

(No Model.)

E. M. PARKHURST.

BURNISHING MACHINE FOR BOOTS OR SHOES.

No. 363,537.

Patented May 24, 1887.

FIG. 1

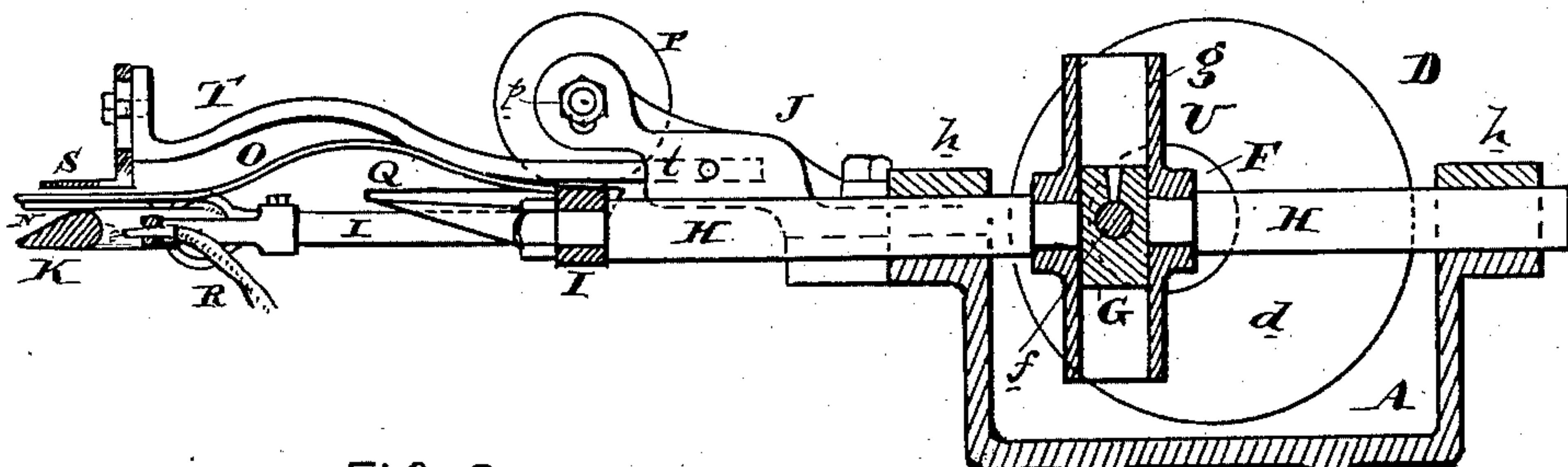


FIG. 3

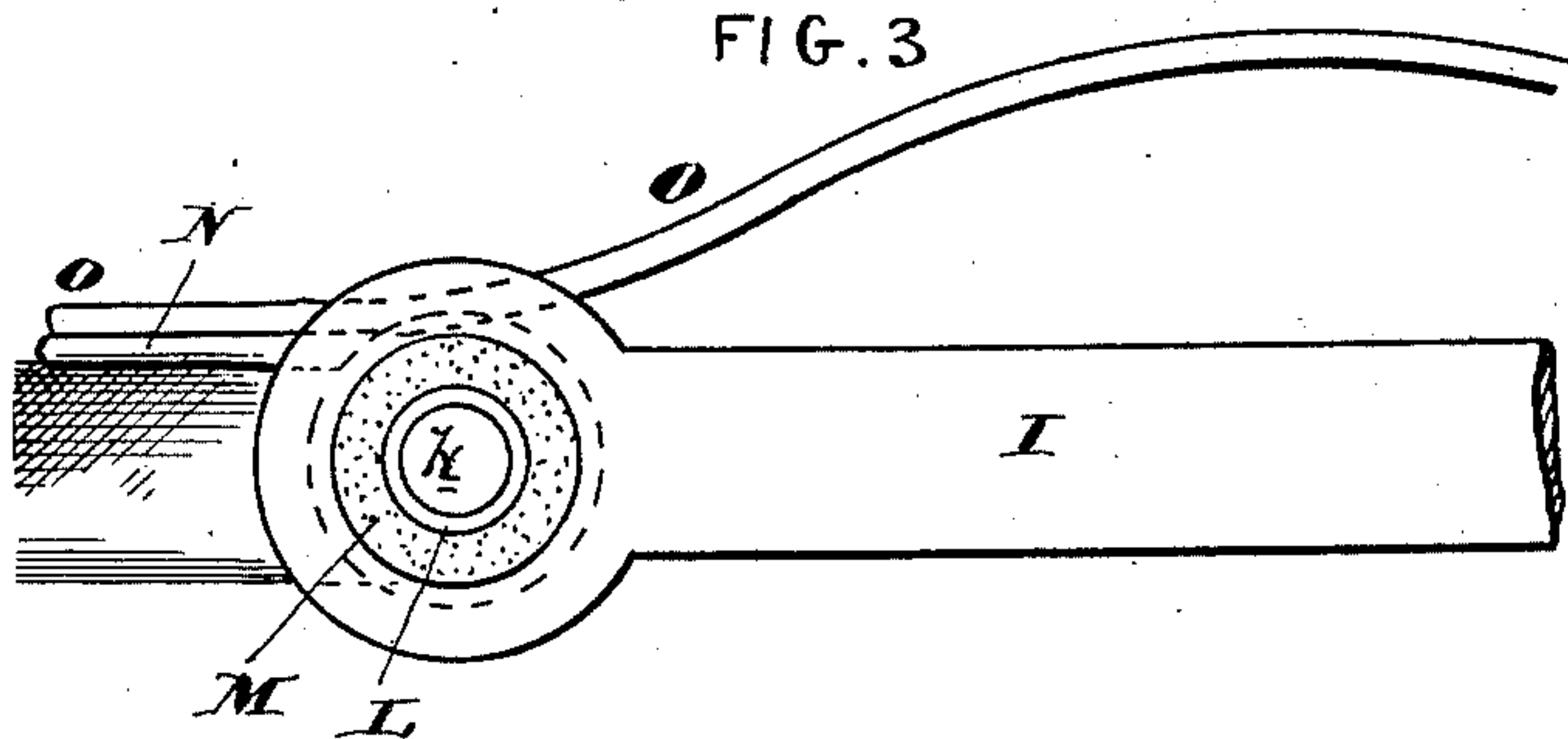
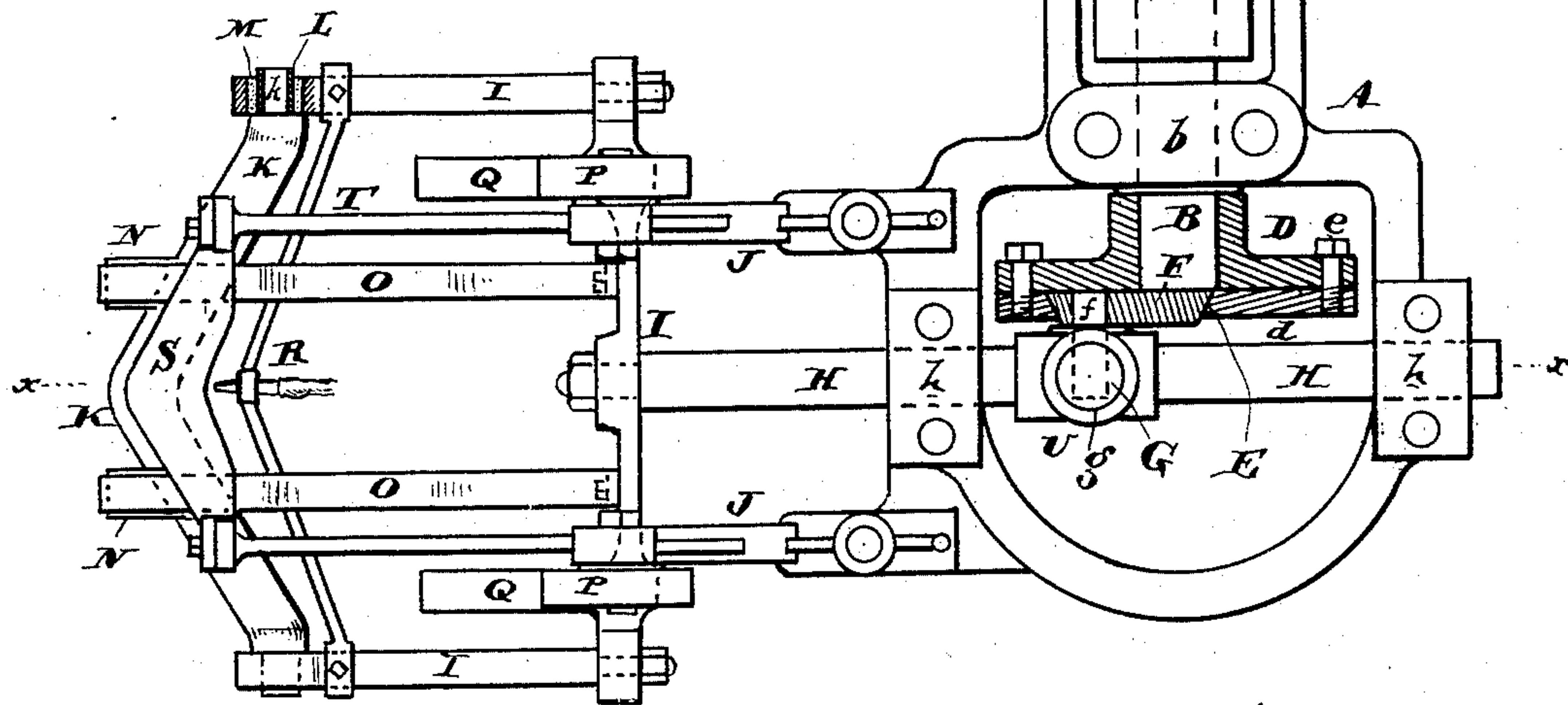


FIG. 2



Attest
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UNITED STATES PATENT OFFICE.

EMMONS M. PARKHURST, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
TO THE CHAMPION SHOE BURNISHING MACHINE COMPANY.

BURNISHING-MACHINE FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 363,537, dated May 24, 1887.

Application filed May 3, 1886. Serial No. 200,903. (No model.)

To all whom it may concern:

Be it known that I, EMMONS M. PARKHURST, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Burnishing-Machines for Boots or Shoes, of which the following is a specification.

My invention has reference to a burnishing-machine for boots or shoes; and it consists in certain improvements, all of which are fully set forth in the following specification and shown in the accompanying drawings, which form part thereof.

15 The object of my invention is to provide a suitable construction of adjustable crank for reciprocating the burnisher, by which the length of its reciprocation may be adjusted to suit boots or shoes of different sizes, whereby
20 the extent of reciprocation of the burnisher may be in exact accordance with the requirements. This enables a greater quantity of work to be done on the same machine, as in the case of burnishing ladies' or children's shoes the
25 length of the reciprocation would be shorter and a greater number of said reciprocations of the burnisher may be had per minute than when a longer throw of the crank is used, as in burnishing men's boots and shoes.

30 My object is also to provide a burnisher-machine such as herein set forth with a burnisher secured to its reciprocating frame or carrier by an elastic connection to admit of lateral vibration, adapting itself to irregularities in
35 the surface to be polished or burnished.

My object is also to provide a machine of this class with a fixed support, which is preferably made adjustable, against which the shoe may be held by the operator, and thus remain
40 stationary with reference to the reciprocating burnisher.

In the drawings, Figure 1 is a sectional elevation of a burnisher-machine embodying my invention, on line *x x* of Fig. 2. Fig. 2 is a
45 plan view of same; and Fig. 3 is an enlarged side elevation showing the elastic connection between the burnisher and its actuating or reciprocating frame.

A is the frame of the machine. B is the
50 crank-shaft, and is journaled therein at *b*.

C is the band-wheel secured to said shaft, and D is the crank-head. This crank-head is provided with a face-plate, *d*, clamped to it by screws *e*. The said face-plate is provided with a dovetail circular recess or hole, E, arranged eccentrically with reference to the shaft B. 55

F is a crank-pin support, and is shaped like a frustum of a cone, and is made to fit into the dovetail or conical hole E of the face-plate. The crank-pin *f* is secured to its support F to one side of the center thereof, as shown. It is evident from this construction that if we loosen the screws *e* the plate F may be revolved, changing the distance of the crank-pin *f* with reference to the center of the crank D, whereby
65 the throw of the crank may be adjusted from nothing to the full throw, and after being adjusted the tightening of the screws *e* will securely clamp the plate F against any further tendency of movement. The crank-pin *f*
70 works in a vertically-reciprocating bearing, G, which reciprocates in a tubular bearing, *g*, in a cross-head, U, of the reciprocating burnisher-shaft H, which shaft is adapted to reciprocate in guides *h*, secured to the frame of the machine. 75

I do not limit myself to the particular form of crank-bearing shown, though it is preferable, perhaps, to all others as one which is easily kept lubricated and is less liable to wear
80 and thump.

Secured upon the end of the shaft H is a burnisher-frame, I, to which the burnisher K is attached. The burnisher-frame is provided with guides Q on its side and preferably over
85 the connections with the burnisher. These guides Q work against the anti-friction rollers L, journaled on stationary bearings secured to the brackets J, which brackets are bolted to the main frame of the machine. As the burnisher is reciprocated the upper thrust due to the pressure of the shoe or boot is received by the rollers and prevented from coming upon the guide-shaft G, preventing it wearing upon its bearing and binding. 95

R is a gas-pipe, from which a gas-jet burns, the flame projecting toward the rear or enlarged part of the burnisher to keep it at a uniform temperature.

The rollers P may be adjusted by the con- 100

nection *p*. The burnisher *K* is made *V*-shaped, as shown, but may be of any shape desired, the particular construction thereof being immaterial to this invention. It is secured to the burnisher-frame *I* by an elastic connection. (See Fig. 3.) The burnisher is provided with end journals, *k*, which fit into tubular bearings *L*, placed within a rubber cylinder, *M*. This rubber cylinder is carried by the burnisher-frame *I*. The burnisher is provided with extensions or shoes *N*, which rest flat upon the spring-guides *O*, which guides are attached to the burnisher-frame *I* and are carried with the reciprocation of the burnisher. It is seen from this construction that if the burnisher-nose be thrust upward the extensions *N* will act as cams upon the springs *O*, allowing the burnisher to follow all inequalities in the surface to be burnished. This connection, while practically rigid under normal conditions, nevertheless admits of sufficient vibration to the burnisher to compensate for all such inequalities in the surface to be burnished, and the elastic cylinder *M* also facilitates this action and relieves the end-thrust of the burnisher.

S is a guide against which the shoe may be held, and whereby it is supported against lateral movement while being acted upon by the reciprocating burnisher. This guide *S* is made adjustable vertically upon the supports *T* by a bolt and slot connections, and these supports are adjustable longitudinally at *t* upon the frame of the machine. By this means guide *S* may be adjusted vertically or longitudinally with reference to the burnisher to suit various kinds of work.

While I prefer the construction shown, I do not limit myself to the details thereof, as they may be modified in various ways without departing from my invention.

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

1. In a shoe-burnishing machine, a rotary crank-head, a crank-pin therefor, a plate adjustable about a fixed center carrying said crank-pin, and means to clamp said plate to the crank-head, in combination with a reciprocating burnisher and connecting mechanism, substantially as described, between said crank-pin and burnisher, substantially as and for the purpose specified.

2. In a shoe-burnishing machine, a rotary crank-head, a crank-pin therefor, a support for said crank-pin having a fixed center eccentric to the center of the crank-head a distance substantially equal to the distance between the center of the crank-pin support and crank-pin, to admit of adjustment to bring the crank-pin approximately over the crank-head center, and means to clamp the support in the position of adjustment, a reciprocating burnisher, and connecting mechanism, substantially as described, between said crank-pin and burnisher, substantially as and for the purpose specified.

3. In a shoe-burnishing machine, the combination of the reciprocating burnisher with the adjustable crank, consisting of crank-head *D*, clamping face-plate *d*, screws *e*, crank-pin support *F* and its pin *f*, and connecting mechanism, substantially as described, between the crank-pin and burnisher, substantially as and for the purpose specified.

4. In a shoe-burnishing machine, the combination of the reciprocating burnisher with the adjustable crank, consisting of crank-head *D*, clamping face-plate *d*, screws *e*, crank-pin support *F* and its pin *f*, shaft *H*, having cross-head *U*, sliding box *G* therein, and connecting mechanism, substantially as described, between the shaft *H* and burnisher, substantially as and for the purpose specified.

5. In a shoe-burnishing machine, the combination of the crank, the reciprocating burnisher-frame connecting with said crank, the burnisher carried by said frame, and an elastic connection between said frame and burnisher, substantially as and for the purpose specified.

6. In a shoe-burnishing machine, the combination of the crank, the reciprocating burnisher-frame connecting with said crank, the burnisher carried by said frame and having shoes *N*, an elastic connection between said frame and burnisher, consisting of the elastic cushions *M* between the burnisher-frame and burnisher, and springs *O*, substantially as and for the purpose specified.

7. In a shoe-burnishing machine, a reciprocating burnisher, in combination with crank to reciprocate said burnisher, means to adjust the throw of said crank to vary the length of reciprocation of the burnisher, a frame to carry the burnisher, guides to prevent vertical movement to said frame, large anti-friction wheels against which said guides rest, and connecting devices between said crank and frame, substantially as and for the purpose specified.

8. In a shoe-burnishing machine, the burnisher-frame *I*, having guide-faces *Q*, in connection with burnisher *K* and rollers *P*, substantially as and for the purpose specified.

9. In a shoe-burnishing machine, the burnisher-frame *I*, having guide-faces *Q*, in combination with burnisher *K*, rollers *P*, guide-rod *H*, and crank *D*, having pin *f*, substantially as and for the purpose specified.

10. In a shoe-burnishing machine, the burnisher-frame *I*, having guide-faces *Q*, in combination with burnisher *K*, rollers *P*, guide-rod *H*, and the adjustable crank to reciprocate said rod *H*, substantially as and for the purpose specified.

In witness whereof I have hereunto set my hand this 26th day of April, A. D. 1886.

EMMONS M. PARKHURST.

Witnesses:

FRANCIS S. BROWN,
JOSHUA MATLACK, Jr.