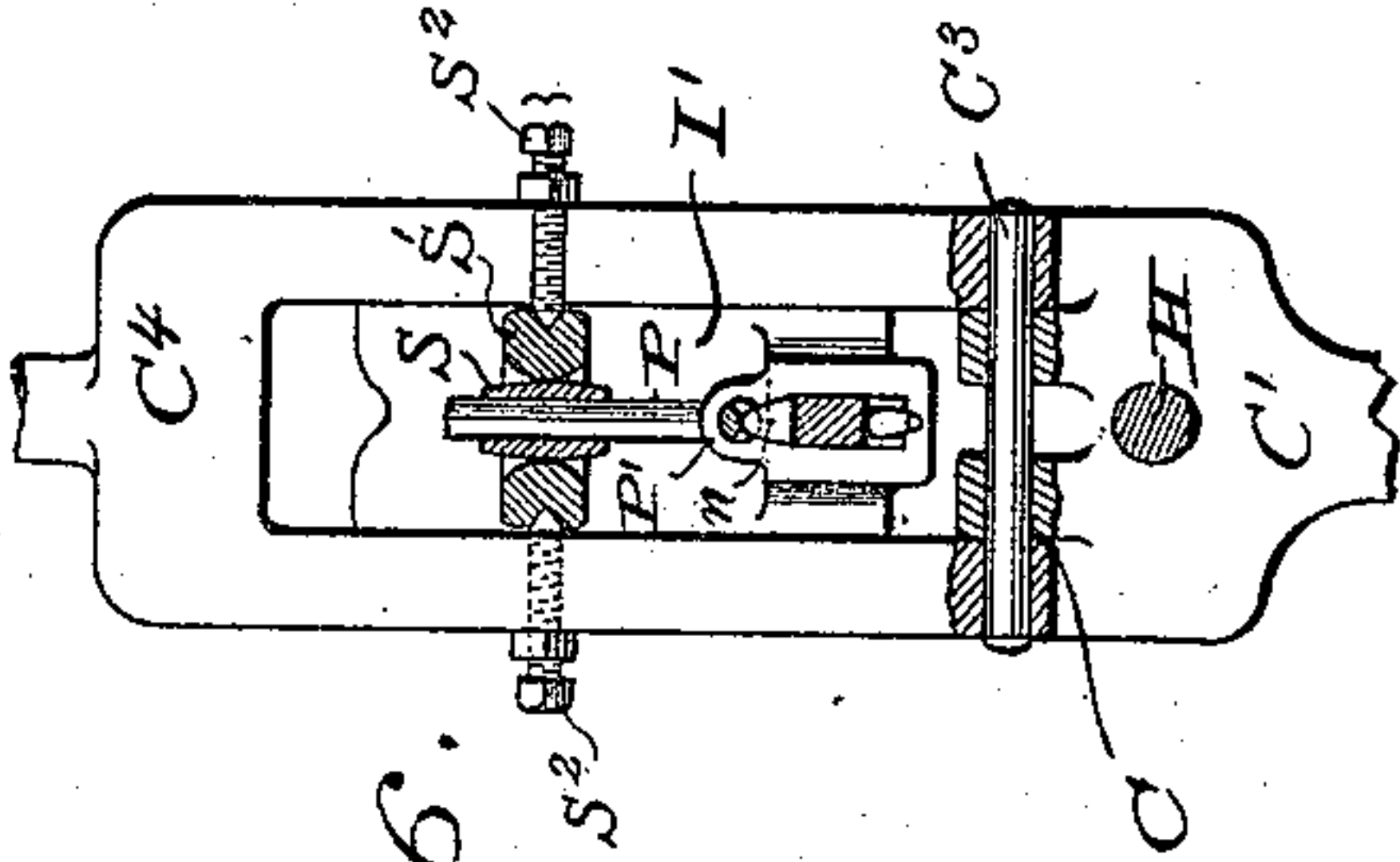


Fig. 5.



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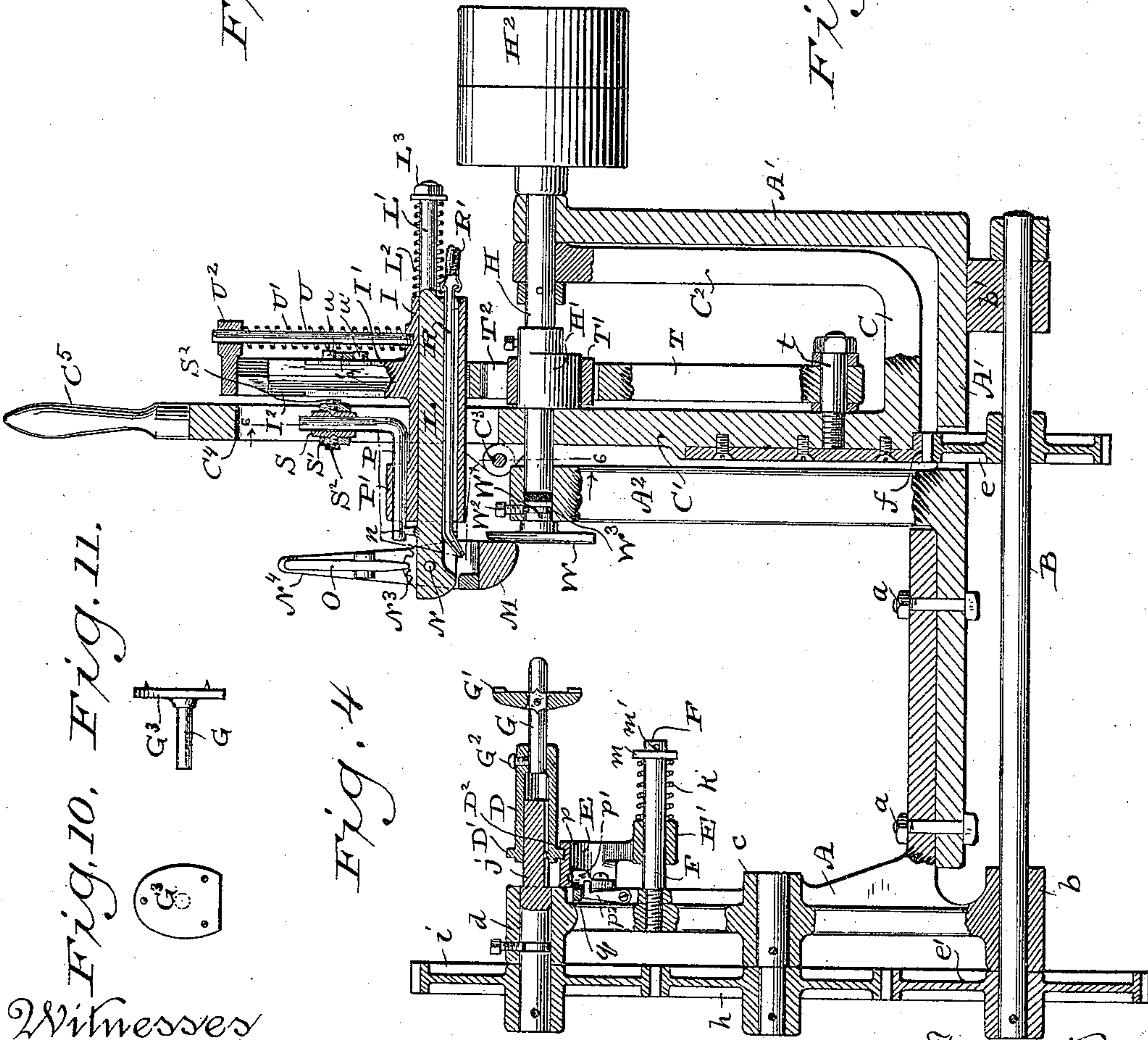


Fig. 4.

Fig. 10, Fig. 11.

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(No Model.)

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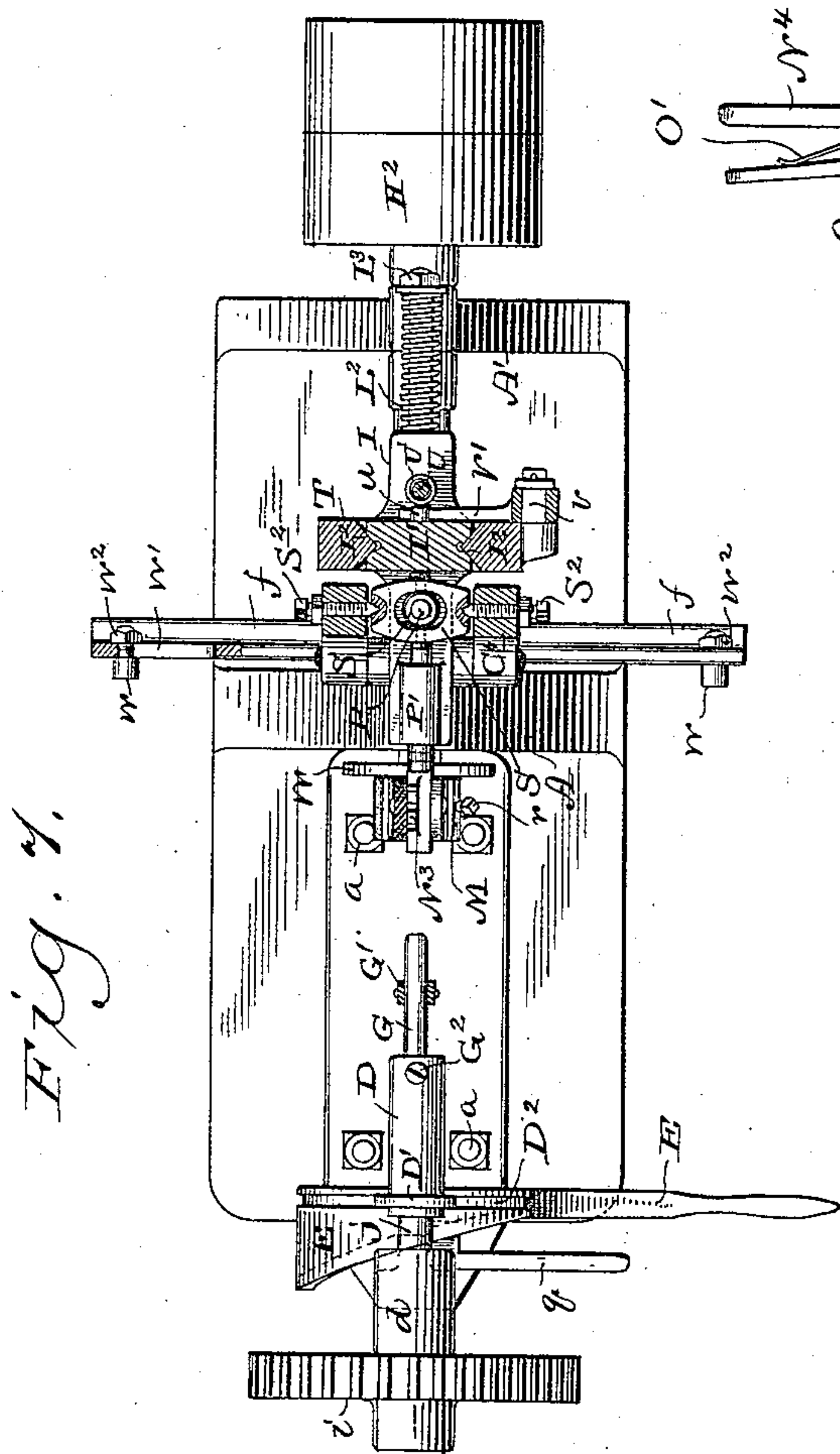


Fig. 1.

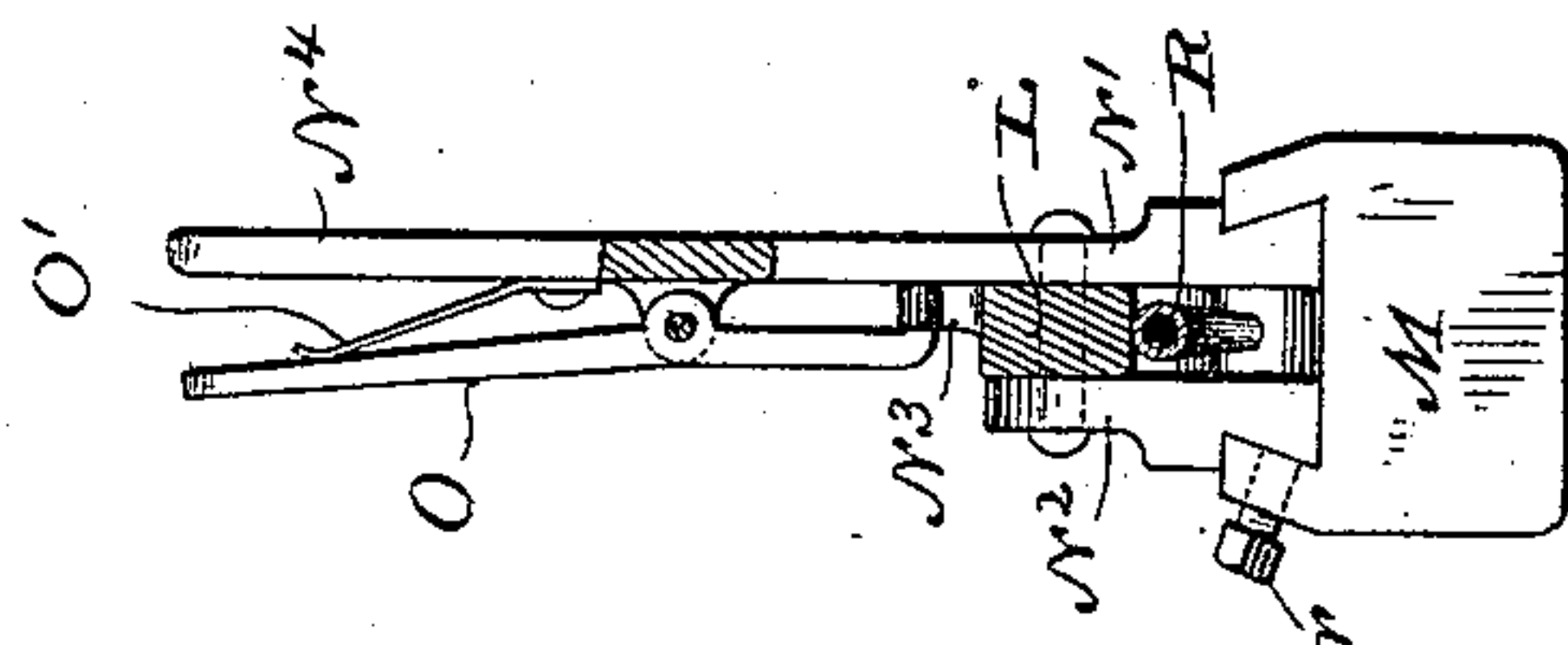


Fig. 8.

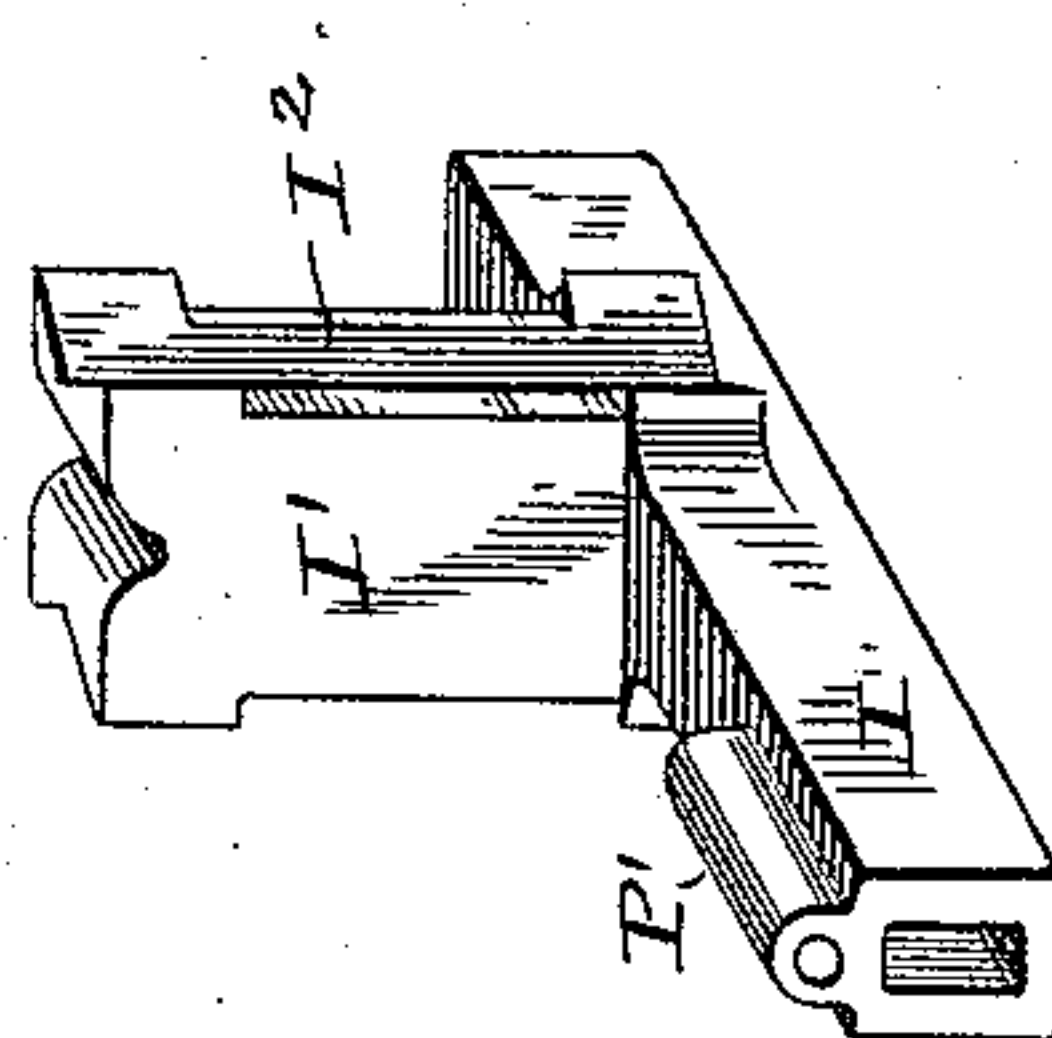


Fig. 9.

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UNITED STATES PATENT OFFICE.

GEORGE W. CEPERLEY, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF TO JACOB J. GOLDMAN, OF SAME PLACE.

HEEL-BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 441,398, dated November 25, 1890.

Application filed July 29, 1889. Serial No. 319,070. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. CEPERLEY, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Heel-Burnishing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to machines for burnishing the heels of shoes, &c.; and the invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described, and specifically pointed out in the claims.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a heel-burnishing machine constructed in accordance with my invention. Fig. 2 is a transverse vertical section of the same on the line 2 2 of Fig. 1. Fig. 3 is a similar section on the line 3 3 of Fig. 1. Fig. 4 is a vertical longitudinal section of the machine. Fig. 5 is a detached detail view of the devices for varying the position of a burnishing-tool relatively to its holder. Fig. 6 is a transverse vertical section of the machine on the line 6 6 of Fig. 1. Fig. 7 is a plan view of the machine, certain parts being shown in section on the line 7 7 of Fig. 1. Fig. 8 is a detail sectional view on the line 8 8 of Fig. 1 of the devices for varying the position of the burnishing-tool. Fig. 9 is a perspective view of the guide-block, showing its peculiar form. Figs. 10 and 11 are detached detail views, in side and end elevation, respectively, of the heel-rest.

The object of my invention is to produce a heel-burnishing machine which will possess the combined advantages of simplicity of construction and thorough effectiveness of operation and the manipulations of the operative parts of which shall be easy and yet bring the burnishing-tool effectively into contact with all parts of the heel-surface to be burnished. These results I attain by the construction which I will now proceed to describe.

The frame of my machine, which is of metal, is preferably made in two parts A A',

which overlap each other, and are secured together by through-bolts *a a*. This arrangement permits the supporting frame-work of the machine to be formed of two integral castings, with the vertical standards hereinafter described, and thus greatly simplifies the construction and materially reduces the cost of the machine.

In the vertical standard of the section A are formed three bearings *b, c, and d*. In the bearing *b* is journaled one end of a shaft B, the opposite end of which is journaled in a bearing *b'*, pendent from the under side of the section A' of the frame. The shaft B carries two gear-wheels *e e'*, the former meshing with a gear-sector *f*, to be hereinafter more fully described, and the latter *e'* meshes with a gear-pinion *h*, which is journaled in the bearing *c* in the standard of frame-section A. The pinion *h* meshes in turn with a cog-wheel *i*, which is carried upon one end of a shaft *j*, which is journaled in the upper bearing *d* in the standard of frame-section A.

D designates a sleeve, which is splined upon the shaft *j* so as to revolve therewith and at the same time move longitudinally thereon. At one end this sleeve is provided with an external circular rib or flange *D'*, which fits loosely in a groove *D²* in the periphery of a segment E. This segment E forms one end of a lever E', which is pivoted upon a stud F, projecting horizontally from the standard of frame-section A below the journal of shaft *j*. A coiled spring *k* surrounds the stud F and is confined between a washer *m* (held upon the outer end of the stud by a pin *m'*) and the adjacent side of the hub of lever E', so as to force the segment outward toward the standard of frame-section A. The outer edge of the segment E is inclined, so as to form a cam, which is held against the inner end or the bearing *d* by the spring *k*, before referred to. The under side of this segment E is formed with a ratchet *p*, and this ratchet is engaged by a pawl *p'*, which is pivoted upon the adjacent part of the standard of frame-section A just above the stud F, and which is held up in engagement with the ratchet *p* by a spring *p²*. The pawl *p'* is provided with a handle *q*, and the arrangement is such that

by depressing said handle the pawl may be thrown out of engagement with the ratchet p . It will thus be seen that by repeatedly oscillating the lever q the cam-segment will be turned upon the stud F and will move the sleeve D toward or away from the standard of frame-section A . The shank G of the last-holder G' is adjustably secured in the sleeve D and is held therein by a set-screw G^2 , and it will be seen that the movements of the sleeve D , just described, will be imparted to the last-holder, so that the machine may thereby be set for different sizes of lasts.

Instead of a last-holder, a heel-clamp G^3 , such as is shown in Figs. 10 and 11, may be used; but in either event the result is the same.

C designates a U-shaped frame, the upper ends of the arms C' C^2 of which embrace the power-shaft H , so that said frame is hung from said shaft. This power-shaft is journaled in the upper end of the outer vertical standard of frame-section A' , and also in the upper end of its inner vertical standard A^2 , as shown, and carries on its outer end the usual fast and loose belt-pulleys H^2 , by which power is applied to the machine. The gear-sector f , previously referred to, with which the gear-wheel e meshes, is formed upon or secured to the lower part of the frame C , as is best shown in Fig. 2.

T designates a bar, the lower end of which is attached by a stud t to the lower part of the arm C' of the swinging frame C and the upper part of which is bifurcated to embrace the power-shaft H . This shaft, at the point where it is embraced by the bar T , carries an eccentric H' , which works in a block T' , which latter is confined in the lower bifurcated portion of said bar. It will thus be seen that as the power-shaft H revolves its eccentric H' will oscillate the bar T , and that the latter will impart a corresponding motion to the frame C . This motion, acting through the sector f and gear-wheel e , will rock the shaft B , and the motion of the latter, acting through the gears e' , h , and i , will oscillate the shaft or arbor j , which carries the last-holder G' or heel-clamp G^3 . Thus, the burnishing-tool M being in position, both said tool and the shoe will be oscillated simultaneously but in opposite directions, and consequently a double and perfectly effective action will be imparted to the burnisher.

The guide-block I is formed with an upwardly-projecting portion I' , (see Fig. 9,) the edges of which are vertically grooved, as shown at I^2 , to fit corresponding ribs in the bifurcated portion of the swinging bar T , and upon the upper end of said bar is pivoted a bell-crank lever V , the hub of which is supported loosely by a stud v , which projects rearwardly from the bar T . The arm V' of the bell-crank lever V extends between two studs u u' , which project from the rear vertical portion I' of the guide-block I . A rod M is attached at its lower end to the upper side of the guide-block I near its rear end, and

the upper end of this rod passes through an opening in a boss M^2 , which is formed upon the upper end of the bar T . A spiral spring U' , which surrounds the rod U , is confined between the under side of the guide-block I , and tends by its expansion to hold the rear end of said block depressed and its opposite end elevated, so as keep the burnishing-tool away from the shoe-heel. Thus by drawing the lever V outward and downward the burnishing-tool is brought into contact with the shoe-heel with more or less pressure, according to the amount of power applied to the lever V .

The guide-block I is formed with a longitudinal core or socket to receive the tool-holder L , and the rear end of said holder is reduced, as shown at L' , to form a spindle, which is surrounded by a spiral spring L^2 . This spring is confined between a nut L^3 on the outer end of the spindle and the rear end of the guide-block I , the tendency of said spring thus being to retract the holder within the guide-block.

Upon the upper end of the tool-holder is formed a single tooth n , which enters a notch or indentation in the end of the horizontal portion of an arm P . The horizontal portion of this arm works loosely in a guide P' , which is formed upon the upper side of the guide-block, while the vertical portion of the arm slides loosely in a sleeve S , which is swiveled in a cross-head S' , and this latter is swiveled by means of bolts S^2 in the lever C^4 . The arrangement is such that when the lever C^4 is tilted to the right the tool-holder L will be drawn outwardly in the guide-block I against the action of spring L^2 , and the tool M will thus be caused to operate upon all parts of the heel. A bolt N passes laterally through ears N' N^2 , extending upward from a connecting or base portion, as is best shown in Fig. 8.

The portion of the tool-holder L which is clamped between the ears N' N^2 is formed with a toothed segment N^3 , and the ear N' has an upward extension or standard N^4 . Upon this standard N^4 is pivoted a pawl-lever O , the upper end of which is held normally outward from the standard N^4 by an interposed spring O' , so that the lower end or pawl of the lever is held in engagement with one or another of the teeth of ratchet-segment N^3 .

The burnishing-tool M is made in a separate piece from the ears N' N^2 and is formed with a dovetailed groove in its upper side, in which the dovetail base of the ear-piece fits, a set-screw r serving to retain the parts in their connected position. It will thus be seen that by tilting the ear-piece on its pivot N the burnishing-tool M may be set at any desired angle and will be retained in such inclined position by the pawl-lever O .

The burnishing-flame is provided by a gas-pipe R , which fits in a longitudinal groove in the under side of the tool-holder, and one end of which is connected to a flexible pipe R' ,

which leads from any suitable source of gas-supply. The tip of pipe R protrudes from the front of the tool-holder, so as to cause the flame to impinge upon the burnishing-tool and properly heat the same.

It will thus be seen that I have devised an extremely complete and efficient machine and one which is both simple in construction and easy to manipulate, and the parts of which may be readily assembled in setting up the machine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a heel-burnishing machine, the combination, with a suitable supporting-frame, a power-shaft journaled therein and provided with a heel-rest and a pendent vibrating U-shaped frame actuated by the power-shaft and adapted to support and carry the burnishing-tool, of a rocking arbor for supporting the last-holder, a rock-shaft geared to and actuated by the swinging frame and also geared to the said arbor, whereby the movements of the swinging or vibrating frame are caused to rock the arbor simultaneously with but oppositely to the movement of the burnisher, substantially as set forth.

2. In a heel-burnishing machine, the combination of a pendent vibrating U-shaped frame, a guide-block for the tool-holder swiveled therein, a vibrating bar connected to said frame and actuated by the power-shaft to vibrate the frame, and a lever mounted upon said bar and operatively connected to the guide-block for raising and lowering the same, substantially as set forth.

3. In a heel-burnishing machine, a pendent swinging U-shaped frame actuated by the power-shaft and having a lever pivoted at the upper end of one of its arms, a guide-block for the tool-holder swiveled in said lever, the said lever being pivoted, substantially as described, so as to move in the longitudinal plane of the guide-block, and thus raise and depress the latter for effecting corresponding movements of the burnishing-tool, substantially as described.

4. In a heel-burnishing machine, the combination, with a pendent U-shaped vibrating

frame actuated by the power-shaft, a lever pivoted to the upper end of one of the arms of said frame, a guide-block carried by said lever, and a tool-holder having a ratchet-segment upon its outer end, of an ear-piece for carrying the tool, pivoted upon the adjacent part of the holder and having a pawl to engage said segment, substantially as set forth.

5. The combination, with an oscillating frame, a guide-block carried thereby, and a tool-holder set into said guide-block and carrying a burnishing-tool, of an arbor for supporting the last-holder, a ratchet-cam operatively connected to said arbor and acting against the adjacent frame-standard, and a pawl-carrying lever operatively connected to the said cam so as to vary the position of the last-holder relatively to the tool-holder, substantially as set forth.

6. In a heel-burnishing machine, the combination, with an oscillating pendent U-shaped frame and a guide-block swiveled therein, of a tool-holder set into said block and having a reduced extension, a burnishing-tool carried by said holder, and a spring interposed between the outer end of the extension and the adjacent end of the guide-block and serving to hold the tool-holder retracted within the guide-block, substantially as set forth.

7. The combination, with an oscillating frame and a guide-block swiveled therein, a tool-holder mounted in said block, and a burnishing-tool carried by said holder, of a lever operatively connected to the rear end of the block, and a spring arranged to depress the rear of the guide-block, whereby the block may be tilted longitudinally by the lever against the action of the spring and thus vary the position of the burnishing-tool, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

GEORGE W. CEPERLEY.

Witnesses:

S. S. STOUT,
WILLIAM KLUG.