

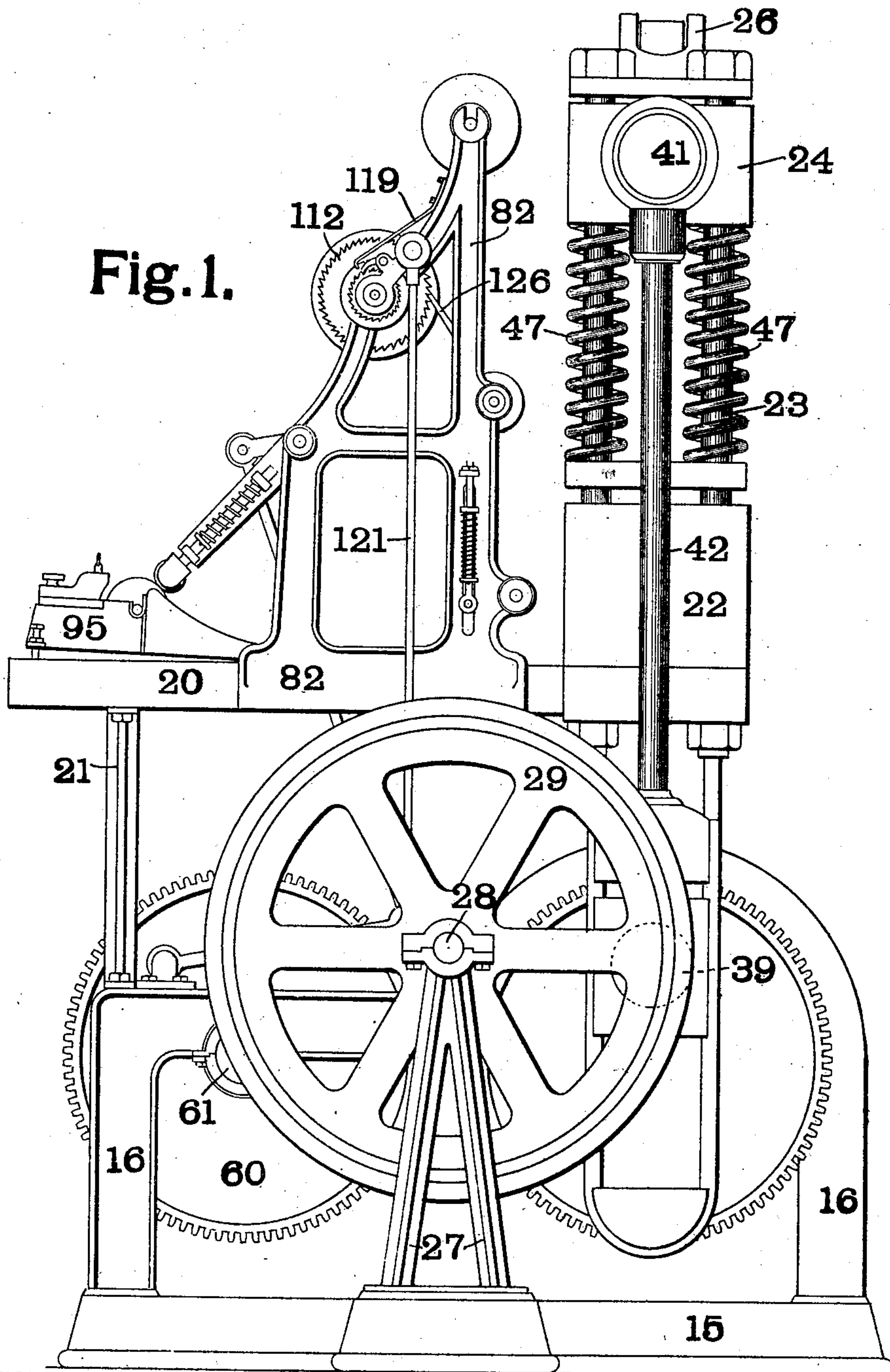
No. 842,865.

PATENTED FEB. 5, 1907.

S. CURTIS,  
EMBOSSING PRESS.

APPLICATION FILED MAR. 24, 1906.

4 SHEETS—SHEET 1.



**WITNESSES:**

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S. G. Stout.

**INVENTOR**

# Samuel Curtis

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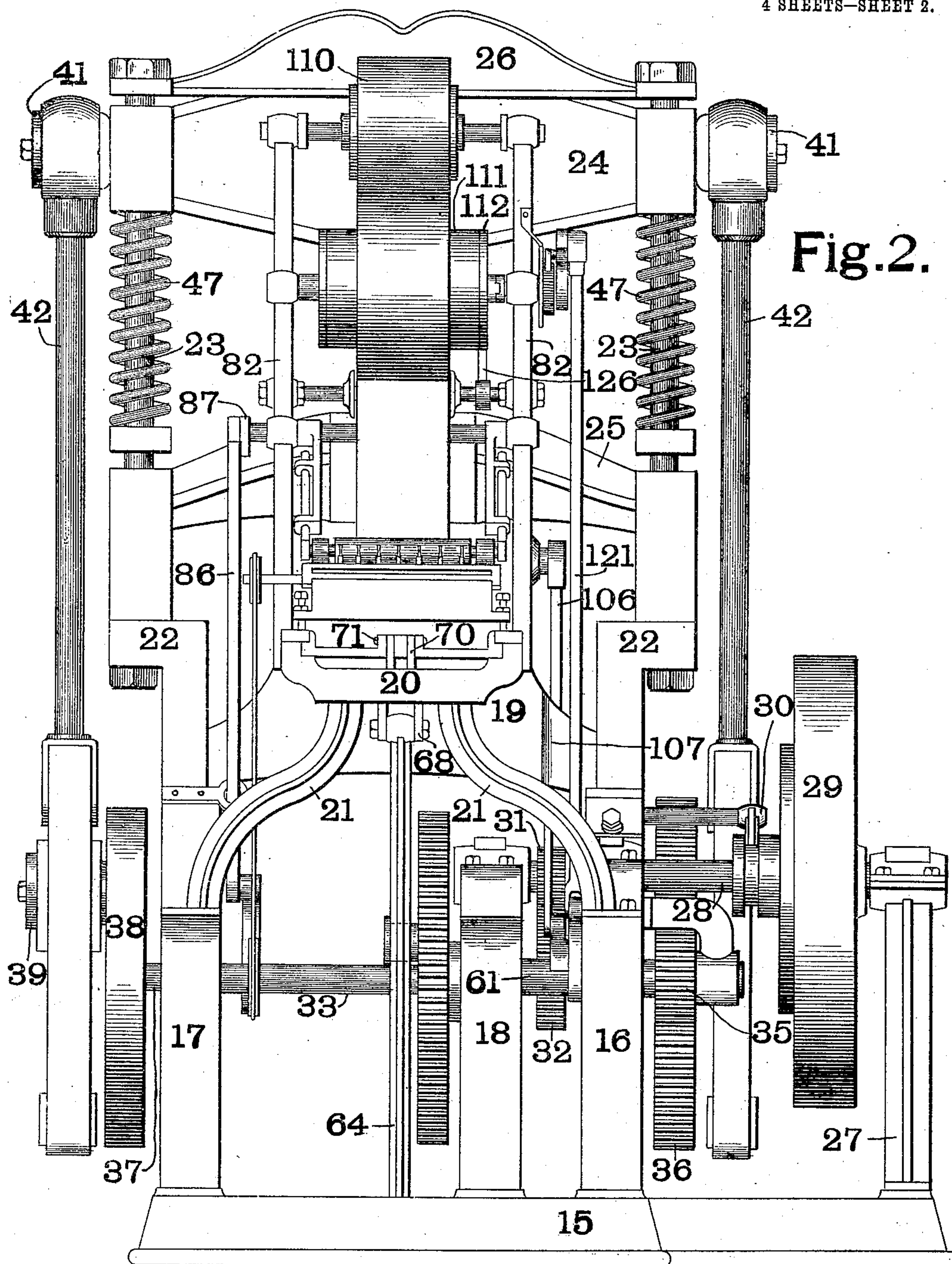
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4 SHEETS—SHEET 2.



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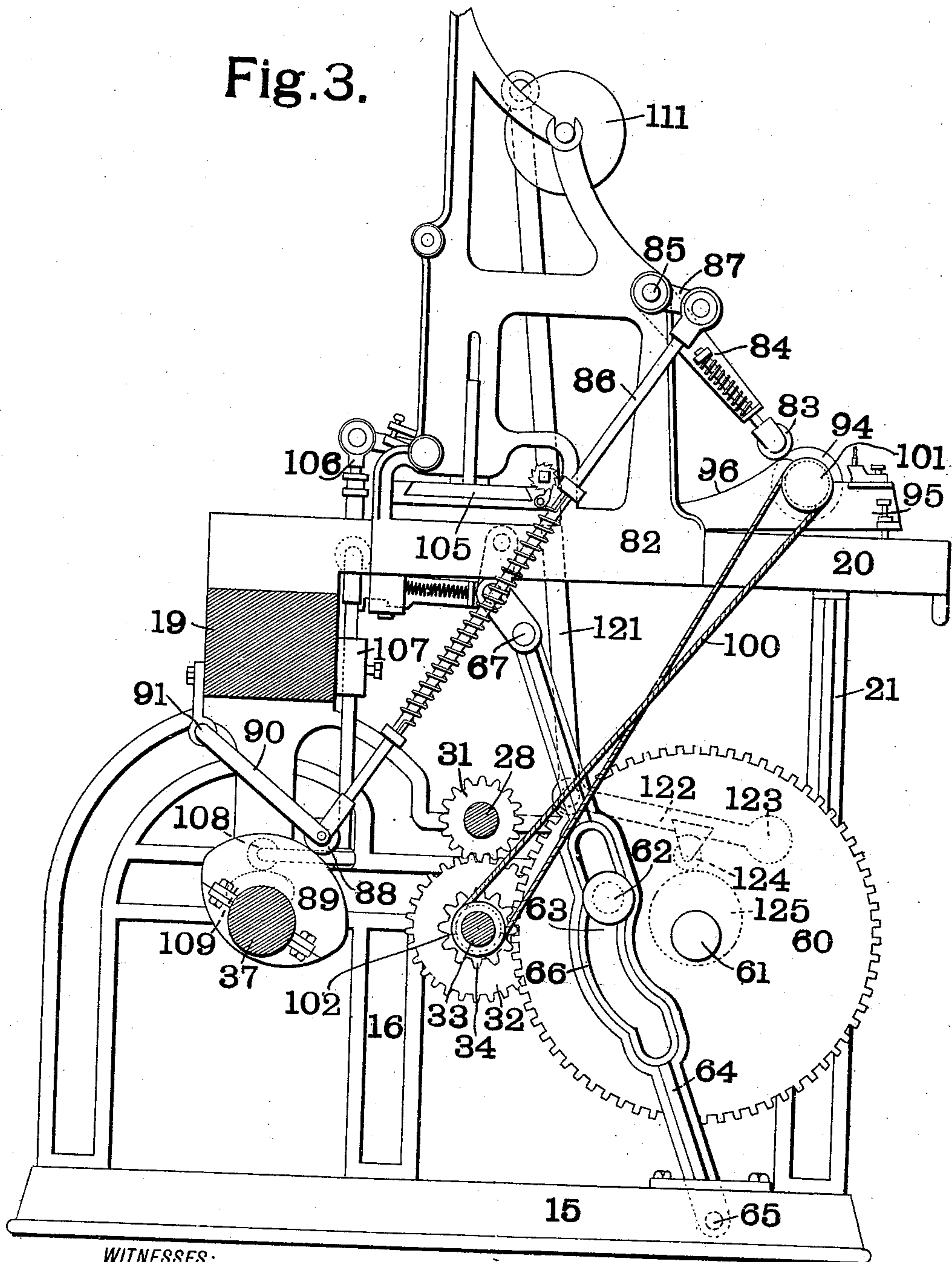
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4 SHEETS—SHEET 3.

Fig. 3.



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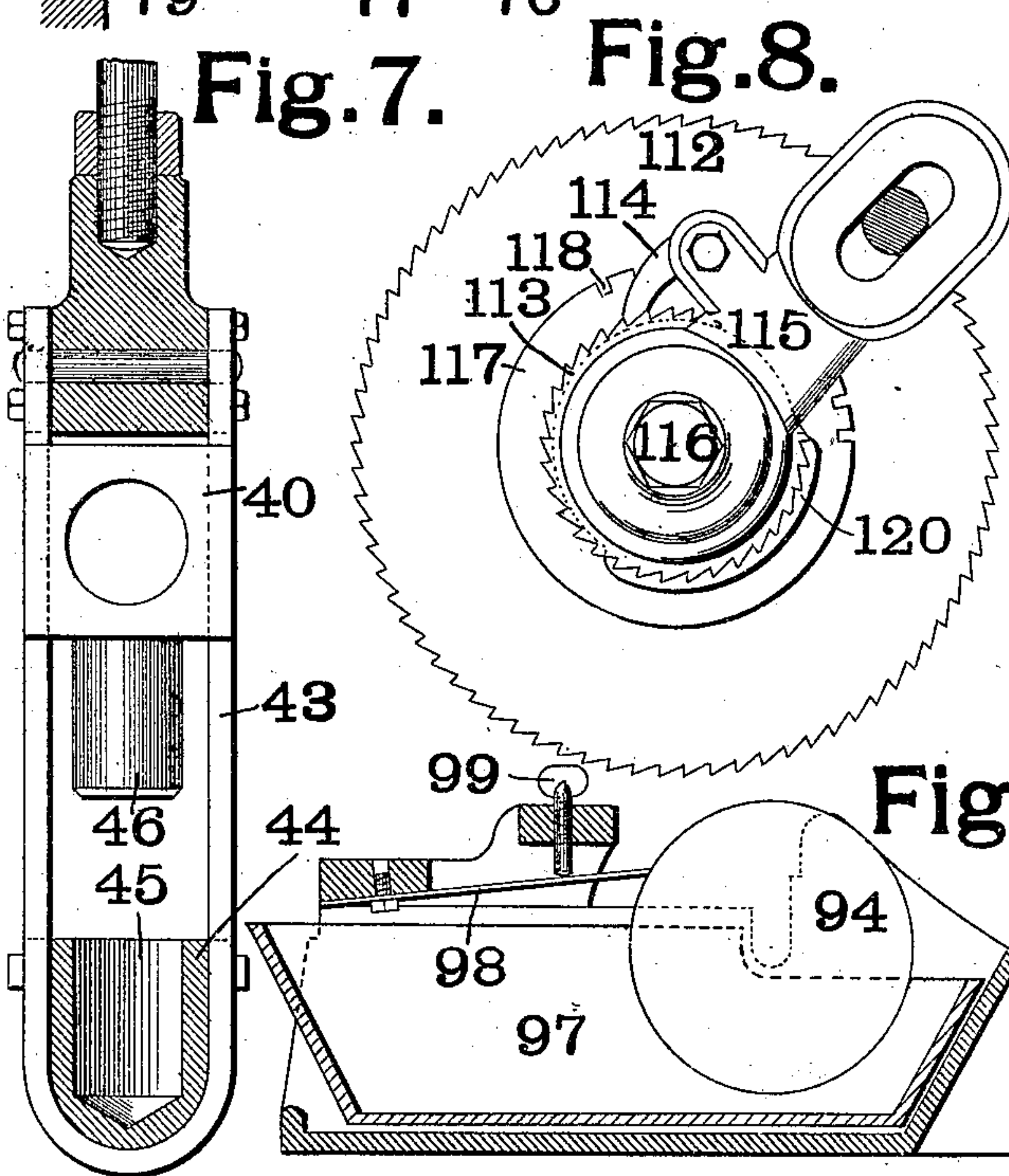
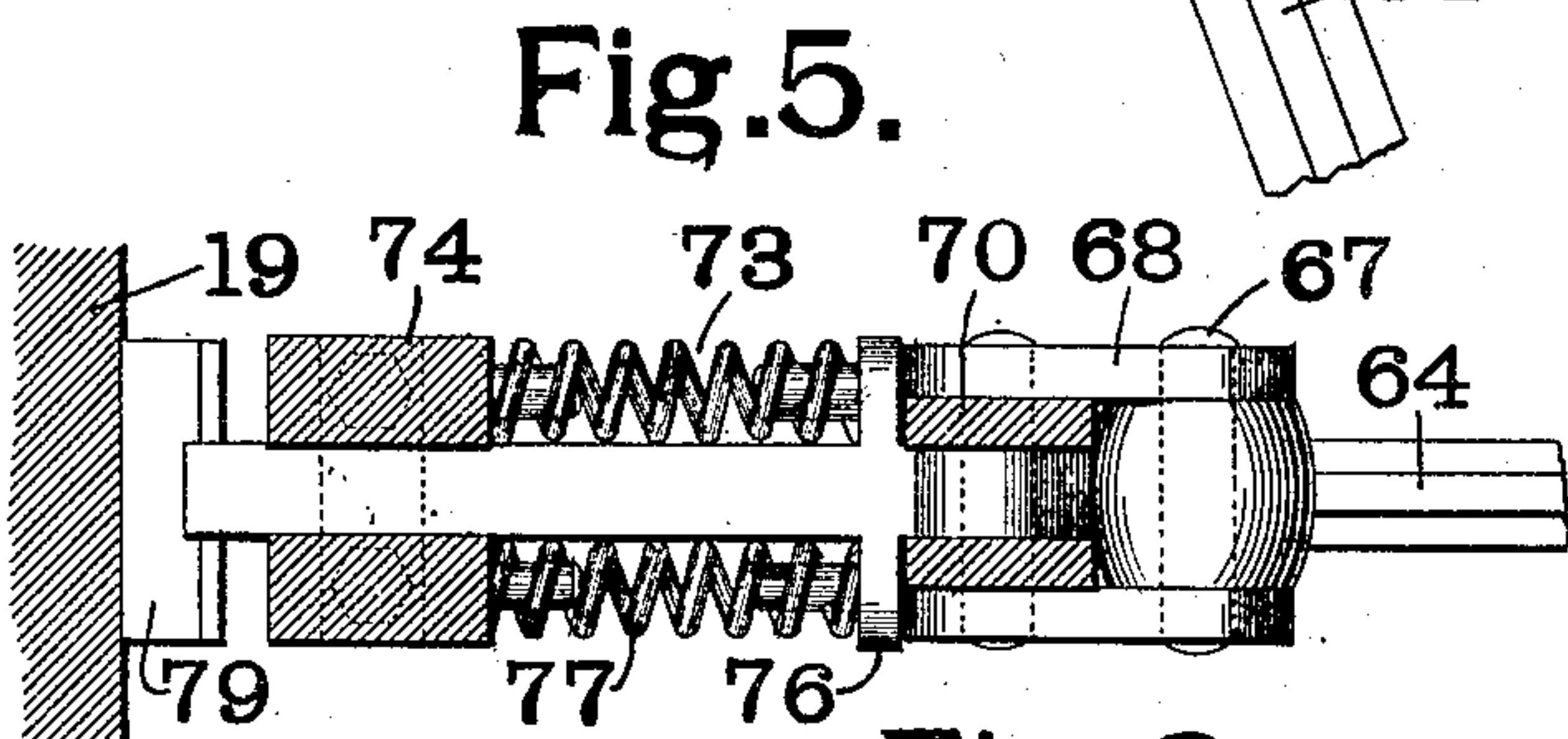
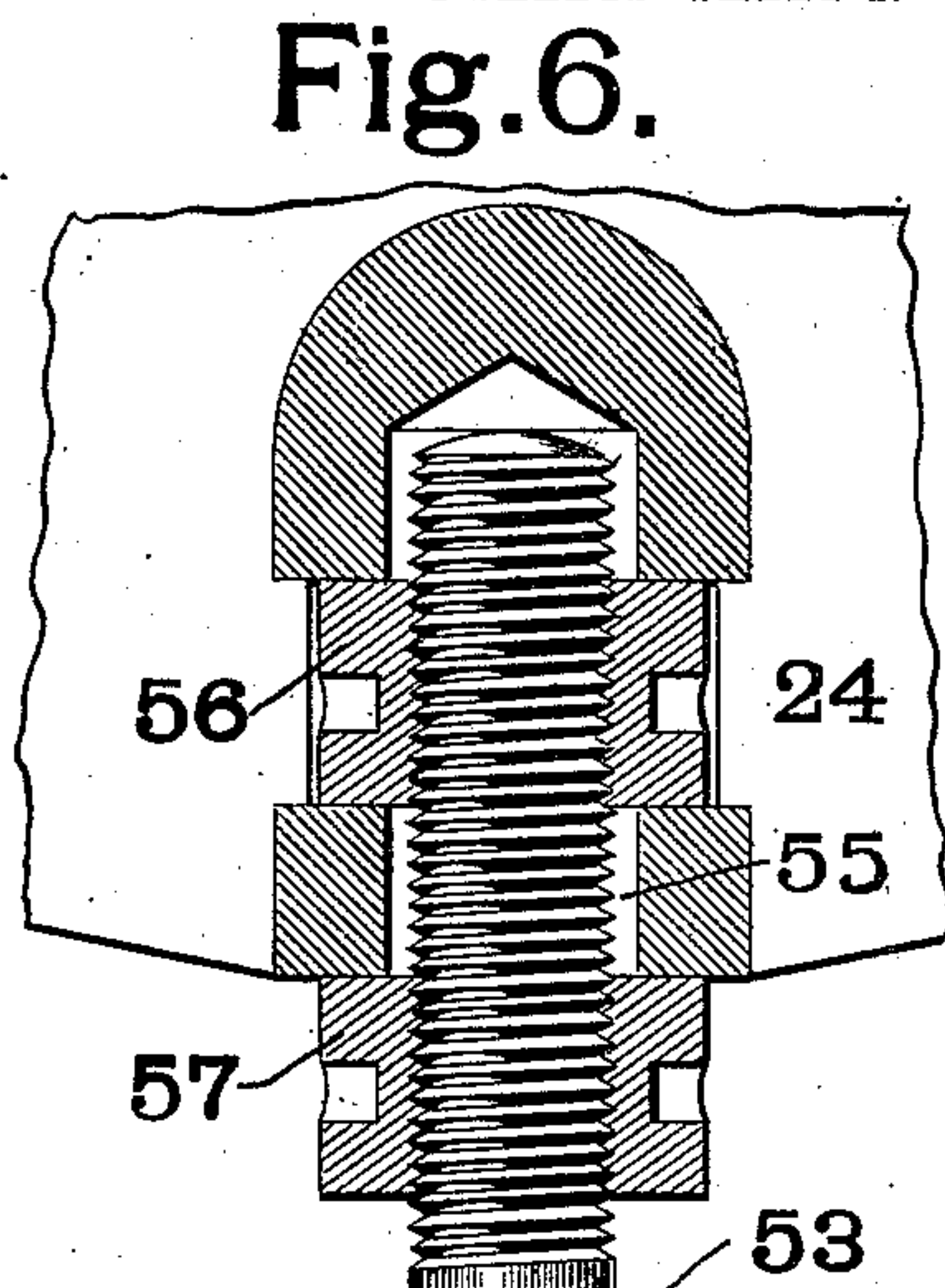
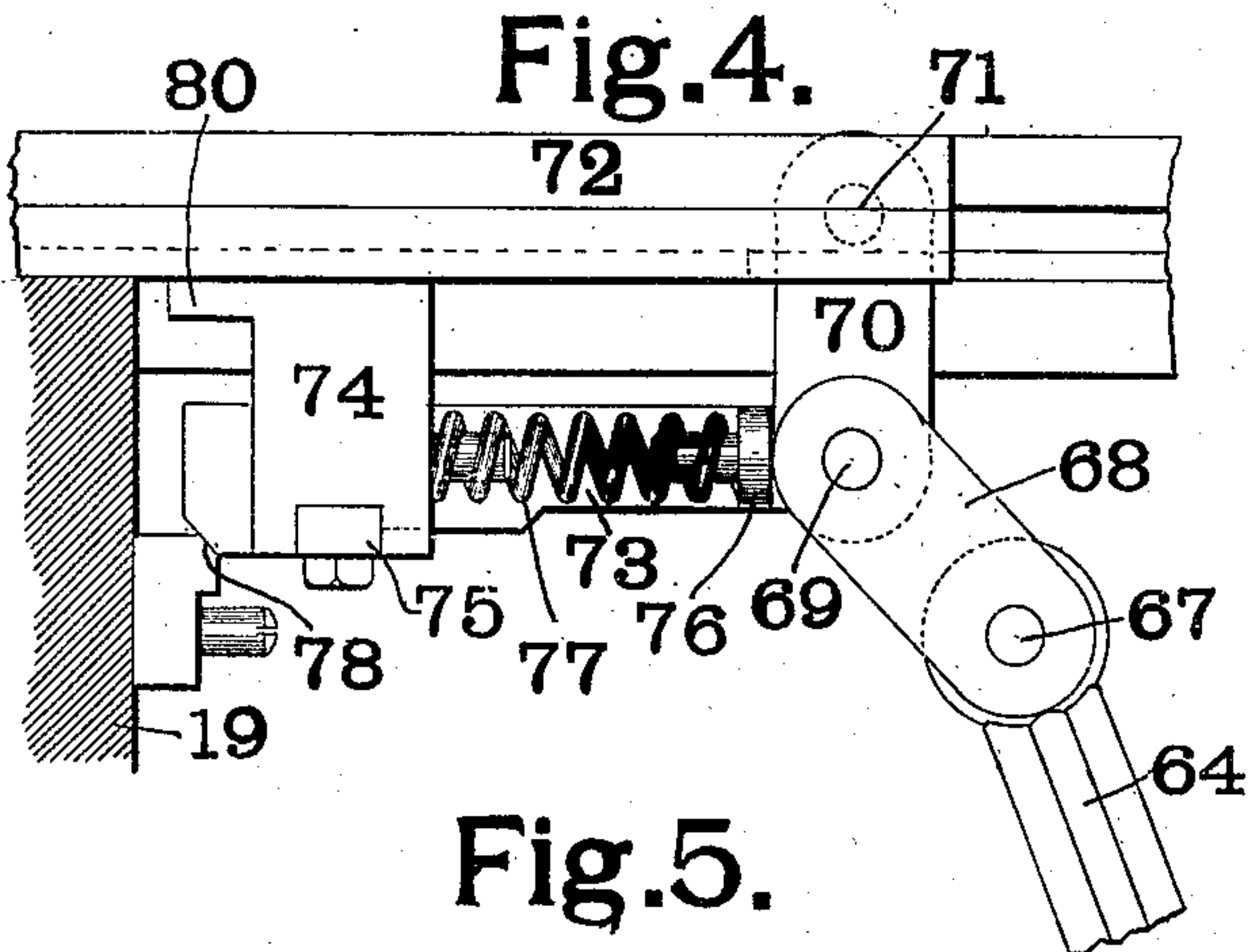


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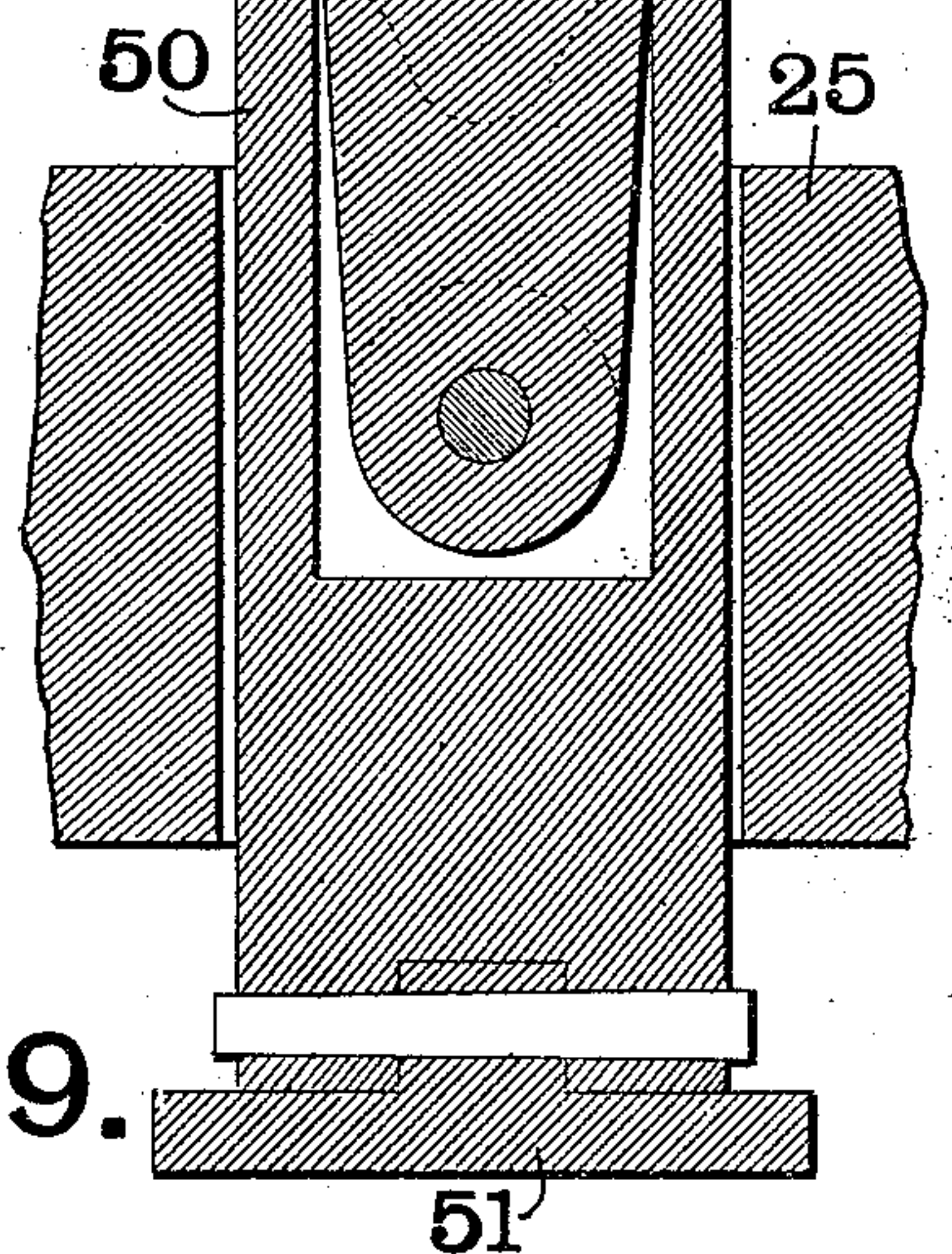
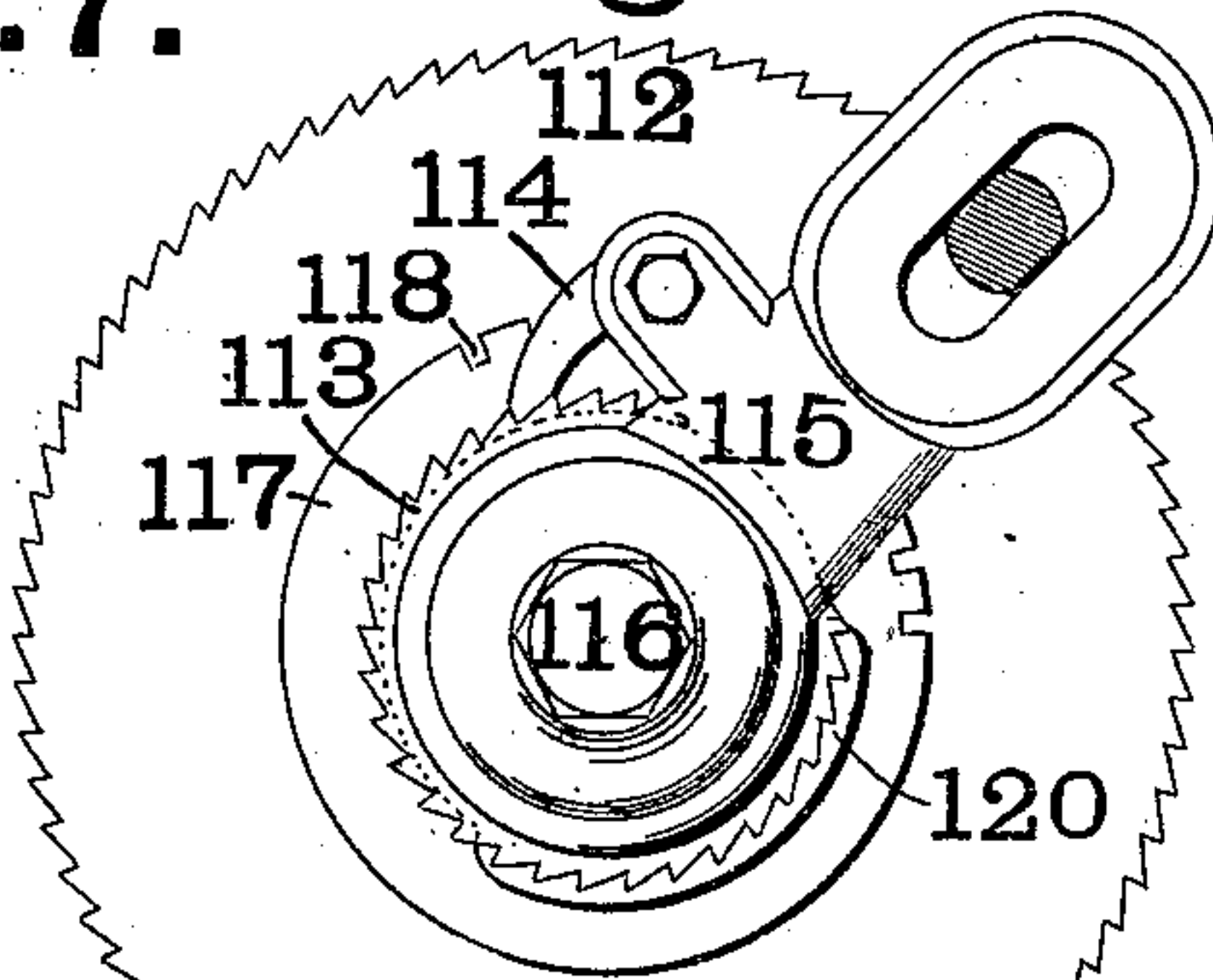
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4 SHEETS—SHEET 4.



**Fig.8.**



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# UNITED STATES PATENT OFFICE.

SAMUEL CURTIS, OF KIRKWOOD, MISSOURI, ASSIGNOR TO THE MODERN MACHINE COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

## EMBOSSING-PRESS.

No. 842,865.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed March 24, 1906. Serial No. 307,875.

*To all whom it may concern:*

Be it known that I, SAMUEL CURTIS, a citizen of the United States, residing at Kirkwood, in the county of St. Louis and State of Missouri, have invented a certain new and useful Embossing-Press, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to embossing-presses, and more particularly to that class of embossing-presses shown and described in Patent No. 779,912, granted to me January 10, 1905.

The object of my invention is to improve the construction and operation of embossing-presses of the class above referred to.

In the accompanying drawings, which illustrate one form of embossing-press made in accordance with my invention, Figure 1 is a side elevation. Fig. 2 is a rear elevation. Fig. 3 is a vertical longitudinal section, some of the parts being omitted. Figs. 4 and 5 are enlarged detail views of the mechanism for engaging and releasing the sliding bed-plate. Fig. 6 is an enlarged sectional view showing the method of carrying the plunger. Fig. 7 is a detail view showing the connection between the wrist-pin and pitman. Fig. 8 is an enlarged detail view of the mechanism for feeding the paper for the wiping device, and Fig. 9 is an enlarged sectional view showing the ink-roller and ink-well.

Like marks of reference refer to similar parts in the several views of the drawings.

15 is the base of the machine, carrying side frames 16 and 17 and an intermediate frame 18. These side frames 16, 17, and 18 carry the shafting for the driving mechanism, and the frames 16 and 17 also support a cross-piece 19, which carries the front end of the stationary bed 20. The rear end of the bed 20 is carried by supports 21, resting on the side frames 16 and 17, as best shown in Fig. 2. The side frames 16 and 17 are also provided with upward extensions 22, each carrying a pair of guide-rods 23. Upon these guide-rods 23 slides the cross-head 24, which carries the plunger, as will be hereinafter more fully described. The extensions 22 also carry a cross-piece 25, forming a guide for

the plunger, and the upper ends of the guide-rods 23 are connected by a tie-bar 26. The base 15 also carries a bracket 27, carrying one end of a driving-shaft 28, the opposite end of which is journaled in the intermediate frame 18. Loosely mounted upon the shaft 28 is the driving-wheel 29, which may be connected with the shaft 28 at will by means of a clutch mechanism 30. The shaft 28 is provided with a gear-wheel 31, which meshes with a wheel 32 on a shaft 33, journaled in the side frames 16 and 17. The shaft 33 is provided with two other gear-wheels 34 and 35, respectively. The wheel 35 meshes with a large gear-wheel 36 on one end of a shaft 37, arranged directly beneath the cross-head 24. At the opposite end of the shaft 37 is a disk 38, similar to the wheel 36, but without teeth. The wheel 36 and disk 38 are each provided with a wrist-pin 39, journaled in a sliding block 40. Pivoted to pins 41, carried by the cross-head 24, are pitman-rods 42. The lower ends of these pitman-rods 42 are provided with straps 43, forming guideways for the sliding blocks 40. In the lower end of each of these straps 43 is a block 44, provided with an opening 45, which, together with a projection 46 on the block 40, forms an air-cushion to prevent shock when the cross-head 24 is drawn down by the rotation of the wheel 35 and disk 38. The cross-head 24 is normally held in its arranged position by means of springs 47, surrounding the guide-rods 23.

Sliding in the cross-bar 25 is the plunger 50, carrying the platen 51, which is adapted to engage with the die, as will be hereinafter described. Pivoted in the plunger 50 is a link 52, the upper end of which is bifurcated and embraces the lower end of a screw-threaded rod 53, to which it is pivoted by means of a pin 54. The upper end of the rod enters an opening 55 in the cross-head 24, and it is provided with an adjusting-nut 56 and a lock-nut 57, by means of which it may be adjusted longitudinally and locked in position.

The gear 34 on the shaft 33, hereinbefore referred to, meshes with a large gear-wheel 60, secured to one end of a short shaft 61, journaled in the side frame 16 and intermediate frame 18. This wheel 60 is provided with a wrist-pin 62, passing through a slot 63 in a lever 64, pivoted to the base 15 at 65, as shown in Fig. 3. The slot 63 is curved at 66,



so as to prevent movement of the lever 64 during a portion of the rotation of the wheel 60 for purposes hereinafter to be more fully described. The upper end of the lever 64 is  
 5 pivoted at 67 to a pair of links 68. (Shown in detail in Figs. 4 and 5.) These links 68 are pivoted by a pin 69 to a second pair of links 70, which are in turn pivoted by a pin 71 to a sliding bed-plate 72, which runs in  
 10 guideways formed in the stationary bed 20, hereinbefore referred to. Secured between the links 70 by means of the pin 69 is a detent 73, the forward end of which normally engages with a cross-bar 75, carried by  
 15 downwardly-extending lugs 74 on the bottom of the sliding bed-plate 72. Arranged between these lugs 74 and projections 76, carried by the detent 73, are coil-springs 77. The forward end of the detent 73 is beveled  
 20 at 78 and is adapted to cooperate with a beveled piece 79, carried on the cross-piece 19, so as to lift the said detent out of engagement with the bar 75, and thus release the sliding bed-plate 72 from the lever 64. The  
 25 lugs 74 are also provided with projections 80, which form a stop between the sliding bed-plate 72 and the cross-piece 19 to limit the forward movement of the said bed-plate.

Carried by the stationary bed 20 are upper  
 30 side frames 82, which support the wiping-pad and the paper-feeding devices therefor, as well as the inking-roller. The inking-roller 83 is carried by arms 84, pivoted at 85. These arms 84 are operated by means of a  
 35 rod 86, pivoted at one end to a short arm 87, secured to the shaft 85, and at the other provided with a roll 88, running on a cam 89, carried by the shaft 37. The lower end of the rod 86, as well as the roll 88, are held in  
 40 position by means of a link 90, pivoted to the cross-piece 19 at 91. The inking-roll 83 cooperates with a second inking-roll 94, carried in a support 95. This support 95 is provided with tracks 96 for guiding the inking-roll 83.  
 45 The support 95 also carries a pan or well 97 for supplying the roll 94 with ink.

98 is a spring-blade carried by the support 95, adapted to scrape the superfluous ink from the roll 94. By means of set-screws 99  
 50 this blade may be sprung to adjust it so as to secure the proper amount of ink on the roll 94.

The roll 94 is driven by a belt 100, passing over a belt-wheel 101 on the shaft of said roll  
 55 and around a second belt-wheel 102 on the shaft 33, hereinbefore referred to.

105 is the wiping-pad, which is slidably mounted in the uprights 82. This wiping-pad is driven by a rod 106, running in a  
 60 guideway 107 on the cross-piece 19, and provided at its lower end with a wheel 108, running on a cam 109, carried by the shaft 37. In order to supply paper for the wiping-pad 105, I journal in the side frames 82 a supply-  
 65 roll 110 and a feed-roll 111. The shaft of the

feed-roll 111 is provided at one end with a large ratchet-wheel 112 and small ratchet-wheel 113. The small ratchet-wheel 113 is engaged by a pawl 114, carried by an arm 115, loosely mounted on a shaft 116 of the  
 70 feed-roll 111. Adjacent to the small ratchet-wheel 113 is a disk 117, provided with notches 118, which are engaged by a pin 119, carried on the side frame 82. This disk 117 has rigidly secured to it a cam 120, so arranged as to  
 75 engage the pawl 114 and hold it out of engagement with the ratchet-wheel 113 during a portion of the movement of the arm 115. Thus by disengaging the detent 119 from the notches 118 and partially rotating the disk  
 80 117 the amount of movement imparted to the feed-roll by the reciprocation of the arm 115 can be varied. In order to reciprocate the arm 115, it has pivoted to its end a rod 121, the lower end of which is pivoted to an  
 85 arm 122, pivoted at 123 to the side frame 16. The arm 122 carries a roll 124, which runs on a cam 125 on the shaft 61, hereinbefore referred to. In order to prevent the backward rotation of the feed-roll 111, a pawl 126,  
 90 pivoted to one of the side frames 82, engages the teeth of the large ratchet-wheel 112.

The operation of my press is as follows: The power is supplied to the belt-wheel 129 and communicated by means of the clutch  
 95 mechanism 30 to the shaft 28 and thence through the wheels 31 and 32 to the shaft 33. By means of the gears 34 and 35 the rotation of the shaft 33 drives the large gear 60 and the gear 36. The gear 36 rotates the shaft  
 100 37, and thus drives the disk 38, as well as the cams 89 and 109. The rotation of the gear 36 and the disk 38 causes the sliding blocks 40 to travel in their guides until they come in contact with the blocks 44 at the lower end  
 105 of the straps. All jar is obviated during this operation by means of the air-cushion formed by the opening 45 and plunger 46. As soon as the blocks 40 have come in contact with the blocks 44 the pitmen 42 are drawn  
 110 downward, thus moving the cross-head 24 on the guide-bars 23 against the pressure of the springs 47, thus causing the plunger 50 to move in the cross-piece 25, so as to bring the platen 51 in contact with the die. The  
 115 movement of the cams 89 and 109 operate the wiping-pad 105 and the inking-roll 83. The rotation of the wheel 60 is communicated, through the wrist-pin 62, to the lever 64, so as to move the sliding bed-plate 72 back and  
 120 forward in its guideway. The curved portion 66 of the slot 63 in the lever 64 causes the said lever 64 to remain stationary during a portion of the stroke while the bed-plate 72 is in its forward position. In order, how-  
 125 ever, to compensate for any wear of the parts or inaccuracy in their manufacture, the devices shown in detail in Figs. 4 and 5 and heretofore described are employed. Owing to these devices when the bed-plate has  
 130



nearly reached its forward position, the inclined face 78 of the detent 73 engages the incline on the stop 79 and raises the said detent out of engagement with the cross-bar 75, so that any further movement of the lever 64 is not communicated to the sliding bed-plate 72, but simply compresses the springs 73.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an embossing-press, the combination with a reciprocating die, of a plunger cooperating therewith, a pivoted member guiding said die and provided with a slot having straight ends and a curved central part, and a main driver provided with a pin working in said slot.

2. In an embossing-press, the combination with a reciprocating die, of a plunger cooperating therewith, a pivoted member driving said die and provided with a slot having straight ends and a curved central part, and a rotary main driver provided with a wrist-pin working in said slot.

3. In an embossing-press, the combination with a reciprocating bed-plate carrying a die, of a driving member for said bed-plate, means for disengaging said driving member from said bed-plate, and a spring interposed between said bed-plate and driving member and holding said bed-plate in position after the disengagement of said driving member therefrom.

4. In an embossing-press, the combination with a reciprocating bed-plate carrying a die, of a link pivoted to said bed-plate, a driving-bar pivoted to said link and detachably connected with said bed-plate, and a reciprocating driving member connected with said driving-bar and link.

5. In an embossing-press, the combination with a reciprocating bed-plate carrying a die, of a link pivoted to said bed-plate, a driving-bar pivoted to said link and detachably connected with said bed-plate, a spring interposed between said bed-plate and driving-

bar, and a reciprocating driving member connected with said driving-bar and link.

6. In an embossing-press, the combination with a reciprocating bed-plate carrying a die, of a link pivoted to said bed-plate, and a driving-bar pivoted to said link and detachably connected with said bed-plate, a spring interposed between said bed-plate and driving-bar, a second link pivoted to said first link and driving-bar, a pivotally-mounted member connected with said second link and provided with a curved slot, and a rotary driver provided with a wrist-pin working in said slot.

7. In an embossing-press, the combination with a die, of a spring-supported plunger cooperating therewith, a driving-shaft, a wrist-pin driven from said shaft, a pitman-rod driving said plunger, a block journaled on said wrist-pin and slidably engaging said pitman-rod, and an air-cushion between said block and pitman-rod.

8. In an embossing-press, the combination with a die, of a spring-supported plunger cooperating therewith, a driving-shaft, a wrist-pin driven from said shaft, a pitman-rod driving said plunger and provided with a slot, and a block journaled on said wrist-pin and engaging the slot in said pitman-rod, said block and pitman-rod being provided the one with a projection and the other with an opening, together forming an air-cushion.

9. In an embossing-press, the combination with a reciprocating die, of a plunger cooperating therewith, a slidably-mounted cross-head for driving said plunger, a member adjustably carried by said cross-head, and a link pivoted to said member and to said plunger.

In testimony whereof I have hereunto set my hand and affixed my seal in the presence of the two subscribing witnesses.

SAMUEL CURTIS. [L. s.]

Witnesses:

W. A. ALEXANDER,  
BENNETTE PIKE.