

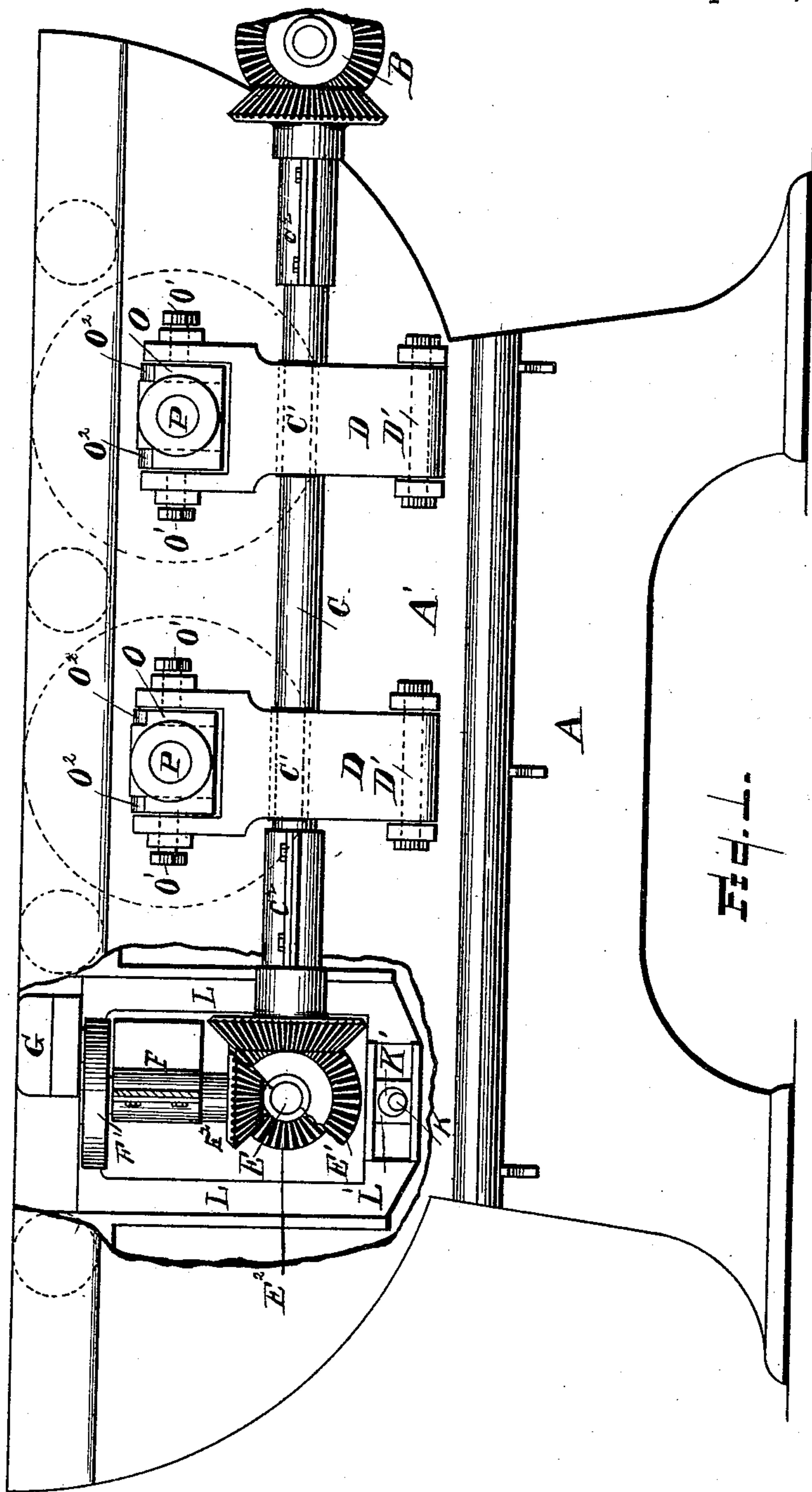
(No Model.)

6 Sheets—Sheet 1.

J. L. PERRY.  
WOOD POLISHING MACHINE.

No. 449,697.

Patented Apr. 7, 1891.



WITNESSES  
*W. S. Shuyette*  
*W. K. Koenig*

INVENTOR  
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by  
*R. Mason*  
Attorney.

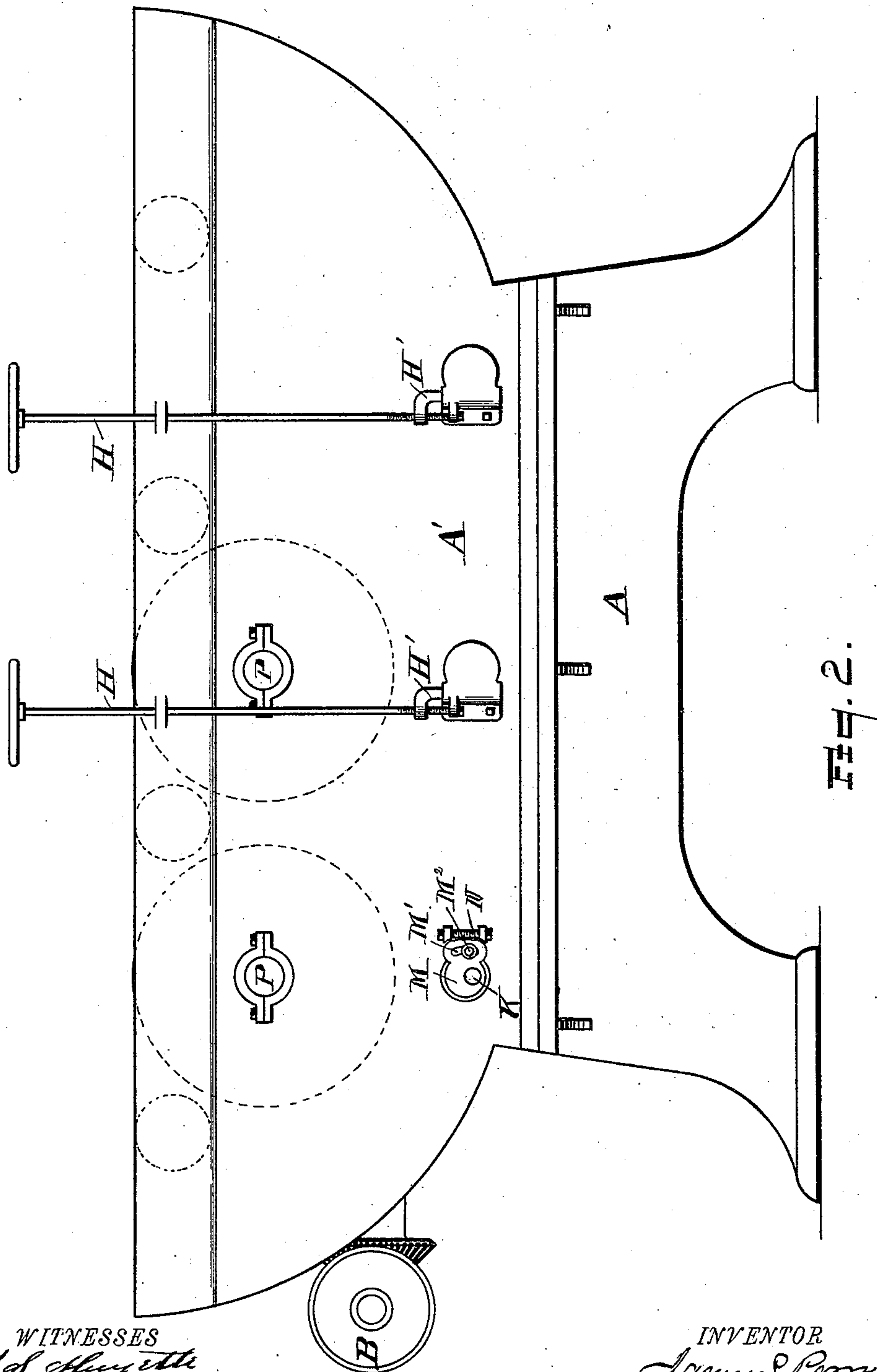
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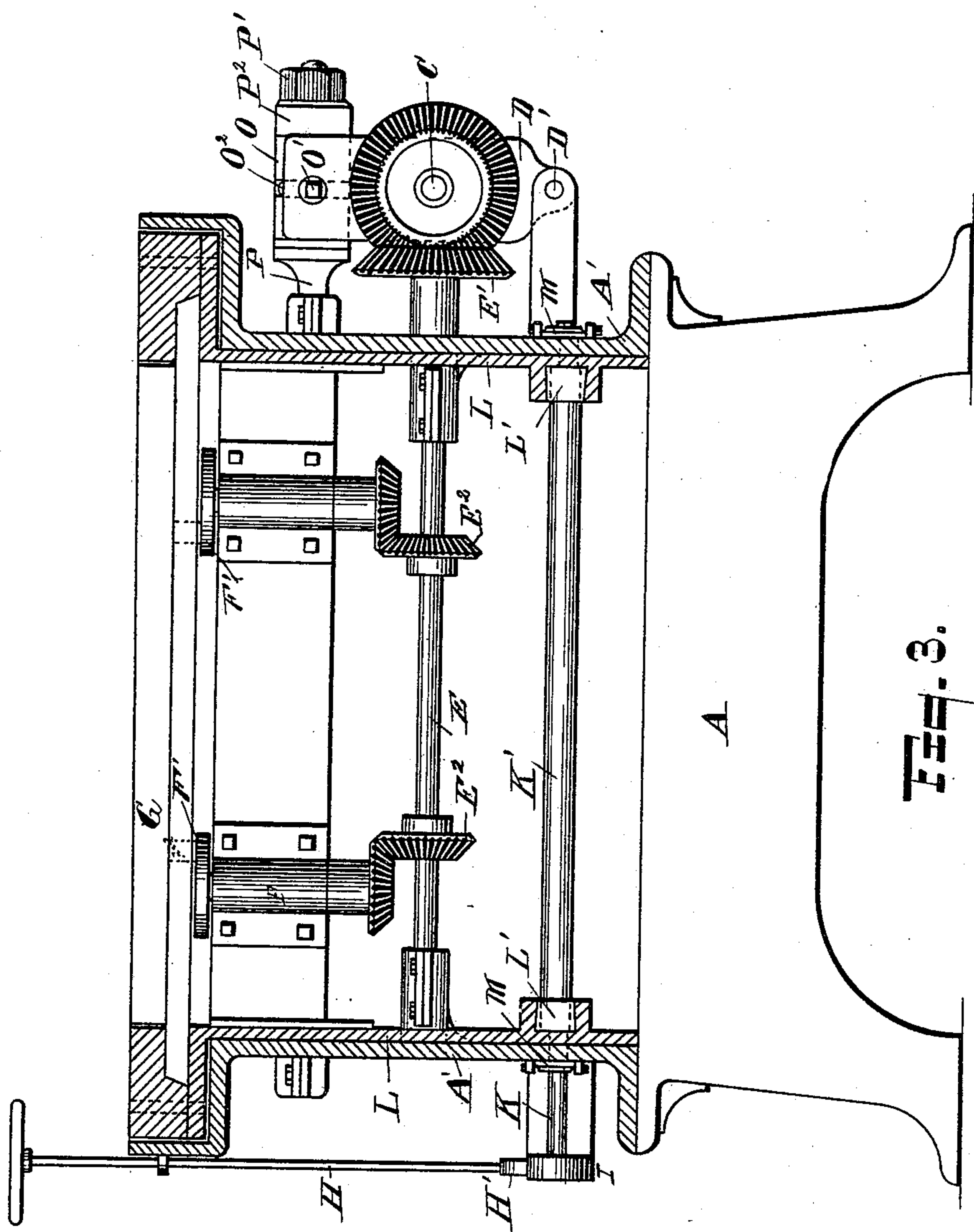
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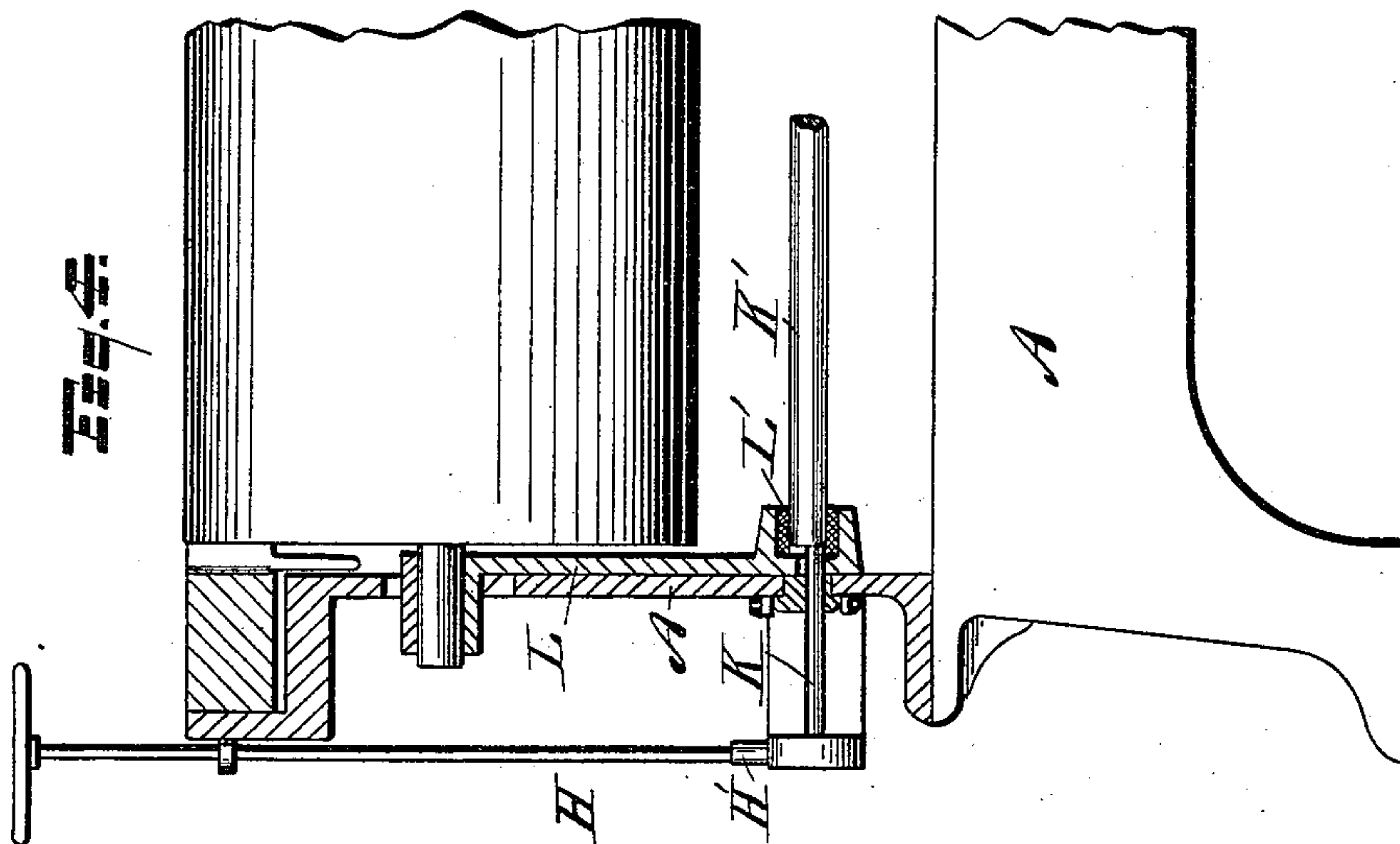
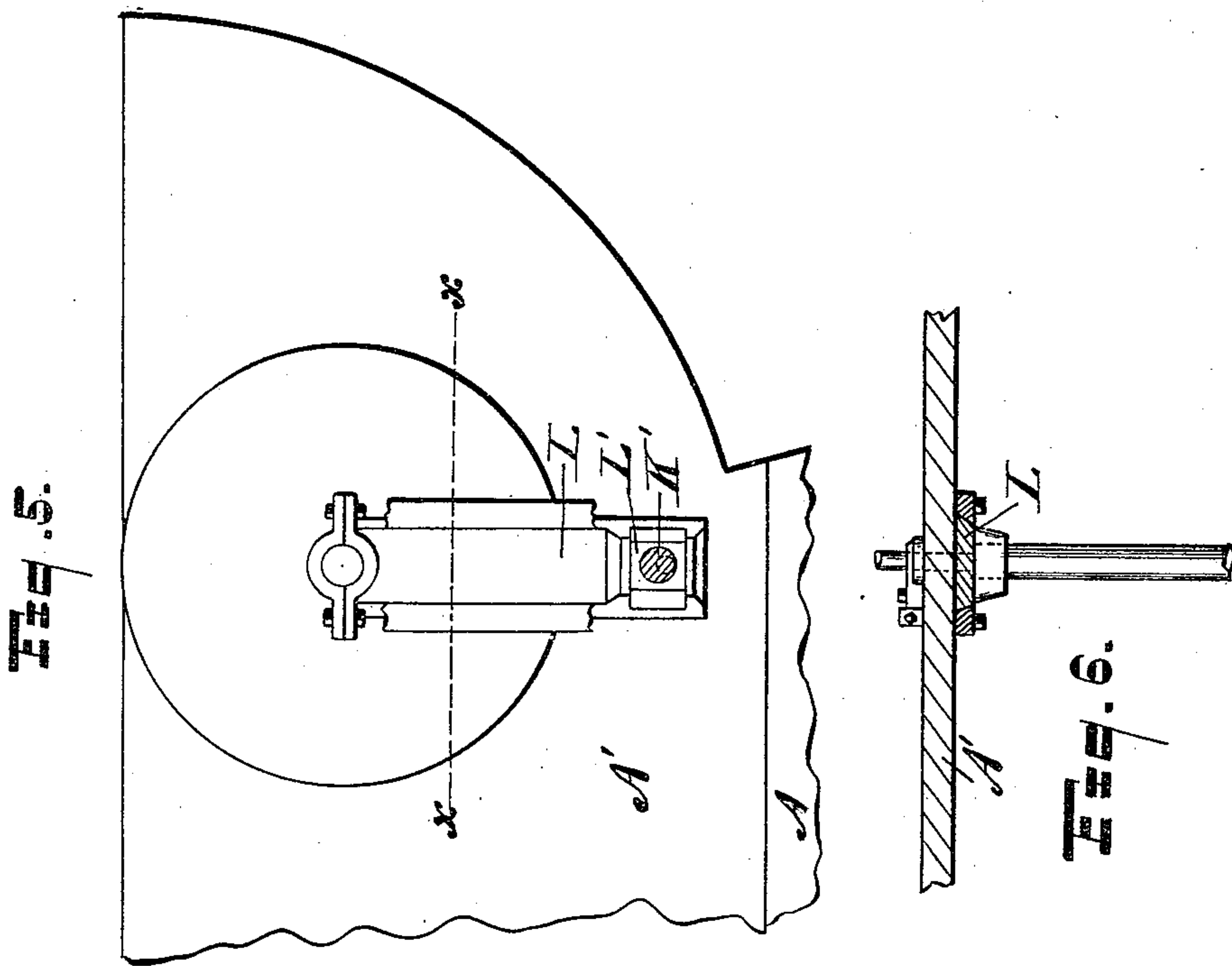
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(No Model.)

6 Sheets—Sheet 5.

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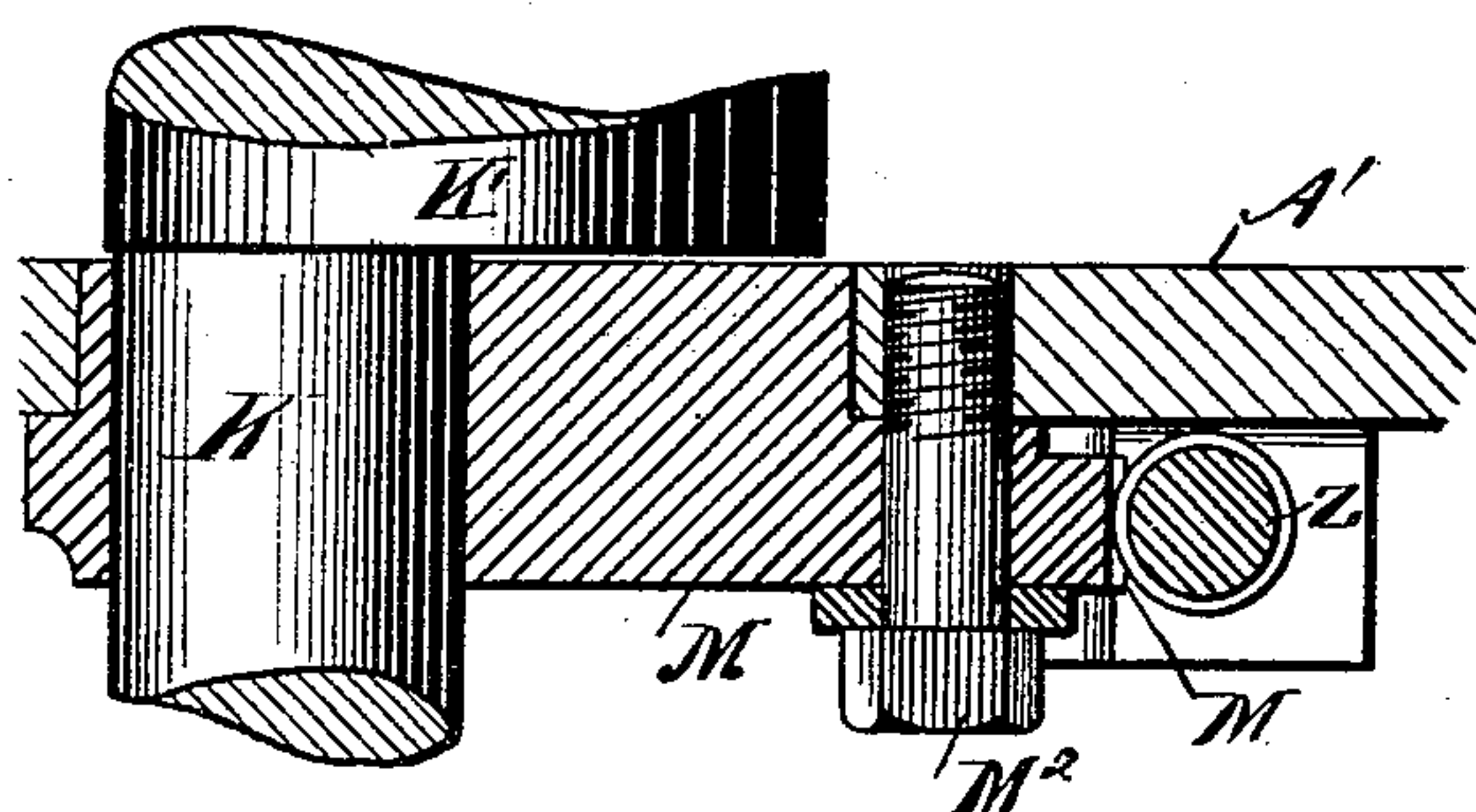


Fig. 11.

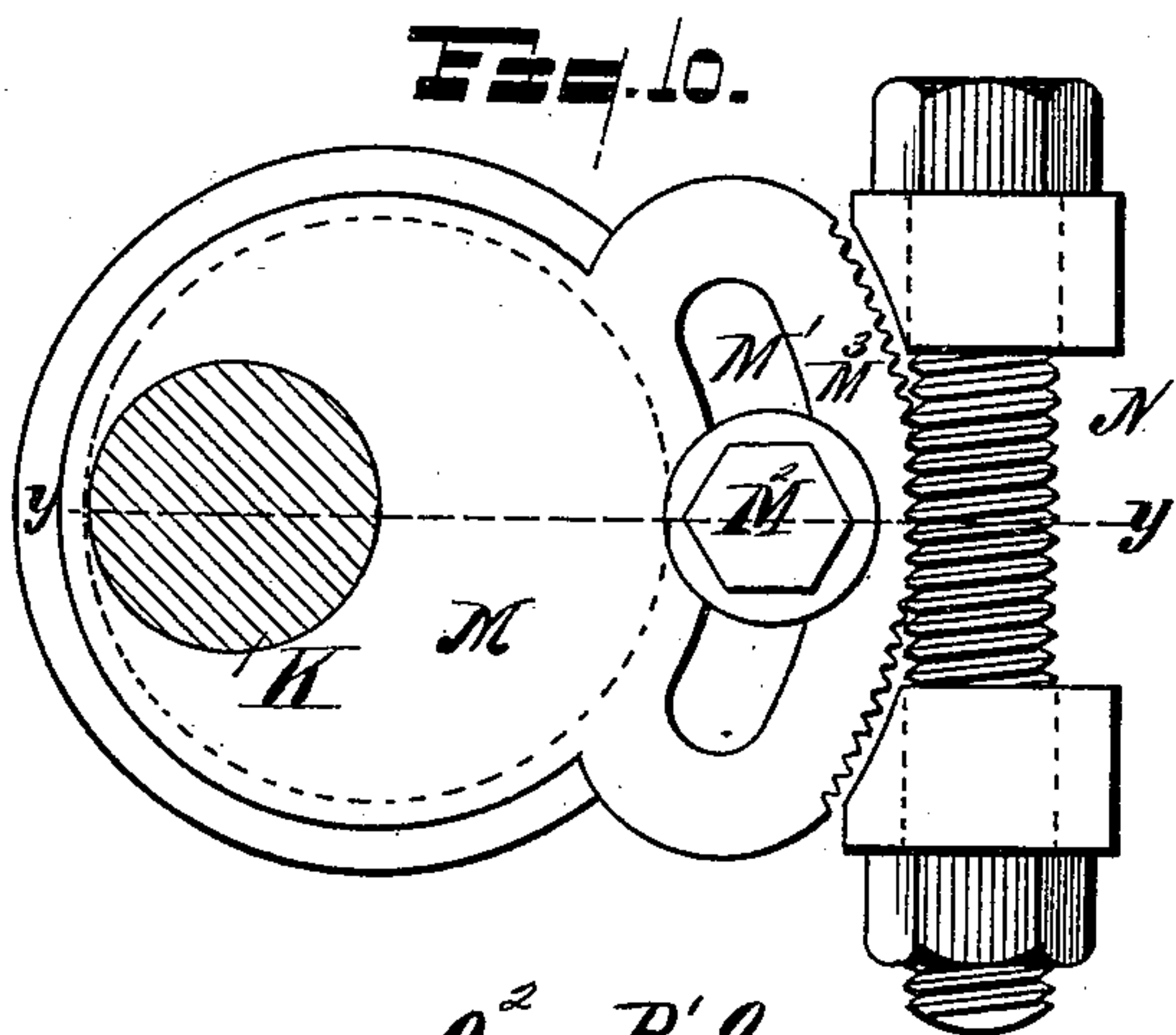


Fig. 10.

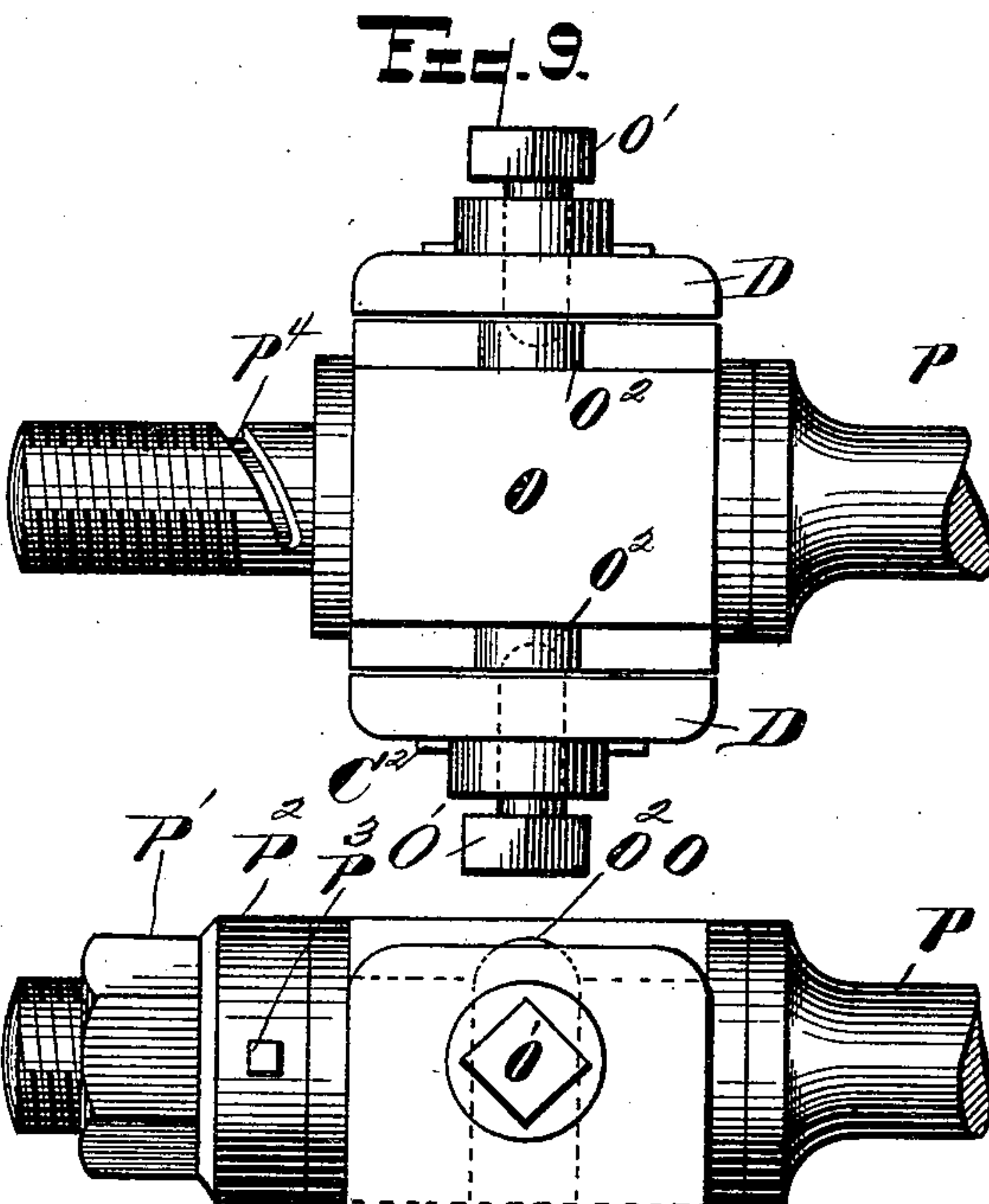


Fig. 9.

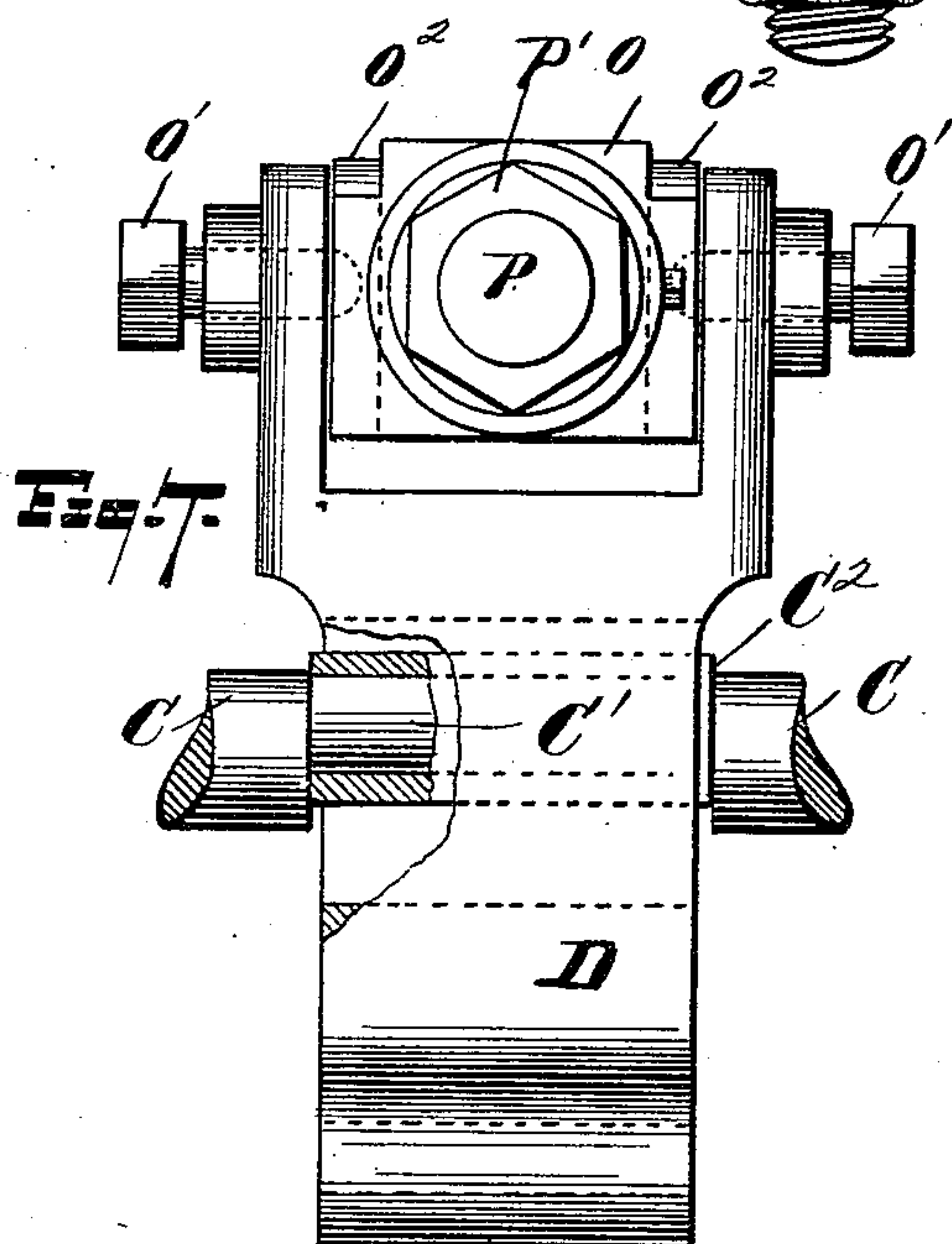


Fig. 7.

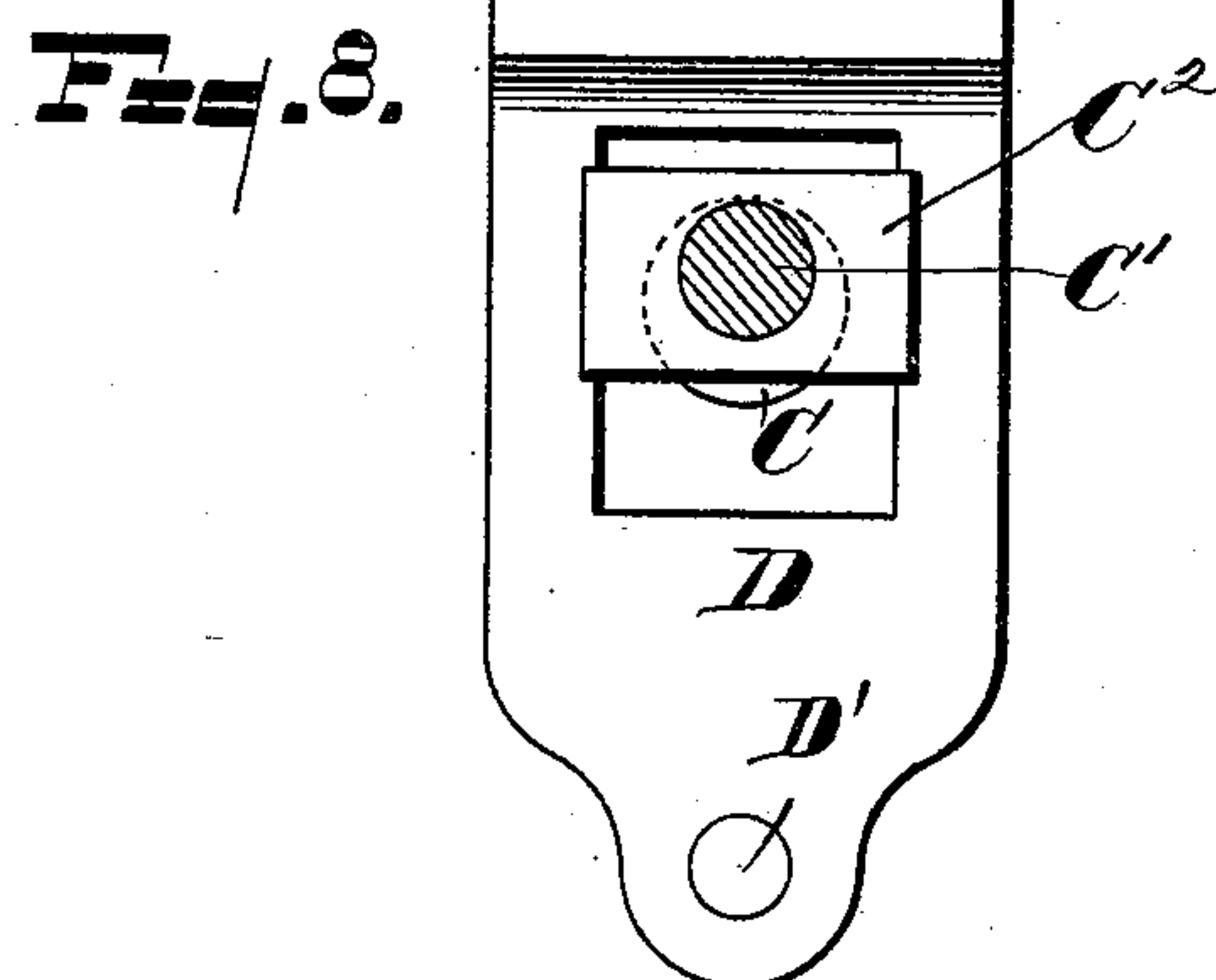


Fig. 8.

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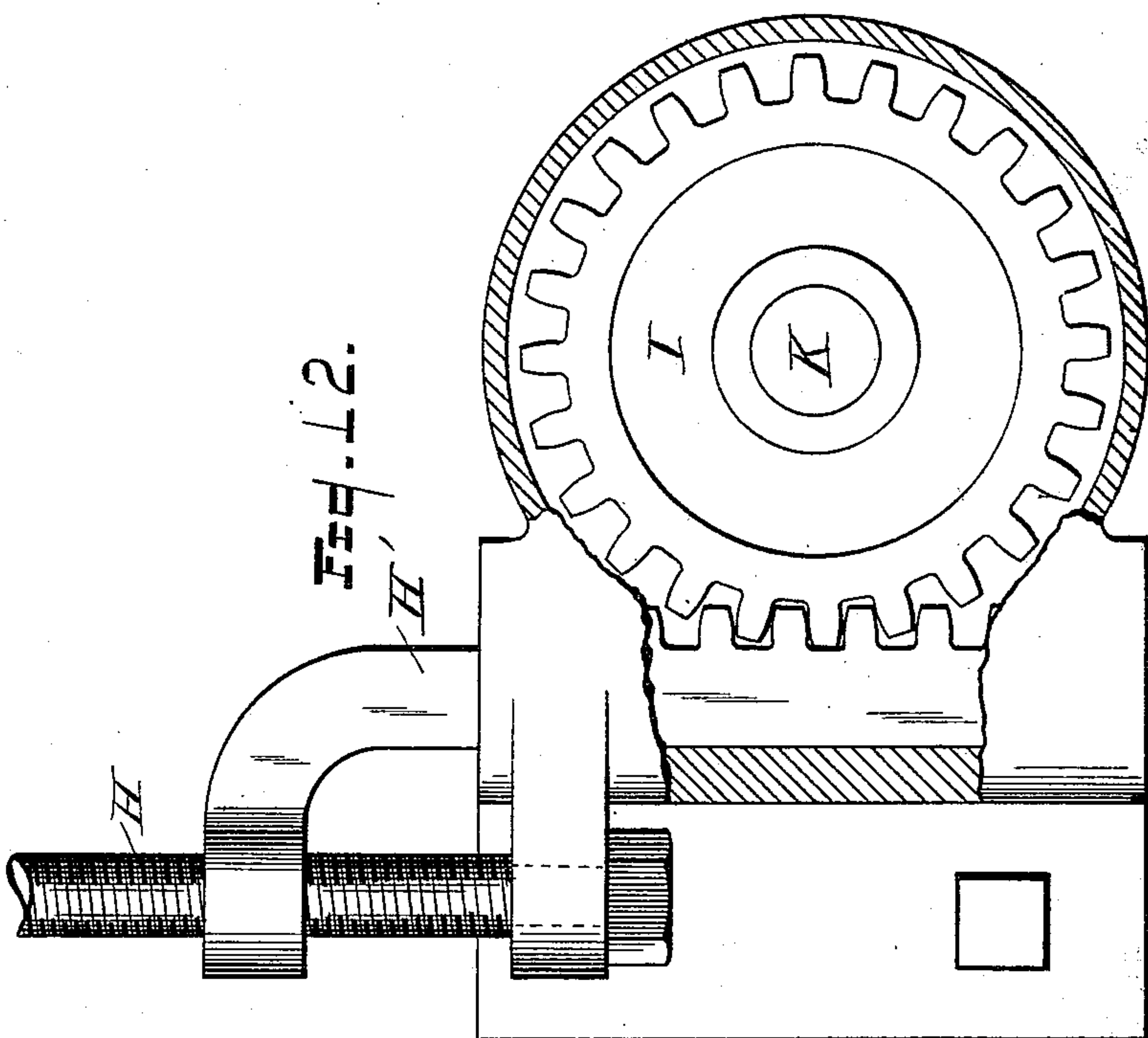
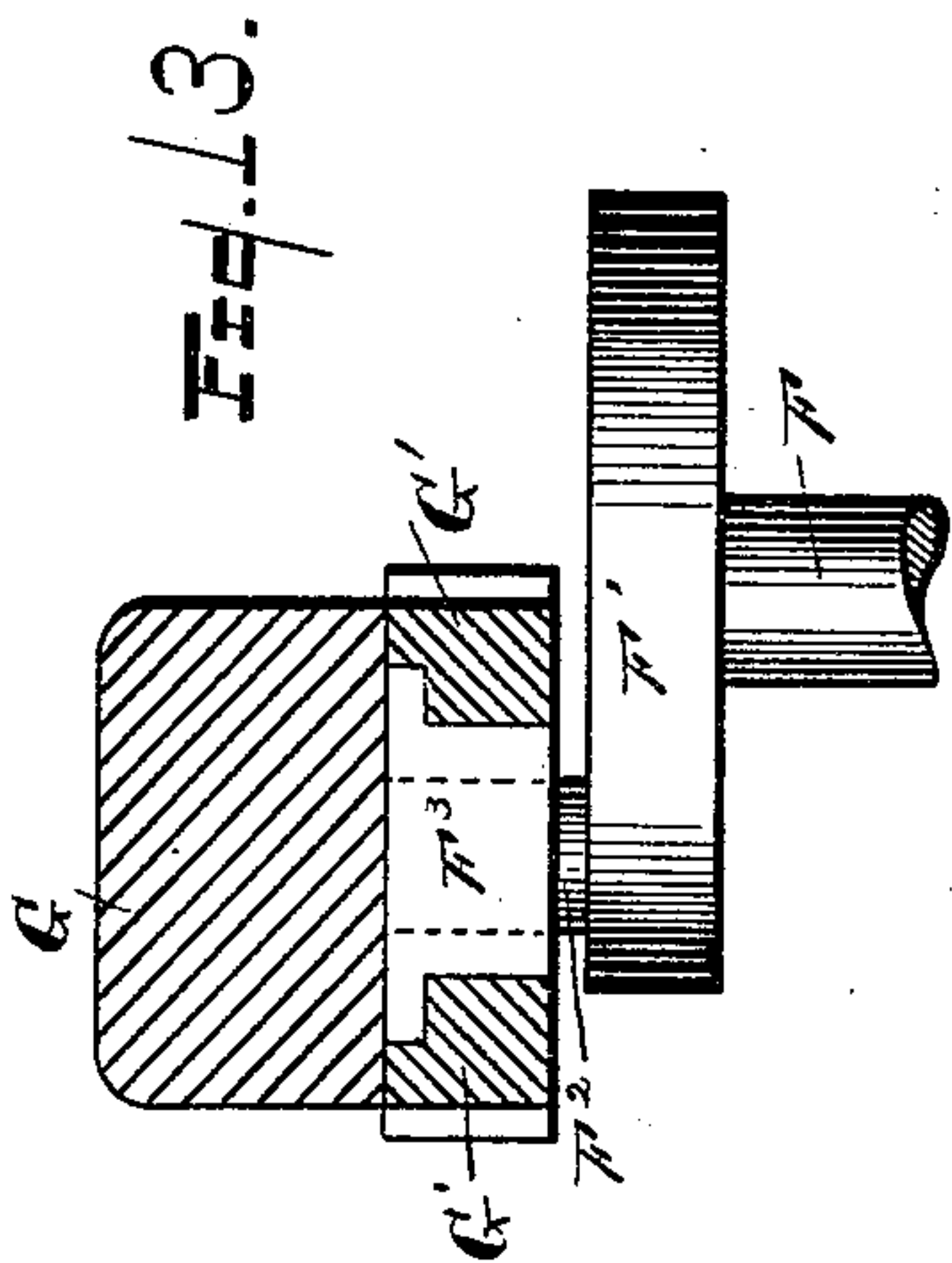
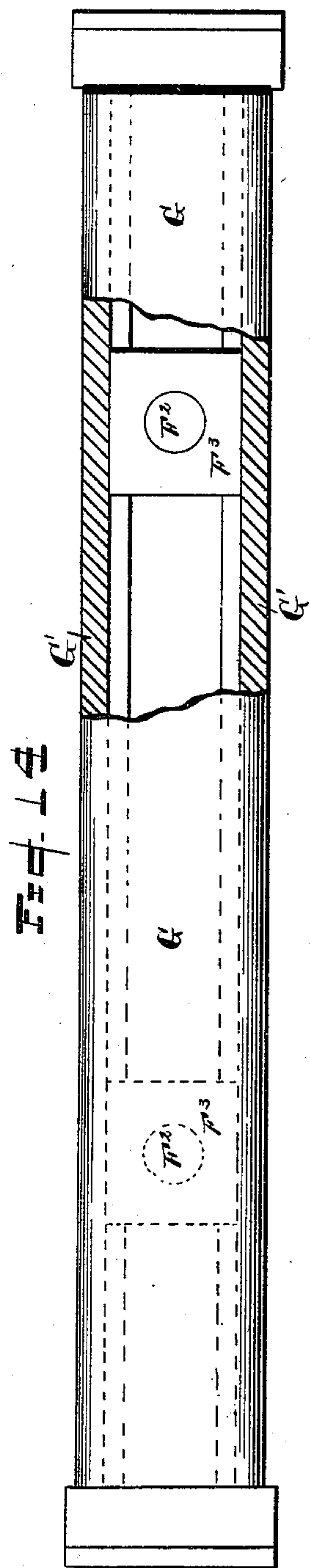
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# UNITED STATES PATENT OFFICE.

JAMES L. PERRY, OF BELOIT, WISCONSIN, ASSIGNOR TO THE BERLIN MACHINE WORKS, OF SAME PLACE.

## WOOD-POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 449,697, dated April 7, 1891.

Application filed August 18, 1889. Serial No. 320,194. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES L. PERRY, of Beloit, in the county of Rock, in the State of Wisconsin, have invented new and useful  
5 Improvements in Wood-Polishing Machines, of which the following is a specification.

This invention relates more particularly to the mechanism for adjusting the abrading cylinder and pads of a wood-polishing machine, and also to that part of the mechanism which gives longitudinal movement to the cylinders, and that which gives motion to the pads.

In the annexed drawings, making a part of  
15 this specification, Figure 1 is a side elevation of the machine, partly in section. Fig. 2 is a similar elevation of the other side. Fig. 3 is an end elevation, partly in section. Fig. 4 is a vertical section of one end of the machine; Fig. 5, a partial inside elevation; Fig.  
20 6, a horizontal section of the parts shown in Fig. 5 on line  $x x$ . Figs. 7, 8, and 9 are views in detail of the oscillator and attachments. Fig. 10 is an elevation, partly in section, of  
25 the adjusting device for leveling the rolls and pads. Fig. 11 is a section of the same on line  $y y$  of Fig. 10. Fig. 12 is an elevation showing the device for simultaneously adjusting both ends of the cylinders and pads. Fig. 13  
30 is a sectional elevation of the mechanism which actuates the pad, and Fig. 14 is a plan view of the same.

The same letters are employed in all the figures in the indication of identical parts.

35 A is the lower and A' the upper part of the main frame.

The driving-power is applied at B to the oscillator-shaft C, which carries eccentrics C', working in the boxes C<sup>2</sup>, communicating oscillatory motion to the oscillator D, which is pivoted at D', at the lower end, to the frame and flexibly connected at the upper to the cylinder-shaft. In this, as in other cases where an eccentric is employed, a crank may  
45 be substituted for the eccentric or other known devices for changing rotary into reciprocating motion.

Motion is communicated from shaft C to shaft E through bevel-wheels E'. Another  
50 smaller bevel-wheel E<sup>2</sup> on the same shaft

drives a shaft F, placed vertically in the frame and carrying a crank-wheel F', (see Fig. 13,) the crank-pin F<sup>2</sup> entering a sliding box F<sup>3</sup>, playing loosely in ways G', formed in the bar of the pad G, to which it communicates a horizontal reciprocating movement in the direction of the length of the machine, while the oscillators D communicate motion to the cylinders in the direction of the width of the machine.

The ends of the pad are confined between the sides of the main frame, as shown in Fig. 1, where the side of the frame is represented as broken away to show the end of the pad G. As the pad can have no movement transversely to the frame and the box has only an end movement in the groove, it follows that the pad will move transversely to its own width and in the direction of the length of the machine.

The following is a description of the mechanism which is employed for independently adjusting the ends of the cylinder-shafts, as well as the pads, both of which are called "abraders," as well as for simultaneously adjusting the cylinders and pads at both ends. H is a vertical rod and hand-wheel for turning it, secured to the frame on the side opposite to the elevators, so that the rod can turn but not move lengthwise. The rod is screw-threaded and passes through an engaging female thread in the end of the rack-bar H', which slides freely up and down in suitable ways on the frame. The teeth on the rack-bar (see Fig. 12) engage those of a spur-pinion I on the shaft K. The shaft K (see Fig. 4) has an eccentric portion K', forming an enlargement between the sides of the frame across which it extends, so as to engage on each side the sliding bars L, which pass up along the inside of the frame and carry the shafts of the cylinders or the ends of the pads, as the case may be, it being understood that the parts are duplicated to whatever extent may be required to actuate simultaneously both ends of each cylinder and each pad. The lower ends of the sliding bars L are formed to receive the boxes L', which inclose the eccentric portion K' of the shafts.

In order that the ends of the cylinders or pads



may be independently adjusted to bring them into plane, a strap M is eccentrically attached to the shaft K at one end thereof where it passes through the frame. On one side the strap is enlarged to permit a slot M' to be cut, as shown in Figs. 10 and 11. Through the slot a set-bolt M<sup>2</sup> passes into the frame. A segmental gear M<sup>3</sup>, of proper form, receives the threads of a bolt N, which passes through lugs on the frame and may be turned by a wrench. Being turned, it will cause the strap to turn on its own center and raise or depress the shaft K, and thereby raises or depresses one end of a cylinder or pad.

The connection between the oscillators and the shafts of the cylinders is made as follows, Figs. 7, 8, and 9: P represents one end of the cylinder-shaft, which is received in a box O, carried in the upper end of the oscillator D, and connected with the same by means of bolts or pivots O', which pass through the jaws on each side at the top of the oscillator and engage the gibs O<sup>2</sup>, which glide in grooves in the sides of the box O. I thus provide a flexible connection between the oscillator, the end of which moves in the arc of the circle, and the box or bearing of the cylinder, which moves in a right line.

The following is the provision for compensating for the wear of the box O at the ends: A thread is cut on the end of the shaft P, on which is a jam-nut P' and a collar P<sup>2</sup>, which surrounds the shaft and is provided with a set-screw P<sup>3</sup>, the inner end of which enters a spiral groove P<sup>4</sup>, cut in the surface of the shaft, as shown in Fig. 9. When the collar is neatly adjusted to the face of box O, the set-screw holds it in place until, when the box may have become worn at the end, the set-screw P<sup>3</sup> is turned enough to free the collar, which is forced against the box by turning it on the shaft, the point of the set-screw being engaged in the spiral groove, and is again

secured in place by turning the set-screw. A collar on the shaft inside the box confines it and sustains the pressure of the box when forced inward by the collar P<sup>2</sup>, which holds the box against the inside collar.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the oscillator D, the box O, held in jaws in the end of the oscillator, and bolts or pivots O', and gibs O<sup>2</sup>, sliding in grooves formed in the box, substantially as set forth.

2. In a wood-polishing machine, the combination, with a polishing-pad G, mounted in and held against longitudinal movement by the frame of the machine and provided with longitudinal ways, a box F<sup>3</sup>, arranged to slide in said ways, and a rotary shaft F, provided with a crank, the crank-pin F<sup>2</sup> of which is seated in the box F<sup>3</sup>, substantially as and for the purpose set forth.

3. In combination with an abrader, its supporting-arms and eccentric-shaft, the parts H, H', and I for simultaneously adjusting the shaft at both ends, and the parts M, M<sup>3</sup>, and N for independently adjusting it at one end, substantially as set forth.

4. In combination with an abrader, arms L and eccentric, an eccentric-strap M, segmental gear M<sup>3</sup>, and threaded bolt N for adjusting one end of the abrader, substantially as set forth.

5. In combination with a cylinder and oscillator, a shaft P, box O, collar P<sup>2</sup>, pin P<sup>3</sup>, spiral groove P<sup>4</sup>, and jam-nut P', substantially as set forth.

In witness whereof I have hereunto attached my signature in the presence of two subscribing witnesses.

JAMES L. PERRY.

In presence of—

R. MASON,  
L. D. FORBES.