

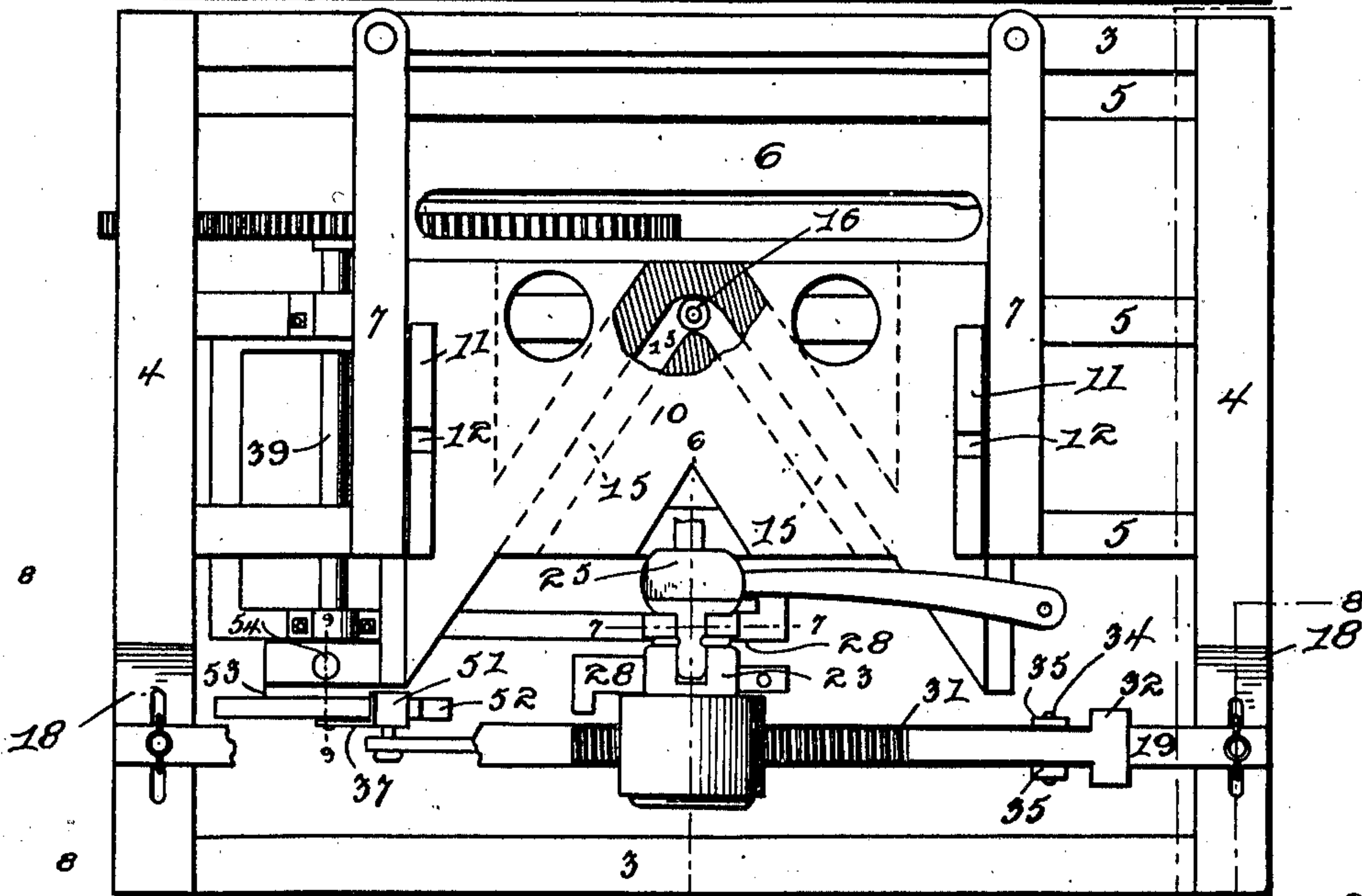
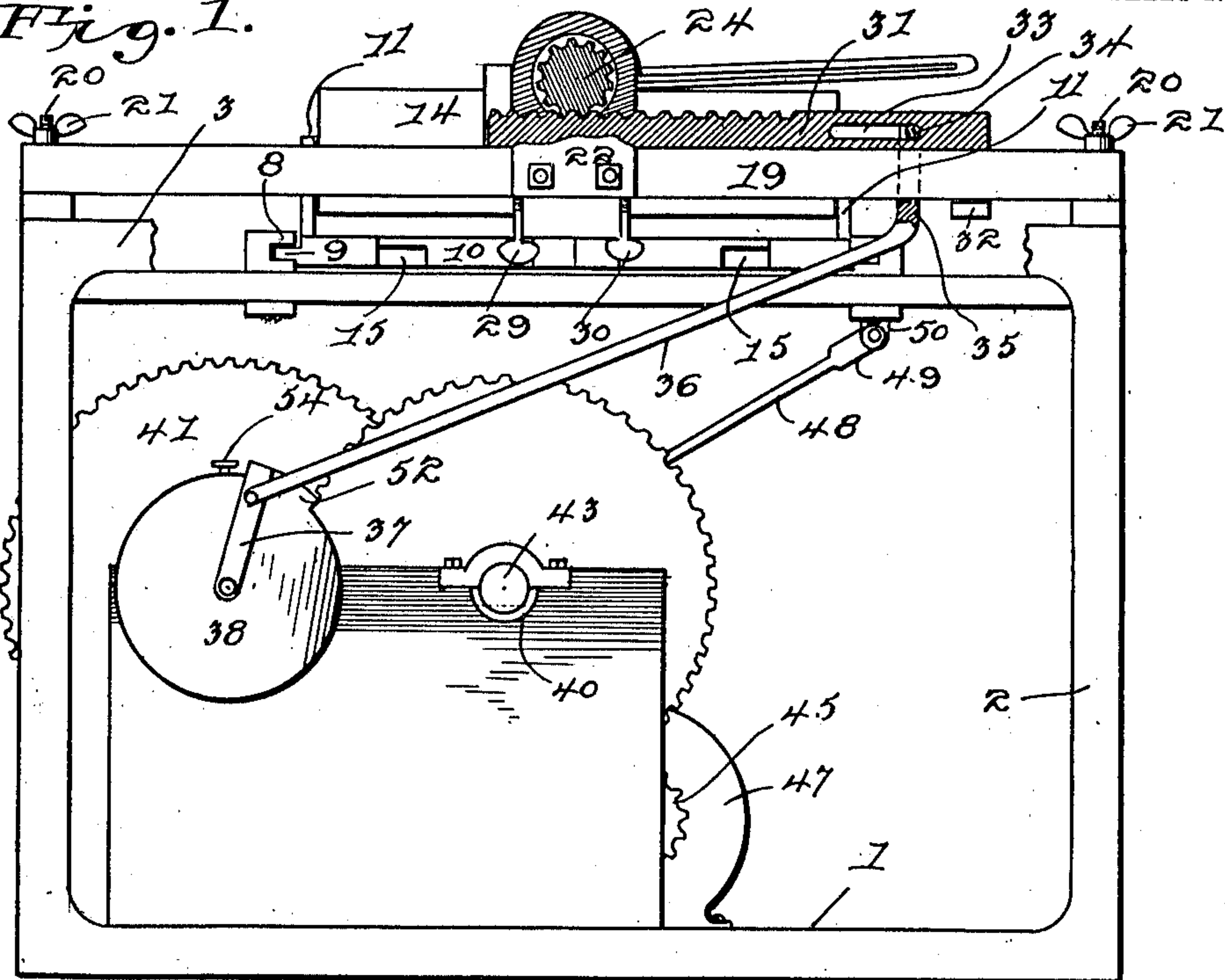
J. D. TIPTON.
HONING AND STROPPING MACHINE.
APPLICATION FILED MAY 27, 1909.

956,001.

Patented Apr. 26, 1910.

3 SHEETS-SHEET 1.

Fig. 1.



Witnesses *Fig. 2.*
J. Wells
H. J. Woodruff

Inventor
James D. Tipton.
By *E. E. Trooman,*
his Attorney.

J. D. TIPTON.
HONING AND STROPPING MACHINE.
APPLICATION FILED MAY 27, 1909.

956,001.

Patented Apr. 26, 1910.

3 SHEETS—SHEET 2.

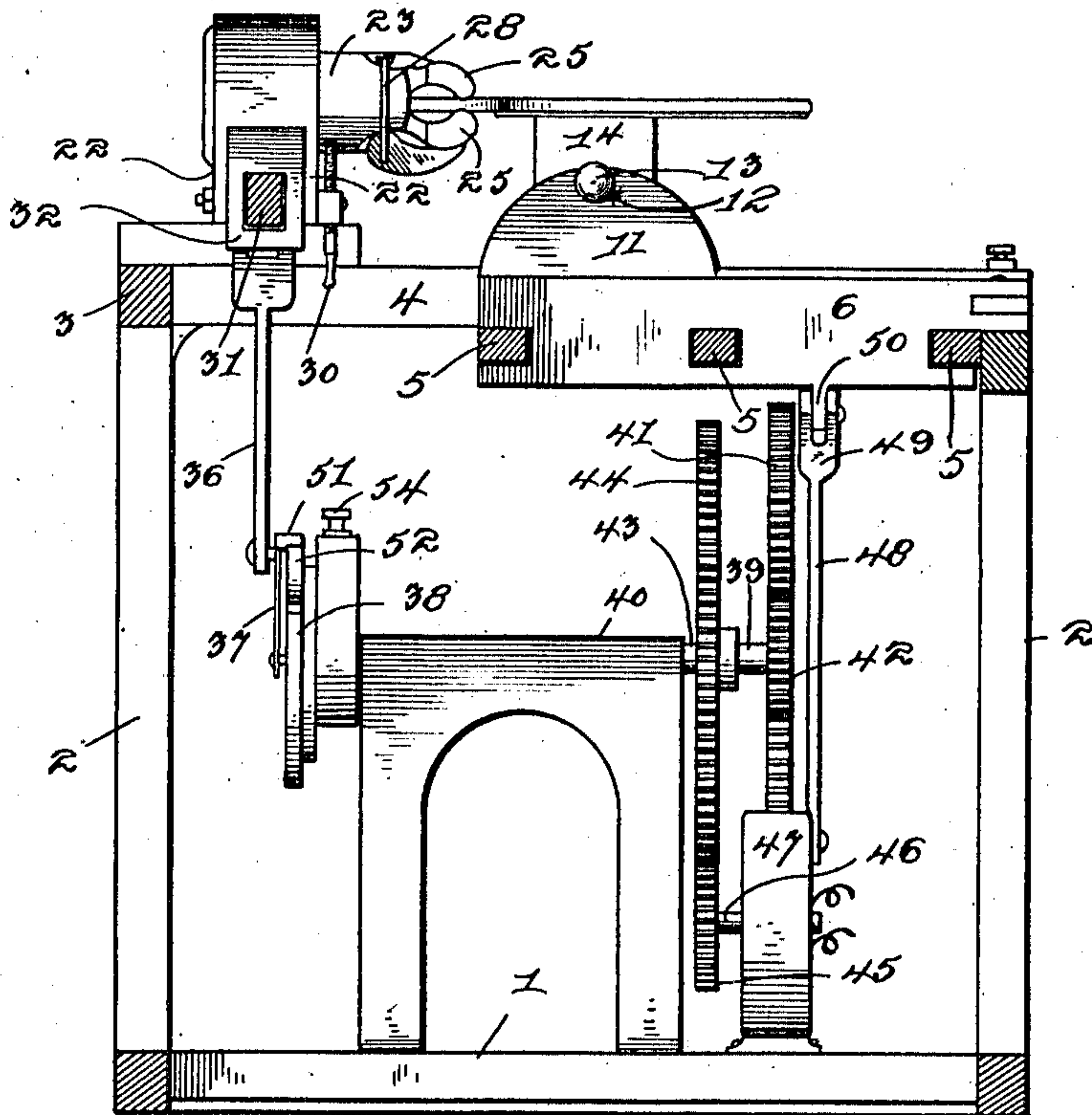


Fig. 3.

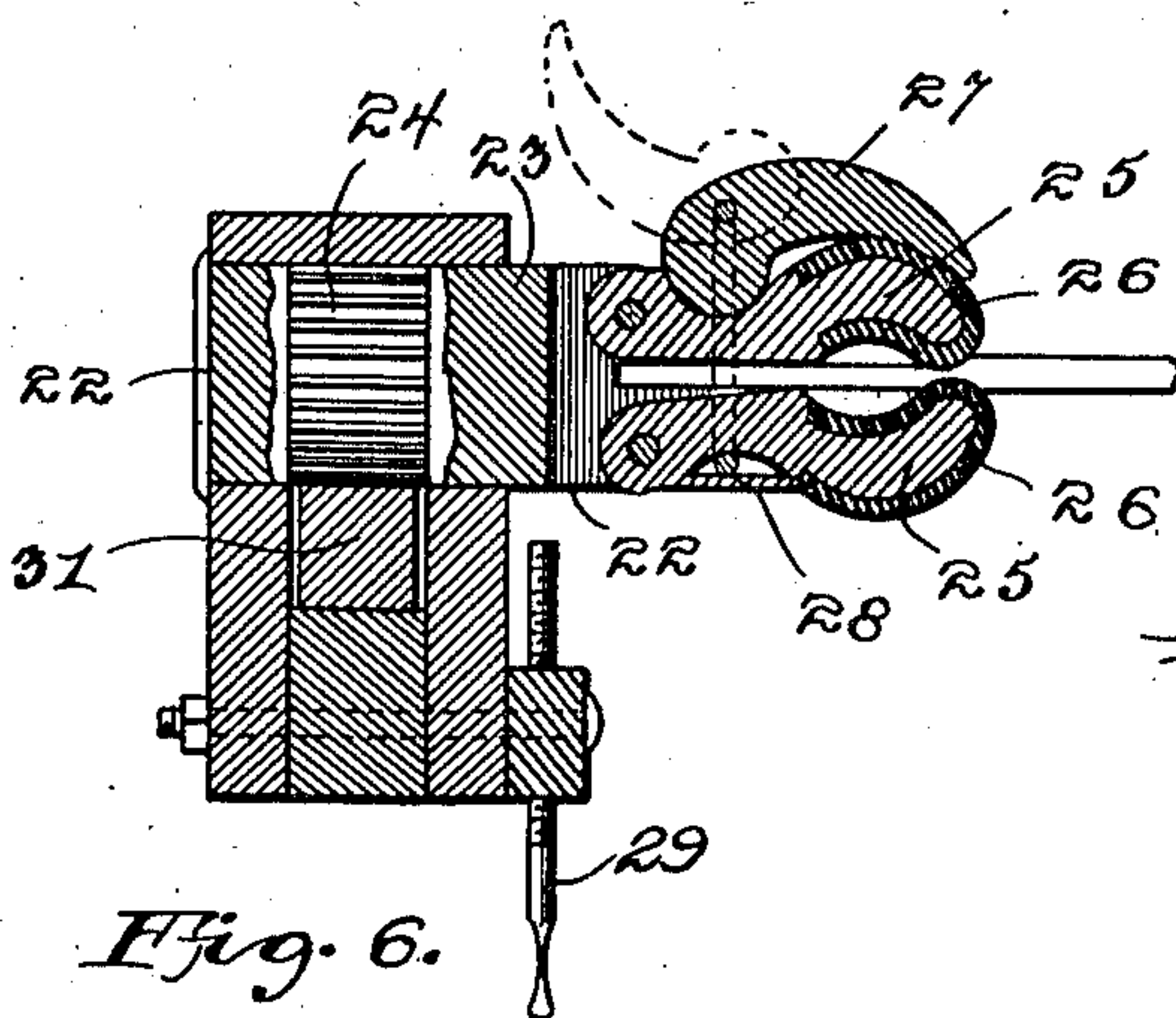


Fig. 6.

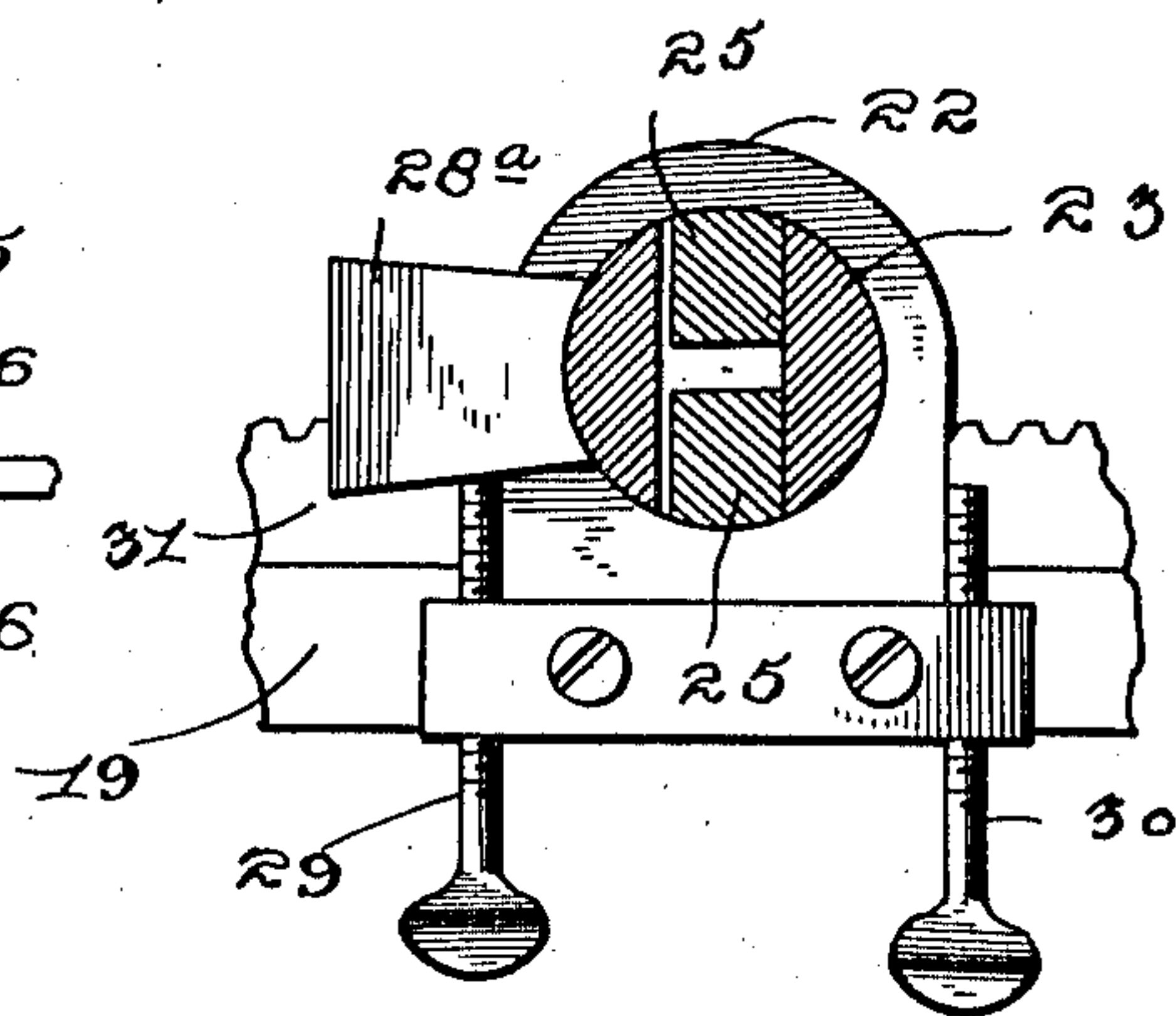


Fig. 7.

Witnesses
J. W. Wells
H. J. McDonald

Inventor
James D. Tipton.
By E. C. Trooman,
his Attorney.

J. D. TIPTON.
HONING AND STROPPING MACHINE.
APPLICATION FILED MAY 27, 1909.

956,001.

Patented Apr. 26, 1910.

3 SHEETS—SHEET 3.

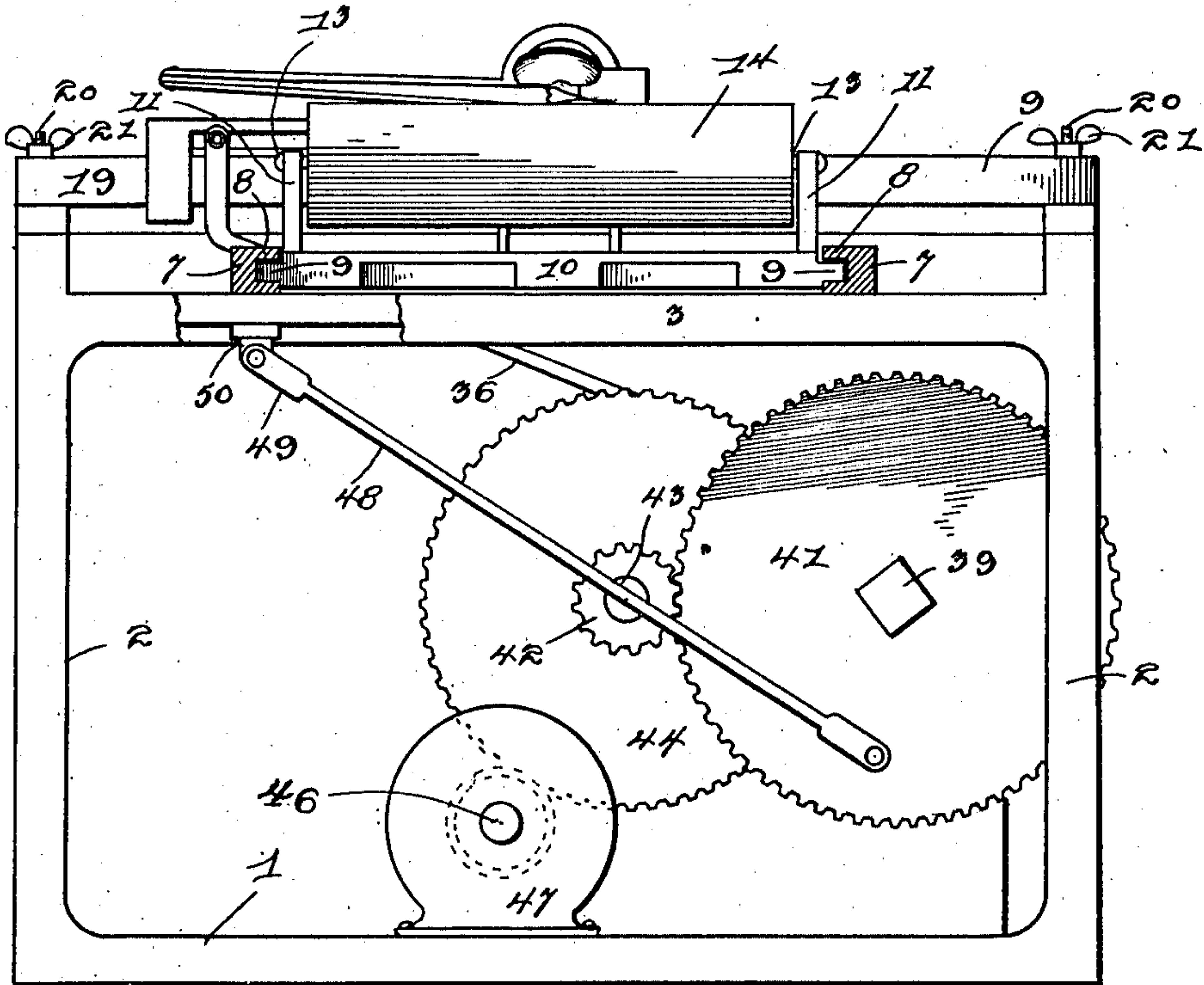


Fig. 4.

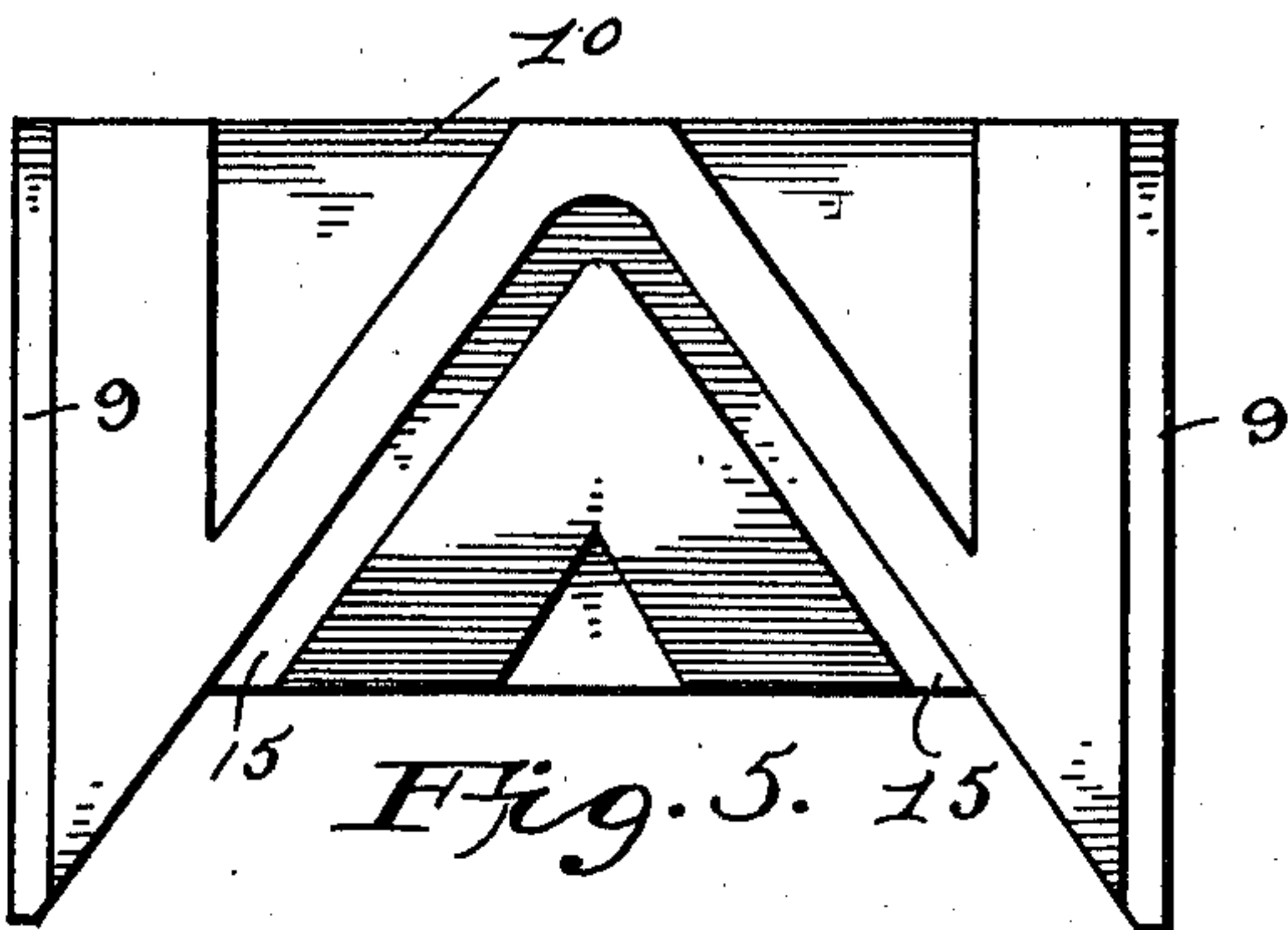


Fig. 5.

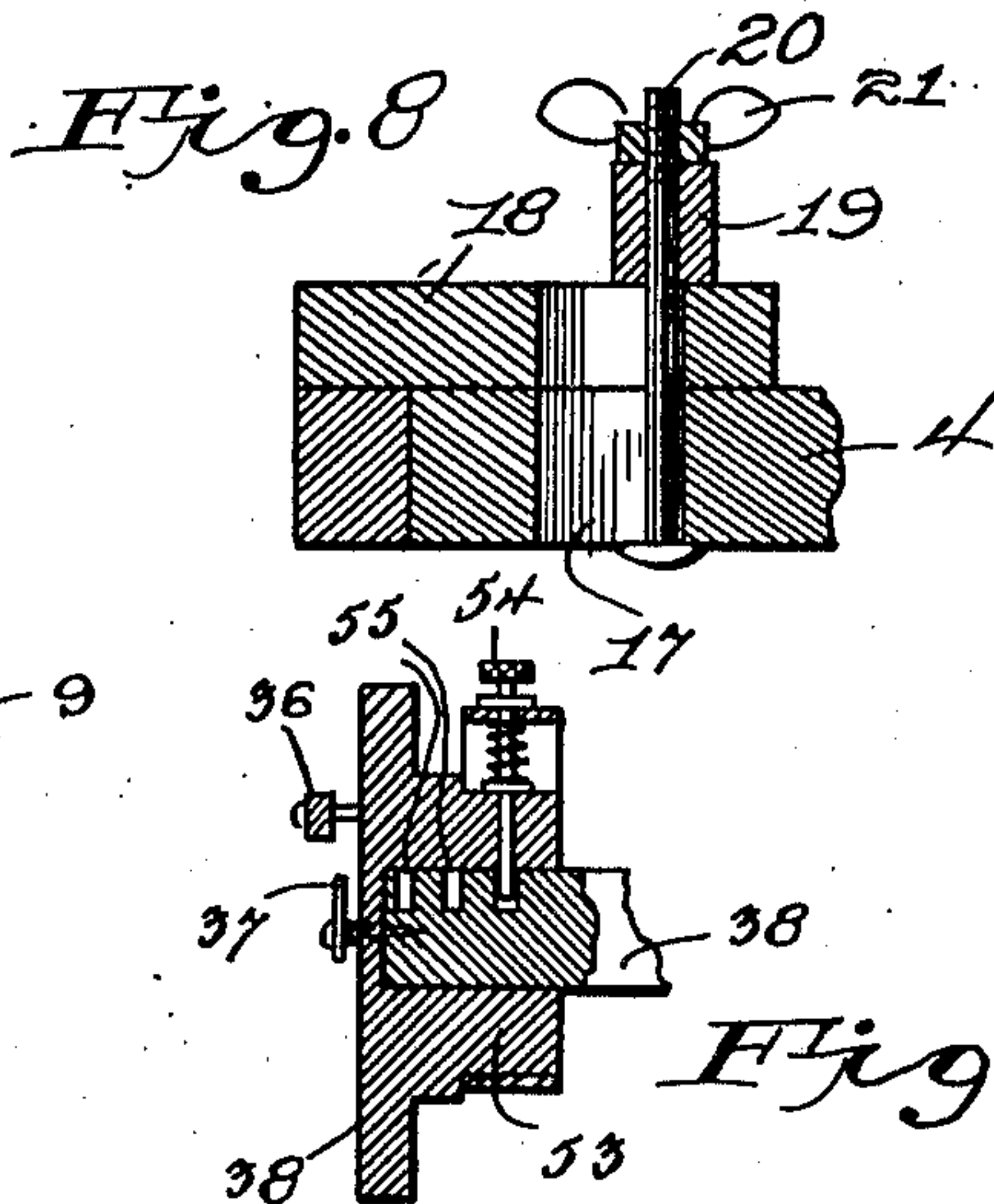


Fig. 8.

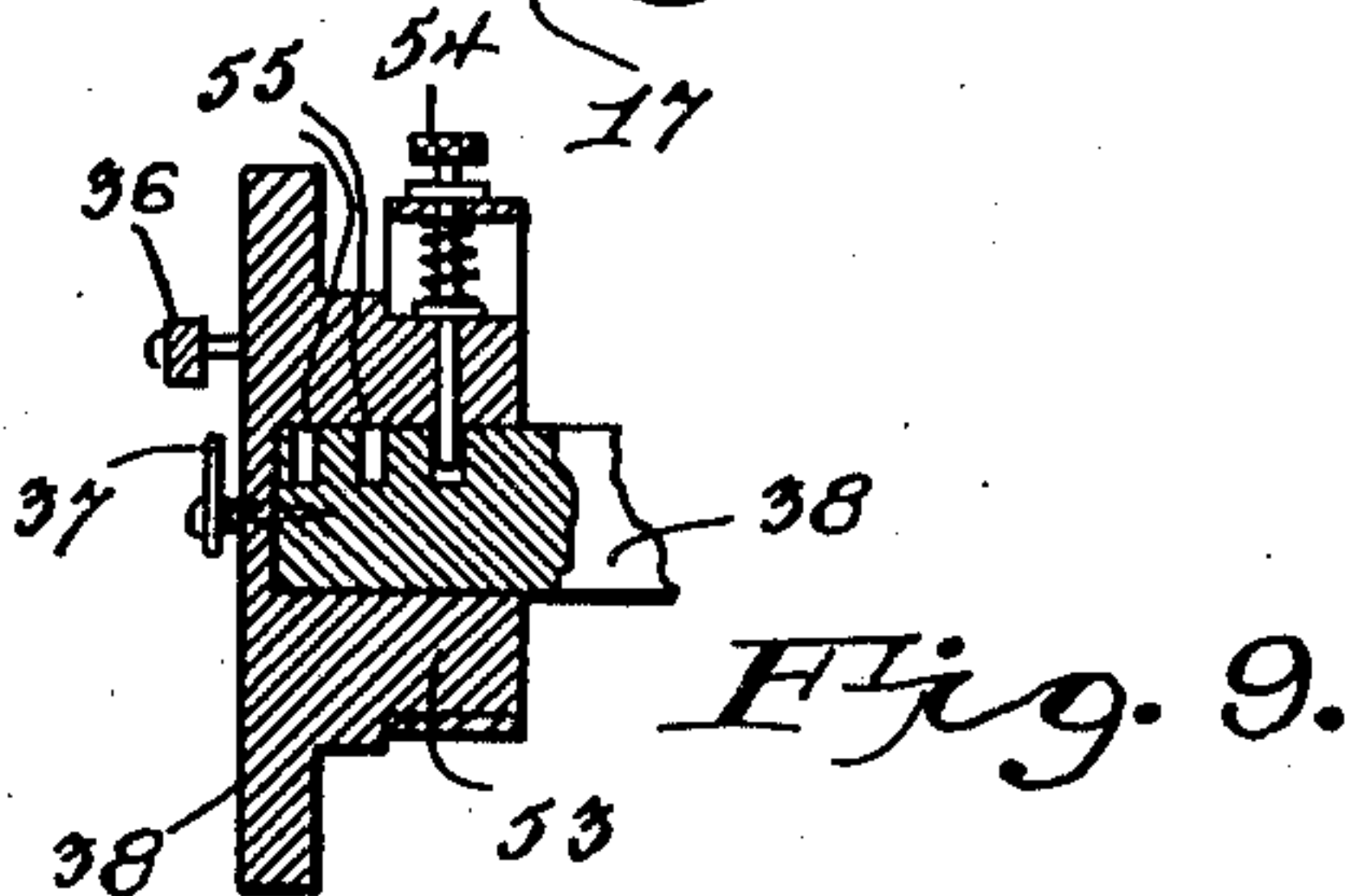


Fig. 9.



Fig. 10.

Witnesses
J. W. Will
H. J. Wood

Inventor
James D. Tipton.
By E. C. Tipton
his Attorney.

UNITED STATES PATENT OFFICE.

JAMES DAVID TIPTON, OF COFFEYVILLE, KANSAS.

HONING AND STROPPING MACHINE.

956,001.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed May 27, 1909. Serial No. 498,759.

To all whom it may concern:

Be it known that I, JAMES DAVID TIPTON, a citizen of the United States, residing at Coffeyville, in the county of Montgomery and State of Kansas, have invented certain new and useful Improvements in Honing and Stropping Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to machines for sharpening razors and other edged tools, and the principal object of the same is to provide the machine with a novel type of sharpener carrying mechanism which coöperates with a razor operating mechanism so as to assure of the razor being properly sharpened.

In carrying out the objects of the invention generally stated above it is contemplated employing a reciprocating carrier across which a sharpener carrier reciprocates to act upon the blade of a razor held in a holder which is automatically rotated at the end of each stroke of the sharpener carrier to reverse the position of the said razor blade.

It will be understood, of course, that in the practical application of the invention, the essential features of the same are susceptible of changes in details and structural arrangements, one preferred and simple embodiment of which is shown in the accompanying drawings, wherein—

Figure 1 is a view in front elevation of the improved sharpening machine, part of the same being shown in section to illustrate the razor-rotating or turning mechanism. Fig. 2 is a top plan view, the sharpener being removed. Fig. 3 is a vertical sectional view, taken on the line 3—3, Fig. 2. Fig. 4 is a rear elevation, part of the same being broken away to show the guides for the sharpener carrier. Fig. 5 is a detail plan view of the sharpener carrier. Fig. 6 is a detail vertical sectional view taken on the line 6—6, Fig. 2. Fig. 7 is a similar view taken on the line 7—7, Fig. 2. Fig. 8 is a detail sectional view taken on the line 8—8, Fig. 2. Fig. 9 is a similar view taken on the line 9—9, Fig. 2. Fig. 10 is a detail broken view showing the roller for moving the sharpener carrier.

Referring to said drawings, it will be seen that the improved sharpening machine consists of a frame composed of a bottom 1 and four corner standards 2. The upper

ends of said standards are connected by the longitudinal side members 3 and transverse end members 4, arranged to form a substantially rectangular open frame.

The end members form supports for a plurality of guide bars or rods 5, said rods or bars being equally spaced apart. A carriage 6 is slidably mounted on said bars 5 and is guided in its reciprocations by the same. Said carriage carries transversely arranged end members 7 which are longitudinally grooved as indicated at 8 for the reception of end tongues 9 of a horizontally slidable sharpener carrier 10. Said sharpener carrier 10 is provided with oppositely disposed upstanding bearing blocks 11 each provided with a vertical slot 12 for the reception of the end shafts 13 of a sharpening member 14. Said member 14 has four flat sides which are adapted for honing and stropping, either side of which may be turned up by means of the described manner of mounting the stone. The undersurface of the sharpener carrier 10 is provided with a substantially V-shaped guiding slot 15 which engages with a roller 16 carried by and projecting from one of the guiding rods 5.

The forward ends of the members 4 are each longitudinally slotted as indicated at 17 and have a similarly slotted block 18 mounted on them the slot of which registers with the slot in said members. A supporting and guiding rod or bar 19 has its ends held in adjustable and detachable engagement with the slotted portions of said blocks and said members by means of the thumb nuts and bolts 20—21. The central portion of said rod or bar 19 carries spaced apart upstanding bearings 22 for a shaft 23 which has mounted on it between said bearings a pinion 24. The inner end of said shaft 23 carries a pair of opposed gripping jaws 25 the gripping surfaces of which are covered by rubber or like yielding material 26. Said jaws are pivotally mounted on said shaft and are held in locked relation by means of a cam lever 27 having a bail or other pivotal connection 28 with the shaft 23. Said shaft 23 carries a laterally projecting weighted lug 28^a which contacts with adjustable abutments 29—30 mounted in and projecting through one of the upstanding bearings 22 and arranged on opposite sides of said shaft, to limit said shaft's rotation as will be obvious.

The bearings 22 retain the shaft 23 suffi-

ciently spaced from the bar 19 so that its pinion 24 may be rotated by a rack 31 slidable on said bar 19 and between said bearings. Said rack has a yoke engagement 32 at one end with said bar 19 and intermediate said end is provided with a longitudinal slot 33 which extends transversely through the body of said rack and which is engaged by a connecting member 34 of a pair of crank arms 35 having a pivotal connection with one end of a pitman 36 the other end of which is in pivotal engagement with a crank arm 37 pivotally mounted on a cam wheel 38 mounted on a shaft 39 supported in bearings 40 carried by the bottom of the frame of the machine. Said shaft 39 carries another gear 41 which is in mesh with a pinion 42 mounted on a power shaft 43 which carries a larger gear 44 held in mesh with a pinion 45 mounted on a shaft 46 carried by a motor 47. The gear 41 carries a pitman 48 having a bifurcated end 49 which has a pivotal engagement with an ear 50 projecting from the underside of the carriage 6.

The crank arm 37 is loosely mounted on the cam wheel 38 and is provided with an inturned end 51 which projects over the periphery of said wheel and in the path of movement of a cam projection 52 thereon so that when said projection contacts with said crank arm, the pitman 36 will be actuated to slide the rack 31 so as to cause the pinion 24 to rotate the shaft 23, and thereby reverse the position of the gripping jaws 25. Said cam wheel 38 is provided with a hub 53 which fits over the end of shaft 39, so that said wheel may be adjusted by means of the spring pressed thumb screw or pin 54 which passes through said hub 53 and is adapted for engagement with any one of the openings 55 formed transversely in said shaft 39, as is shown more clearly in Fig. 9.

In operation the razor or other tool or instrument to be sharpened is clamped between the gripping jaws 25 by means of the cam lever (see Fig. 6) with its blade projecting across the sharpener. The motor 47 being operated, the pitman 48 will reciprocate the carrier 6 longitudinally of the frame, and the sharpener carrier slidably mounted thereon will be reciprocated transversely of said carriage by means of its slot and roller engagement with the guide member 5, thereby causing the sharpener to have an elliptical movement so as to assure of the blade being properly treated. As the carriage reaches the end of its longitudinal stroke, the crank arm 37 will be engaged by the projection 52 of the cam wheel 38 and cause the pitman 36 to slide the rack while in contact with the pinion 24 on the shaft 23, and thereby reverse the position of the razor so that it will be in position to be treated by the return movement of the carrier.

It will be obvious that the adjustable mounting of the ends of the bar 19 upon the frame is for the purpose of adjusting the same relative to the movable parts of the frame to compensate for the size of the tool or instrument being sharpened.

What I claim as my invention is:—

1. A machine of the character described comprising a longitudinally slidable carriage, a sharpener carrier transversely slidable thereon, a sharpener mounted on said carrier, a tool holder for holding a blade across said sharpener, and means for turning said holder when the carriage reaches the end of its longitudinal stroke.

2. A machine of the character described comprising a frame, a carriage mounted for longitudinal reciprocation therein, a sharpener carrier mounted for transverse reciprocation on said carriage, a sharpener carried by said carrier, a tool holder for holding a blade across said sharpener, a motor for reciprocating said carriage, and means operated by said motor for reversing said holder when the carriage reaches the end of its stroke.

3. A machine of the character described comprising a frame, a carriage mounted therein, means for reciprocating said carriage, a sharpener carrier mounted on said carrier and reciprocated transversely thereof by the movement of said carriage, a tool holder for holding a blade across said carrier, a sharpener carried by said carrier, and means for reversing said holder when the carriage reaches the end of its stroke.

4. A machine of the character described comprising a frame, guide rods carried thereby, a carriage mounted on said frame and slidable on said guide rods, means for reciprocating said carrier, a sharpener carrier mounted on said carriage, means for reciprocating said carrier transversely of said carriage, a sharpener carried by said carrier, a tool holder for holding a blade across said sharpener, and means for reversing said holder when the carriage reaches the end of its stroke.

5. A machine of the character described comprising a frame, a carriage mounted thereon, means for reciprocating said carriage, a sharpener carrier mounted for transverse reciprocation on said carriage, a guide bar extending across said frame, a shaft mounted thereon and provided with gripping arms, a rack slidable on said bar, and means for actuating said rack at the end of the stroke of the carriage to cause said shaft to reverse the position of the gripping arms.

6. A machine of the character described comprising a longitudinally reciprocating carriage, a carrier mounted thereon for transverse reciprocation, a sharpener carried thereby, a reversible tool holder for holding a blade across said sharpener, and

a motor for reciprocating the carriage and also causing said tool holder to reverse when the said carriage reaches the end of its stroke.

5 7. A machine of the character described comprising a longitudinally reciprocating carriage, a carrier mounted thereon and moved transversely thereof by the move-
10 ments of said carriage, a tool holder for holding a blade across said carrier, a sharpener carried by said carrier, and means for automatically reversing the position of said holder when the carriage reaches the end of its longitudinal stroke.

15 8. A machine of the character described comprising a frame, a carriage mounted thereon, means for longitudinally reciprocating said carriage, a sharpener carrier mounted on said carriage, means for trans-
20 versely reciprocating said carrier as the carriage is reciprocated, a tool holder carried by said frame for holding a blade across said carrier, a sharpener carried by the carrier, and means for reversing the holder when
25 the carriage reaches the end of its longitudinal stroke.

9. A machine of the character described comprising a frame, a motor carried there-
30 by, a carriage mounted on said frame, a pitman connection between said motor for longitudinally reciprocating said carriage, a sharpener carrier mounted on said car-

riage and provided with a guide slot, a roller carried by the frame for engagement with said slot to reciprocate the carrier trans- 35
versely of said carriage, a sharpener carried by the carrier, a tool holder carried by the frame for holding a blade across said sharpener, and a pitman connection between said motor and said tool holder for reversing the 40
position of the holder when the carriage reaches the end of its stroke.

10. A machine of the character described comprising a frame, a carriage mounted thereon, a carrier mounted on said carriage, 45
a motor for reciprocating said carriage, means for transversely reciprocating said carrier, a sharpener carried by the carrier, a guide bar extending across the frame, a shaft mounted thereon, holding jaws pivoted 50
to said shaft for holding a tool blade across said sharpener, a pinion carried by said shaft, a rack slidable on said guide bar, and a pitman connection between said motor and
55 said rack to cause the said rack to rotate said pinion when the said carriage reaches the end of its stroke.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JAMES DAVID TIPTON.

Witnesses:

PINT SILER,
CLYDE W. SMITH.