

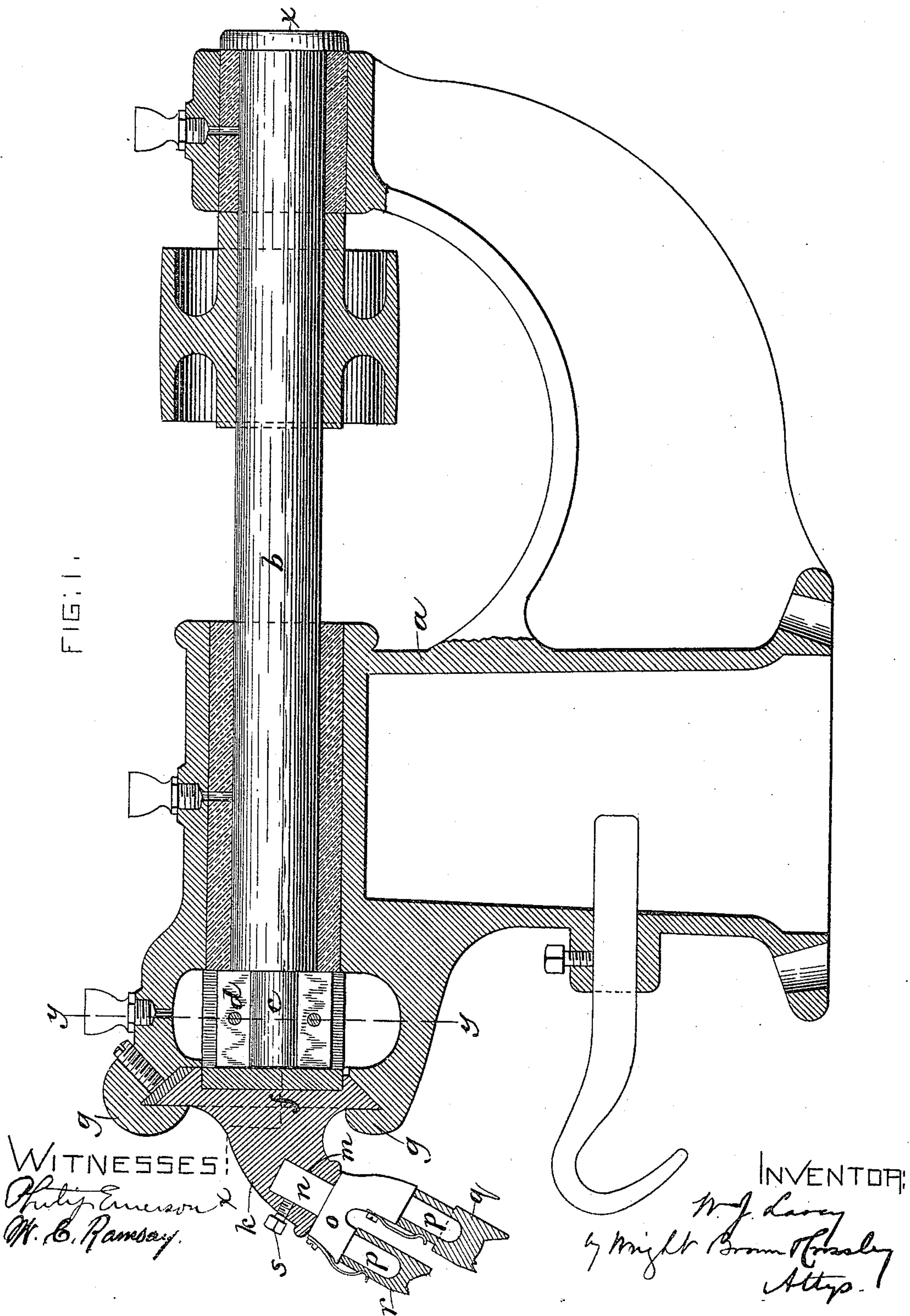
(No Model.)

2 Sheets—Sheet 1.

W. J. LAVEY.  
SOLE EDGE BURNISHING MACHINE.

No. 438,318.

Patented Oct. 14, 1890.





(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

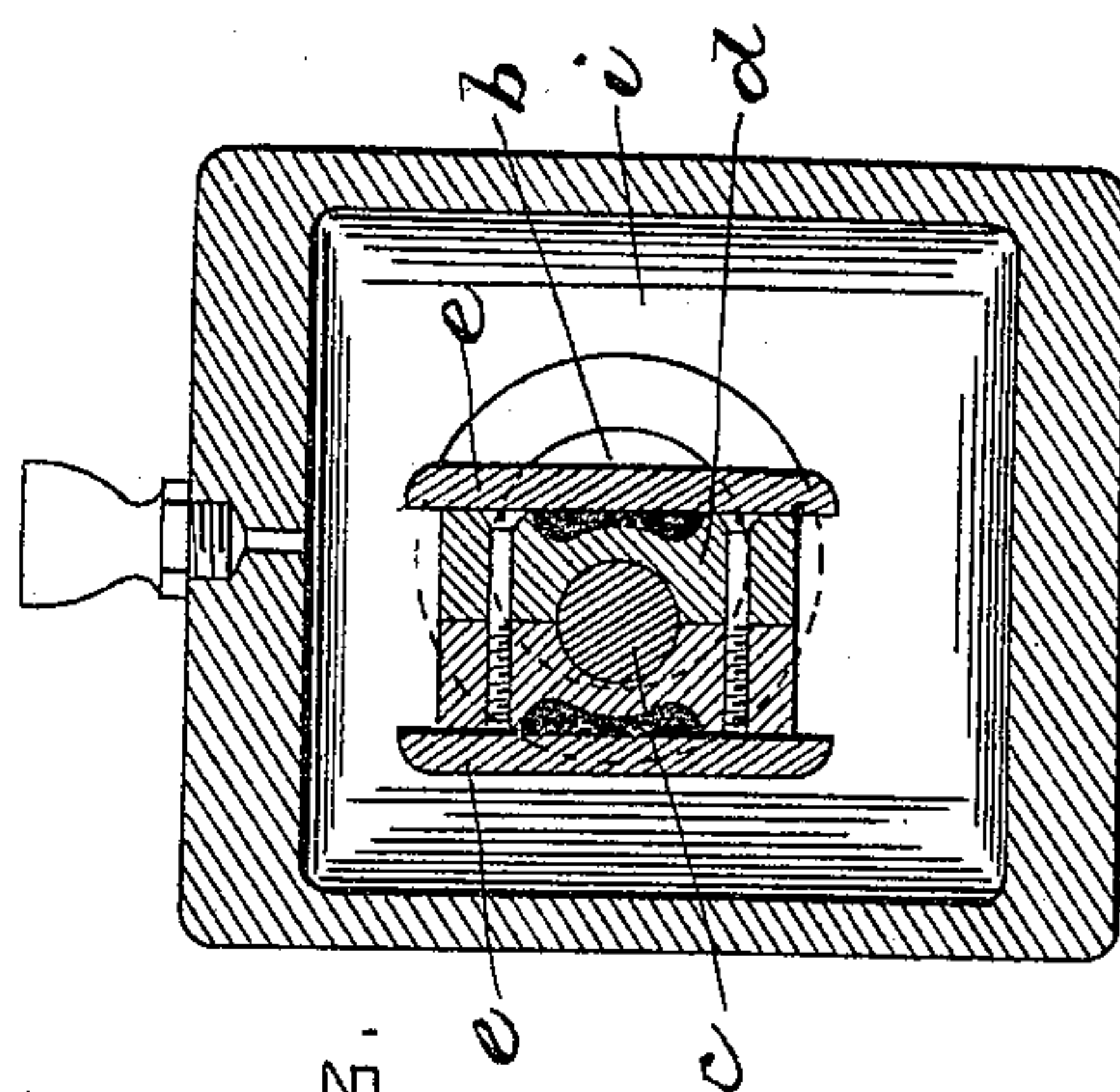
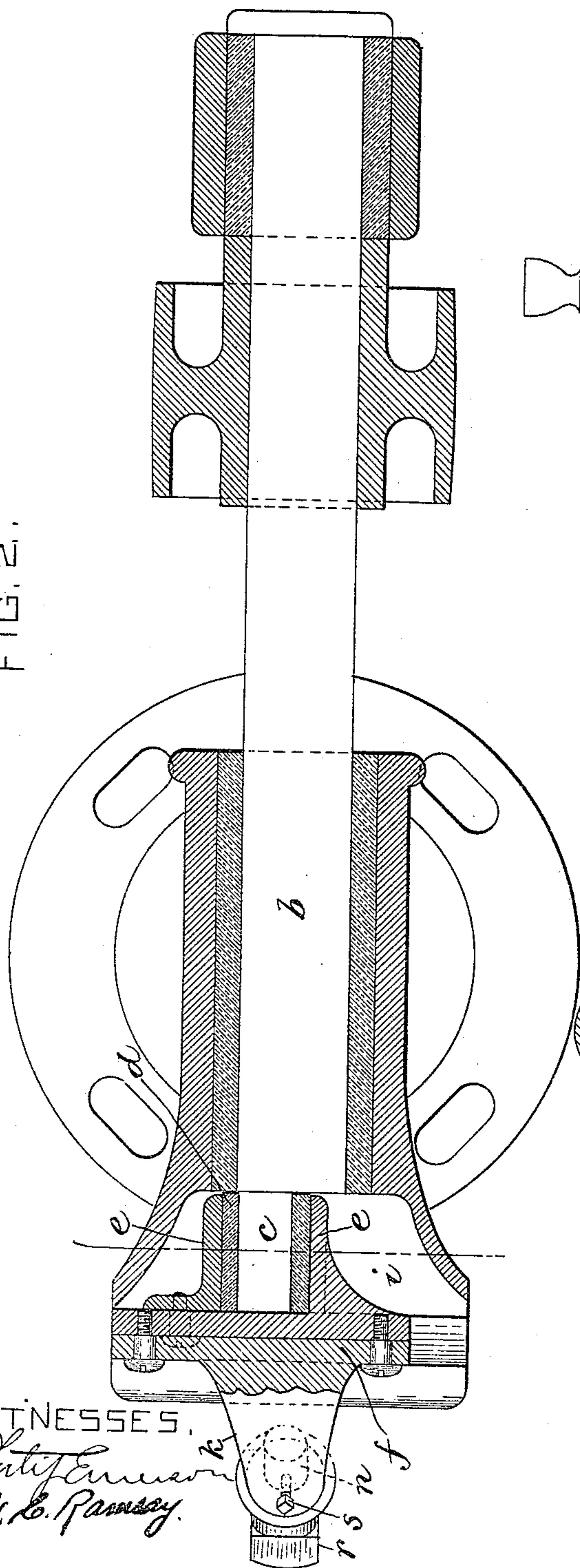


FIG. 3.

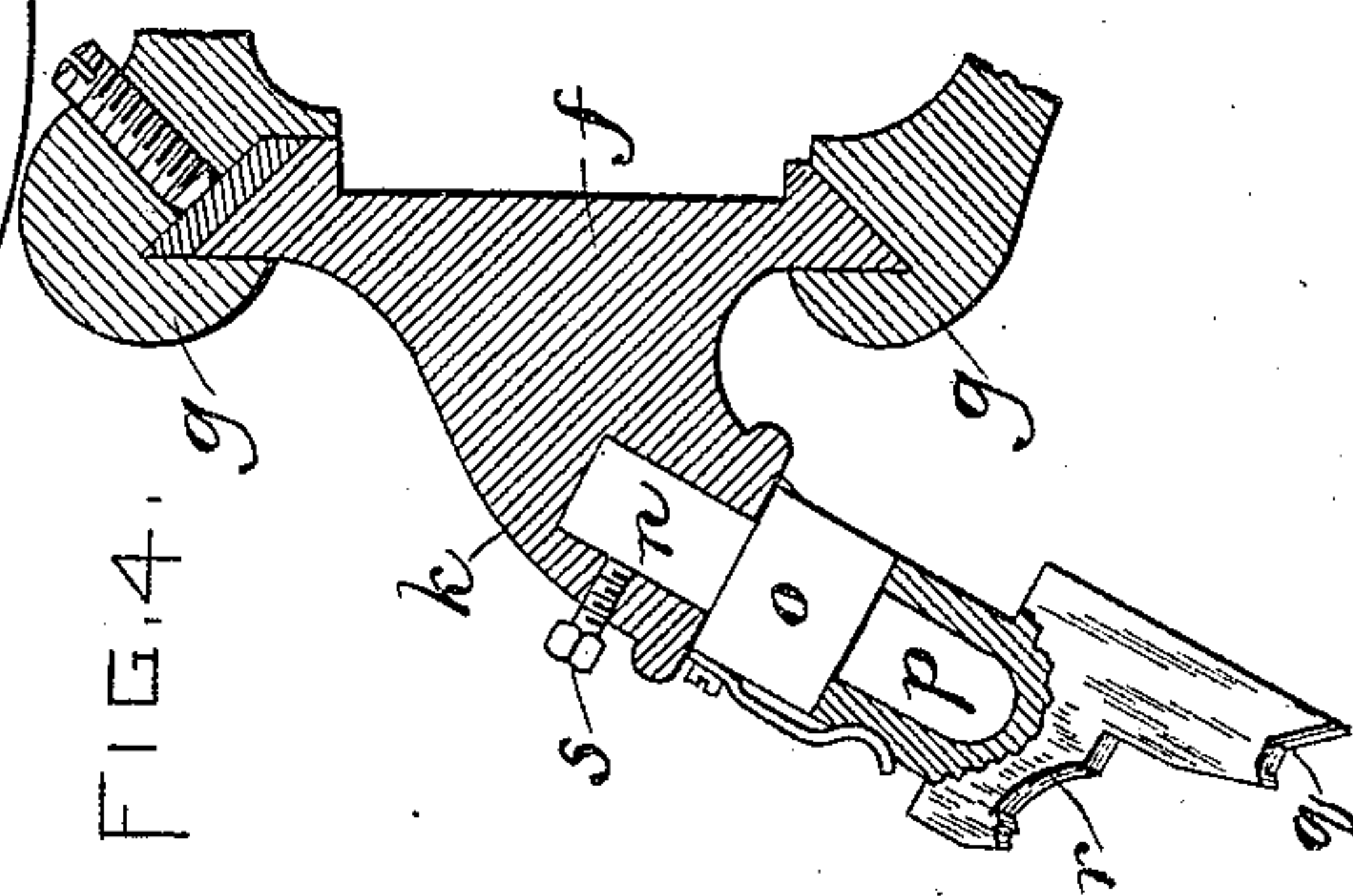


FIG. 4.

WITNESSES.

*Chas. Emerson*  
*W. C. Ramsey*

INVENTOR

*W. J. Lavey*  
*By Night Brown Crosby*  
*Atty.*



# UNITED STATES PATENT OFFICE.

WILLIAM J. LAVEY, OF CAMBRIDGE, ASSIGNOR OF ONE-HALF TO GEORGE H. WOODMAN, OF NEWTON, MASSACHUSETTS.

## SOLE-EDGE-BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 438,318, dated October 14, 1890.

Application filed January 11, 1889. Serial No. 296,065. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. LAVEY, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Sole-Edge-Burnishing Machines, of which the following is a specification.

This improvement relates to sole-edge-burnishing machines in which two burnishers are employed, respectively, for burnishing different parts of the edge of a sole. In such machines, as heretofore constructed, one or both of the burnishers have been made movable, because of the necessity for moving one burnisher out of the way in order to obtain access to the other.

The present invention consists in mounting in fixed position upon a vibrating cross-head two burnishers so arranged with relation to each other that access can always be conveniently had to either burnisher without changing the position of the other burnisher.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a longitudinal section of a burnishing-machine embodying my invention. Fig. 2 represents a section on line *x x*, Fig. 1. Fig. 3 represents a section on line *y y*, Fig. 1. Fig. 4 represents a sectional view of a modification.

The same letters of reference represent the same parts in all the figures.

In the drawings, *a* represents the supporting-frame, and *b* represents the operating-shaft journaled in bearings in the frame, and provided with an eccentric wrist-pin *c* at one end, which is fitted in a socket in a sliding box *d*. Said box is fitted to reciprocate vertically between guides or flanges *e e* on the rear side of the cross-head or carrier *f*, which reciprocates the burnishing-tools. Said cross-head is formed with dovetail edges, which are fitted to slide in horizontal dovetail guides *g g* on the frame *a*. The rotation of the shaft *b* causes the eccentric-pin *c* thereon to move the box *d* in such manner as to reciprocate the cross-head *f*, a chamber *i* being provided in the frame *a* to permit the reciprocating movement of the guides or flanges *e e*.

On the front or outer side of the cross-head is formed a downwardly-inclined arm *k*, hav-

ing an inclined socket *m* to receive the shank *n* of a tool-holder *o*, the latter being secured to the arm *k* by a set-screw *s*.

The tool-holder is held in an inclined position, and is provided, as shown in Fig. 1, with two inclined studs *p p*, on which are placed the socketed shanks of the burnishing-tools *q r*, one of which is formed to burnish the edge of the fore part of the sole and the other the edge of the shank. Said studs are relatively arranged so that the one carrying the shank-burnishing tool *r* is in front of and higher than the one carrying the fore-part-burnishing tool *q*, the acting faces of the two tools being thus arranged so that the operation of presenting the work to either tool is not obstructed or interfered with in any way by the other tool, so that it is not necessary to throw the shank-burnishing tool out of position when using the fore-part-burnishing tool, each tool being kept in the same relation to the other at all times. This arrangement greatly simplifies the machine as compared with machines in which the two tools are independently movable.

In Fig. 4 I have shown the tool-holder provided with but one inclined stud, the two tools *q r* being formed in one piece, having a single socketed shank formed to be placed on said stud. The relative arrangement of the acting faces of the tools is the same in this modification as in the construction first described.

I do not limit myself to the use of the tool-holder *o*, for the studs *p* may be secured directly to the cross-head, or formed integral therewith, if preferred. I prefer to employ the detachable tool-holder, however, for the sake of convenience and economy, said tool-holder being easily replaceable when worn, and being of small cost.

It will be observed by reference to Fig. 1 that the higher tool is arranged with its operating-face sufficiently elevated above the operating-face of the lower tool, and sufficiently near the front of the lower tool, to prevent the possibility of contact between the upper of a boot or shoe and the higher tool when the sole-edge is presented to the lower tool, and also to prevent the boot or shoe from striking the higher tool in case of accidental

displacement while it is being presented to the lower tool.

It will be observed that the two tools are located in such close proximity to each other  
5 that both may be heated simultaneously by the flame of a single burner, so that a material saving in the consumption of gas is effected and the complication incidental to the employment of two burners, one for each tool,  
10 is avoided.

I claim—

In a sole-edge-burnishing machine, a reciprocating cross-head or tool-carrier having a socketed arm, a tool-holder detachably se-  
15 cured to said arm, and two burnishing tools

or faces detachably secured to said holder and arranged one in advance of the other, the forward tool being higher than the rear tool, whereby the operator is enabled to present the work to either tool without interference 20 with the other tool, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 5th day of January, A. D. 1889.

WILLIAM J. LAVEY.

Witnesses:

C. F. BROWN,  
W. C. RAMSAY.