

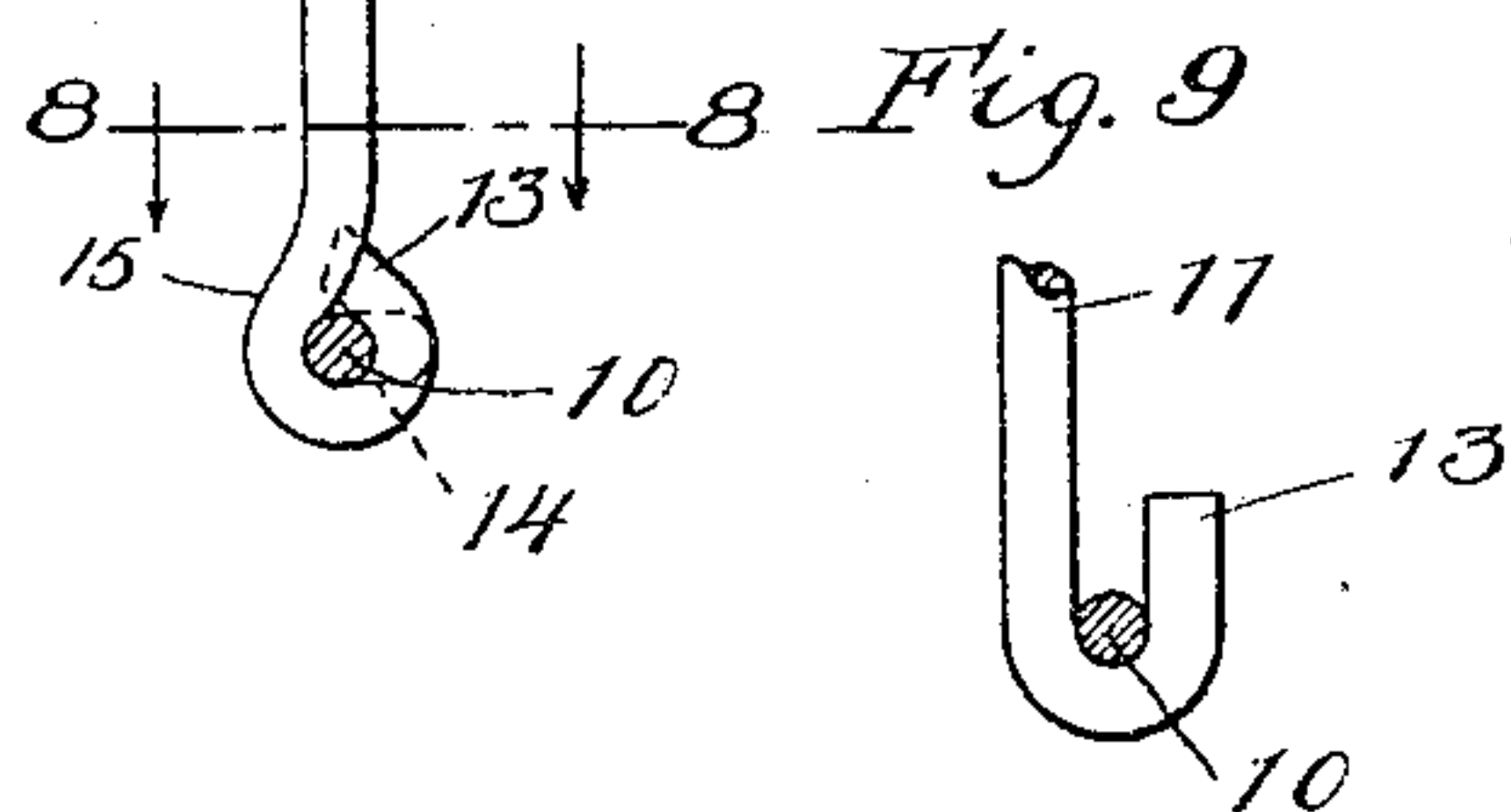
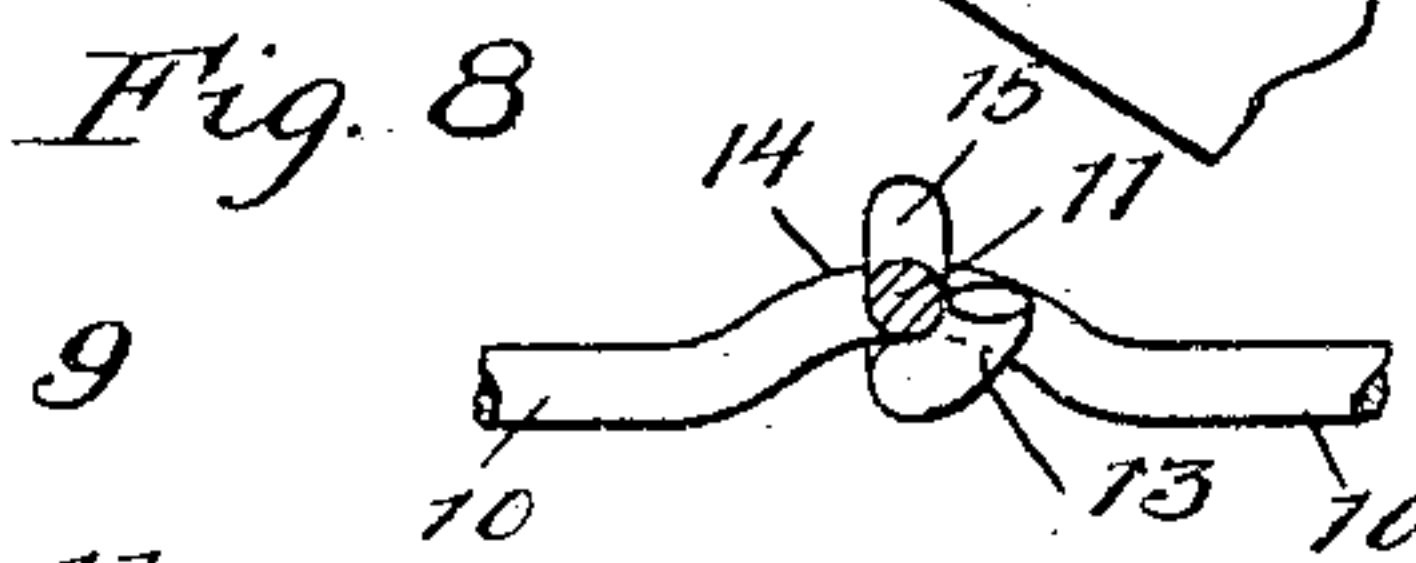
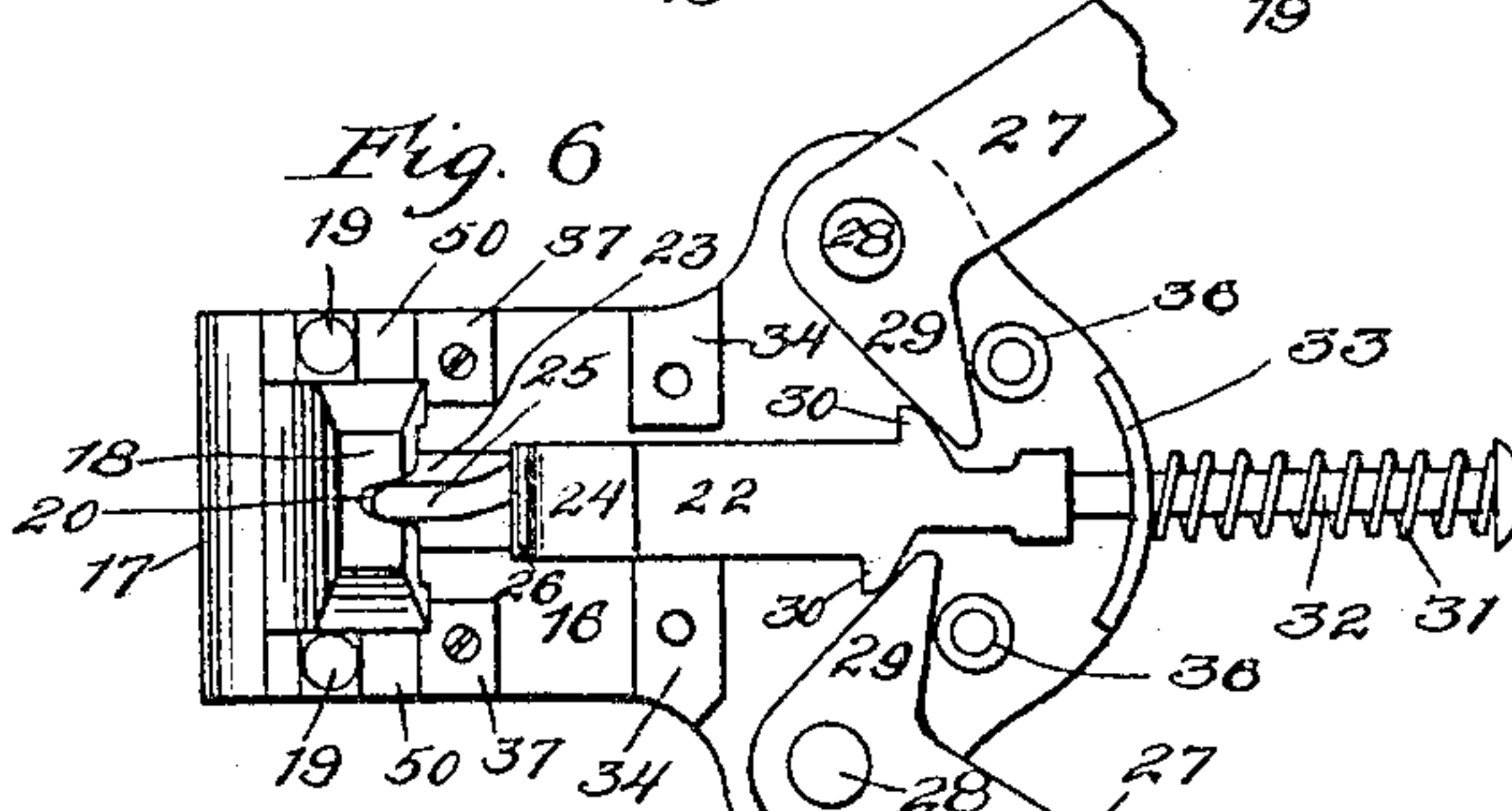
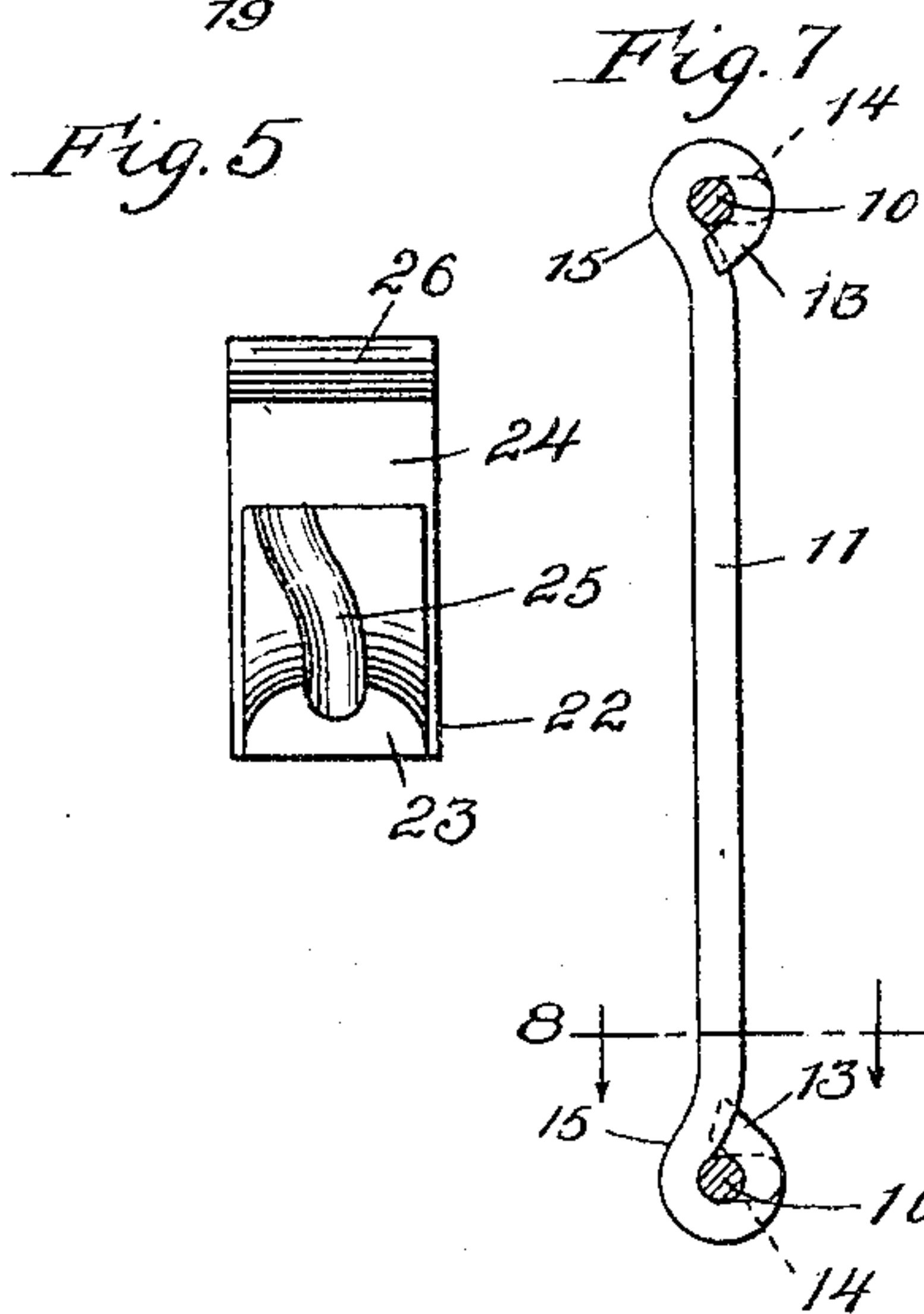
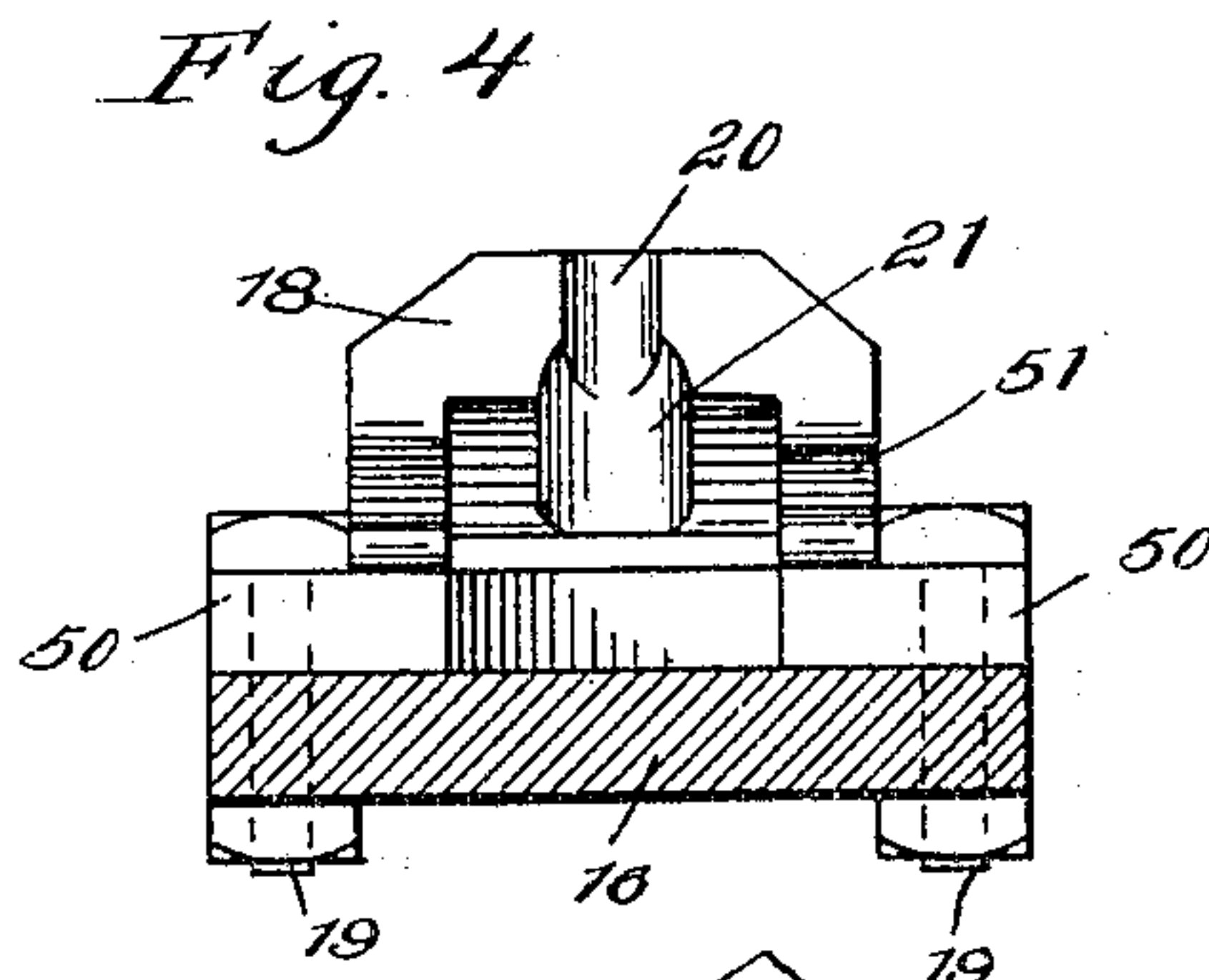
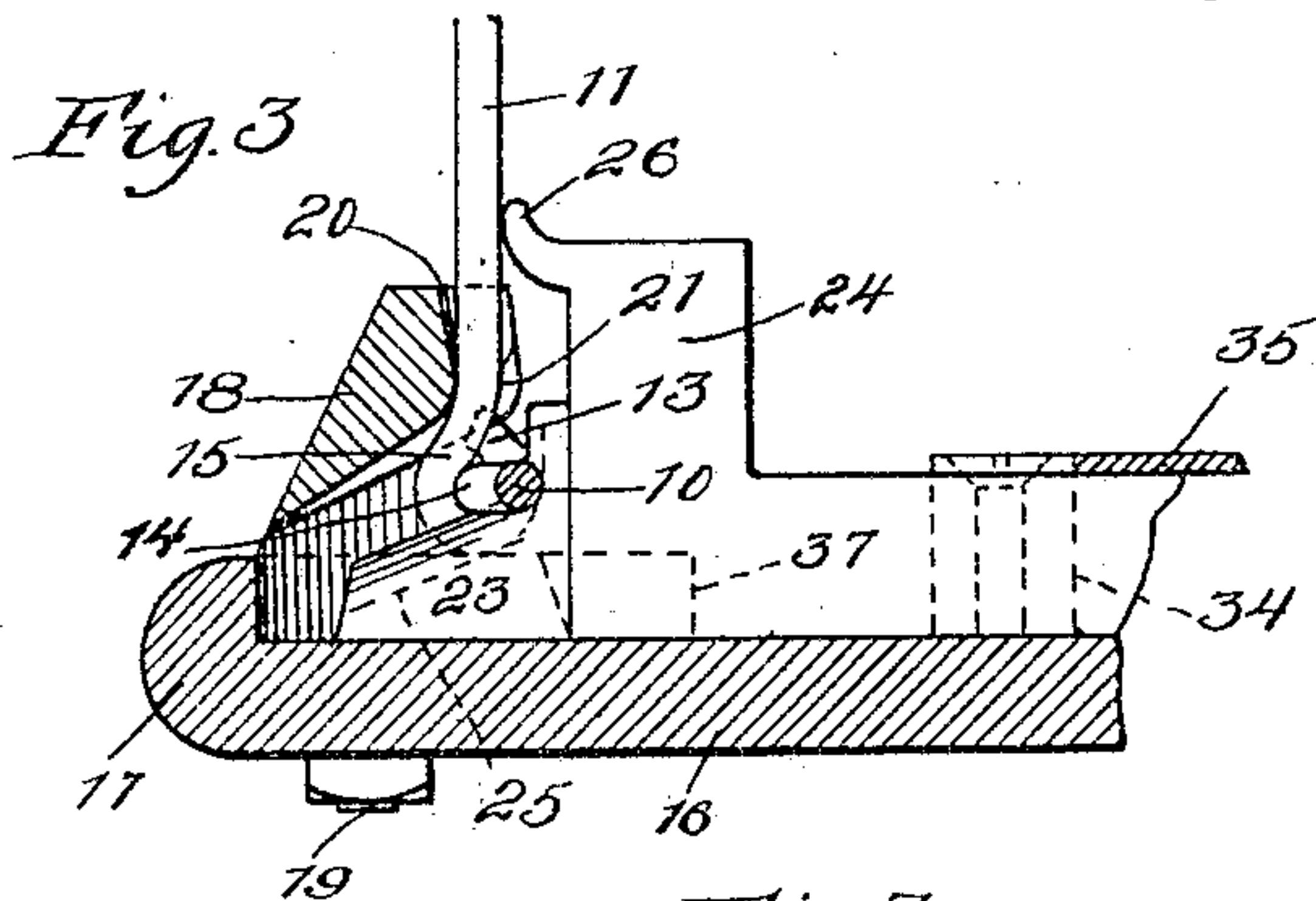
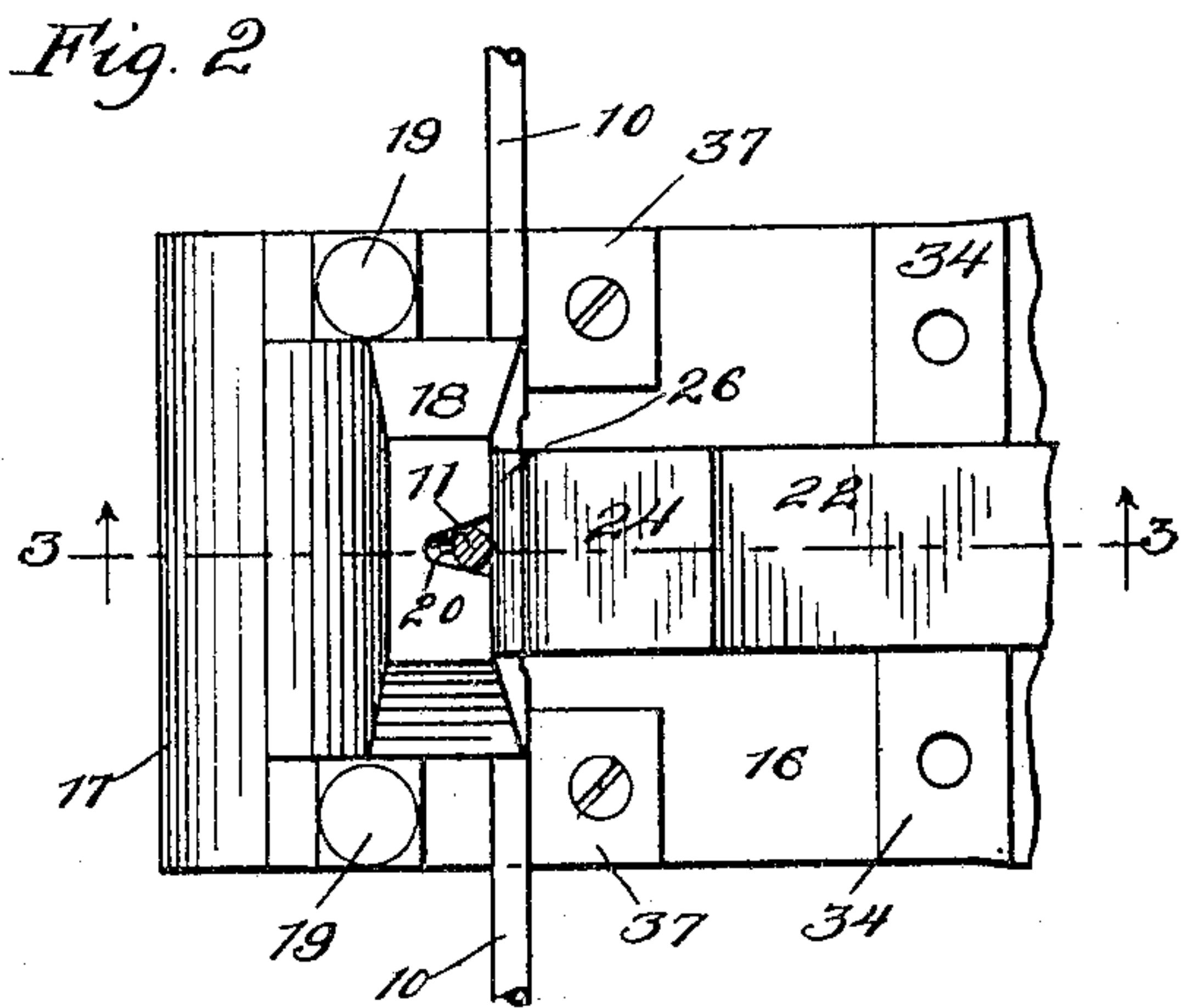
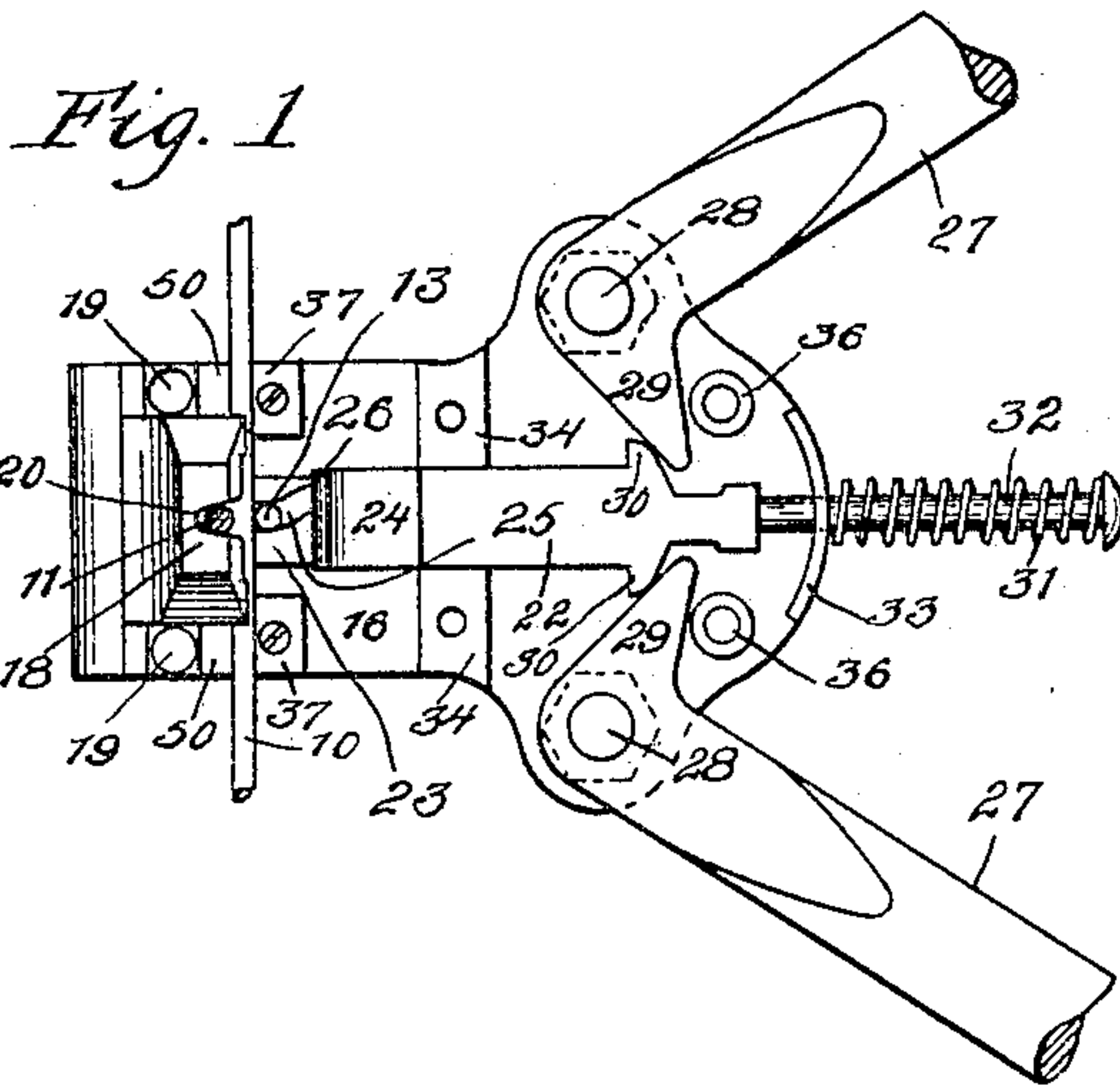
No. 781,597.

PATENTED JAN. 31, 1905.

R. C. GLASSCO.

MACHINE FOR ATTACHING STAYS TO FENCE WIRES.

APPLICATION FILED JUNE 27, 1902. RENEWED AUG. 8, 1904.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## MACHINE FOR ATTACHING STAYS TO FENCE-WIRES.

SPECIFICATION forming part of Letters Patent No. 781,597, dated January 31, 1905.

Application filed June 27, 1902. Renewed August 8, 1904. Serial No. 219,914.

*To all whom it may concern:*

Be it known that I, ROBERT C. GLASSCO, a citizen of the United States, residing in Hammond, in the county of Lake and State of Indiana, have invented a new and useful Improvement in Machines for Attaching Stays to Fence-Wires, of which the following is a specification.

This invention relates to improvements in tools for attaching wire stays to fence-wires, and is designed to be used in the putting together the fence shown in the Patent No. 615,260, granted to Frederick A. Curtis December 6, 1898.

The invention consists in the novel combinations of parts and devices and in the novel construction of parts and devices herein shown or described.

The object of the invention has been to devise a machine which will attach the stays firmly, quickly and easily and which can be held in the hand and used as a hand-tool.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan of the invention, showing it positioned ready to operate. Fig. 2 is a partial plan of the invention at the conclusion of the operation. Fig. 3 is a longitudinal vertical section on the line 3 3 of Fig. 2. Fig. 4 is a transverse section showing the stationary jaw in elevation. Fig. 5 is a detail of one of the bending jaws. Fig. 6 is a plan showing a modified construction. Fig. 7 is a section of the fence, and Fig. 8 a section on the line 8 8 of Fig. 7. Fig. 9 is a partial elevation of the stay before being operated upon by the invention.

Referring to the drawings, 10 10 represent the fence strands or wires, and 11 one of the fence-stays. The latter previous to its being placed upon the fence-wires has its ends doubled over so that the points stand parallel with the body portion, forming hooks by which it may be loosely caught on adjacent fence-strands preparatory to being secured thereon by the machine or tool of my present

invention. This will be understood from Fig. 9. The machine is intended to bend the points 13 of the stays so that they will completely encircle the fence-wire, or, in other words, the machine closes the open hooks of the stays upon the fence-wire, thereby making the attachment both secure and permanent. The machine also forms a bend 14 in the fence-wire, adapted to prevent the stay from slipping thereon, and it also forms the shoulder or bend 15 in the stay adjacent to the wire.

The machine embodies a stationary forming-jaw, a movable forming-jaw, a frame-plate, and means for actuating the movable jaw. The frame-plate (shown at 16) has a flange 17 at its end, acting as an abutment against which the stationary jaw 18 is positioned. This jaw is in the form of a bridge arranged transversely of the frame, to which its ends are bolted by bolts 19. It has a notch 20 on the acting side of its central or raised portion intended to give room to the body portion of the stay, as seen at Figs. 2 and 3, and its under surface back of the notch is recessed, as at 21, to give room to the bent portions of the stay. At each side of the notch its faces 51 are adapted to act as abutments to the fence-wire to resist the pressure by the movable jaw when it forms the bend 14. The movable jaw is formed on the end of a slide 22 and is provided with an acting face consisting of a rounded, inclined, and forwardly-projecting portion 23, adapted to enter under the stationary jaw, and a breast or vertical portion 24, a groove 25 being formed in the parts 23 and 24, as seen plainly at Fig. 5, adapted to serve as a seat for the stay during the operation of the machine. This groove is preferably curved or turned to one side, so it will assist the point of the stay in assuming a position in which it may lap by the main portion of the stay. The movable jaw is also provided with a projecting lip 26, adapted to press against the body of the stay a short distance above the coiled portion. The slide receives motion in closing the stay upon the



fence-wire from a pair of levers 27 27, pivoted at 28 28 and having arms 29 29 engaging shoulders 30 30, formed on the rear end of the slide. A retracting-spring 31 draws the slide back after each operation, spreading the levers at the same time, and such spring encircles a stem 32, attached to the slide, and is confined on the stem between its head and a plate 33 at the rear of the frame 16. The slide is confined at the sides between guides 34 34 and at top by the plate 35, the latter being omitted from all the views except Fig. 3 for clearness. Stops 36 are employed to limit the opening movement of the levers. Blocks 37 are secured to the frame 16 and have overhanging edges engaging the beveled side of the ends 50 of the stationary jaw, as seen in dotted lines at Fig. 3. These blocks assist by this engagement in holding the stationary jaw upon the plate.

With the machine constructed as described the operation is as follows: The machine is positioned with the fence-wire lying transversely upon the ends of the stationary jaw or upon the blocks 37, as seen at Fig. 1, and with the body of the stay in the notch 20 and with the hooked portion thereof resting in the lower portion of the groove 25. Power is now applied to the slide, and the same is thereby urged toward the stationary jaw. This carries the incline 23 under the fence-wires with the stay in the groove 25, and gradually forces the fence-wire back or beyond the plane of the abutment-surfaces 51, the bent portion of the stay moving along in groove 25 until it reaches the breast 24. The continued pressure or movement by the slide now carries the point 13 until it closes the opening in the hook and securely holds the fence-wire. The bend 14 in the fence-wire is caused at the same time by the fact that the fence-wire is held at each side of the stay by the surfaces 51 of the stationary jaw, while the portion 14 is forced under that jaw by the slide. The bend 15 in the stay is due to the fact that a portion of the coiled part of the stay is carried back of the plane of the notch 20. The body of the stay is prevented from tipping or yielding to the pressure of the coiled portion thereof while the operation is in progress by the lip 26, so that the formation described becomes a matter of certainty. In fastening the lower ends of the stays the frame is placed under the fence-wire, and in fastening the upper ends it is placed over the fence-wire.

In the modification shown at Fig. 6 I aim to facilitate the imparting of the lateral bend to the points 13, and to this end the shoulders 30 are placed one in advance of the other instead of opposite each other, as in the other construction, and the acting end of the slide

is permitted a slight lateral movement by locating the guide 34 on the opposite side of the slide from the forward shoulder a short distance from the slide. With this construction the lever acting on the forward shoulder 30 will tend to force the acting end of the slide over against the guide positioned as stated, and thereby to carry the point 13 of the stay laterally.

The invention is intended primarily to be used by hand in attaching the stay to the fence-wires after the latter have been strung upon the posts; but it may be used in the manufacture of the fencing at the factory.

I claim—

1. The combination in a machine for attaching hooked stays to fence-wires, of a stationary arch or bridge-like jaw notched on its face to receive the stay, and a movable jaw consisting of the grooved incline 23 and vertical breast 24, and acting to close the hook in the stay, substantially as specified.

2. The combination in a machine for attaching hooked stays to fence-wires, of a stationary arch or bridge-like jaw notched on its face to receive the stay, and a movable jaw having an inclined projecting part adapted to enter under the stationary jaw, and a vertical breast acting to close the hook in the stay, substantially as specified.

3. The combination in a machine for attaching hooked stays to fence-wires, of a stationary arch or bridge-like jaw notched on its face to receive the stay, and a movable jaw, and means whereby the movable jaw forces the coiled end of the stay back of the plane of the notch and thus forms the bend 15 in the stay, substantially as specified.

4. The combination in a machine for attaching hooked stays to fence-wires, of a stationary arch or bridge-like jaw notched on its face to receive the stay, and a movable jaw consisting of the incline 23 and breast 24, having formed in them a laterally curved or bent groove 25, substantially as specified.

5. The combination in a machine for attaching hooked stays to fence-wires, of a stationary arched jaw having a notch to receive the stay and side surfaces 51 acting as abutments to the fence-wire, and also recessed at 21, and a movable jaw having a seat for the bent portion of the stay and adapted to force the fence-wire back of said surfaces 51 and to close the hook in the stay so it encircles the fence-wire, substantially as specified.

6. As a new manufacture, a hand-tool for attaching hooked stays to fence-wires embodying an arched and notched stationary jaw having abutments for the fence-wire at each side of the stay, a forwardly and laterally movable jaw for simultaneously closing the hook of the stay and bending the fence-wire

between the abutments, and means for actuating said movable jaw, substantially as specified.

5 7. As a new manufacture, a tool for attaching stays to fence-wires embodying a stationary jaw, a movable jaw having freedom to move laterally at its acting end, and actuating devices adapted to deflect its acting end, where-

by the point of the stay is deflected laterally and enabled to lap by the main portion thereof, substantially as specified.

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Witnesses:

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