

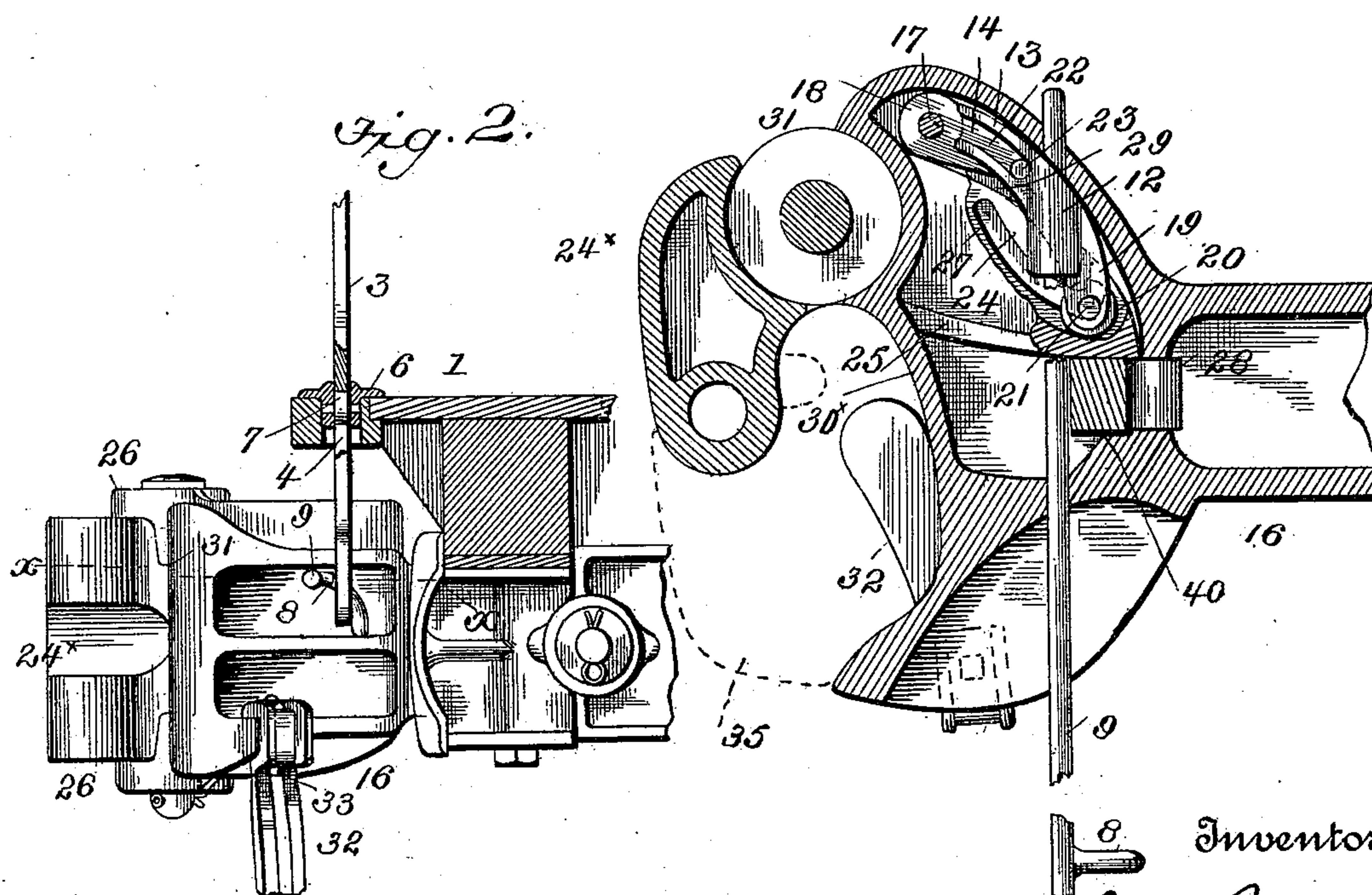
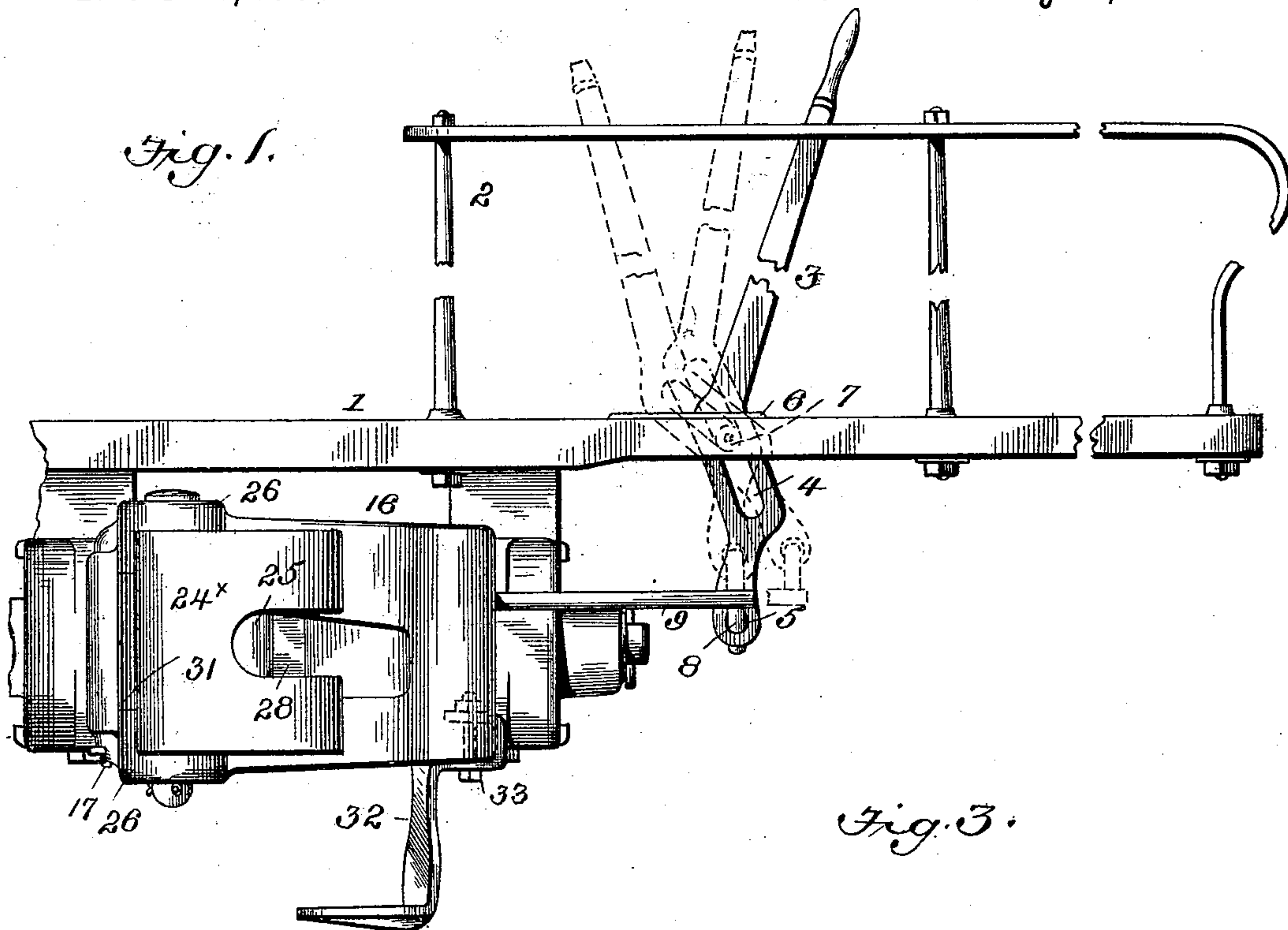
(No Model.)

3 Sheets—Sheet 1.

P. BROWN.
CAR COUPLING.

No. 542,237.

Patented July 9, 1895.



Witnesses

Frederick

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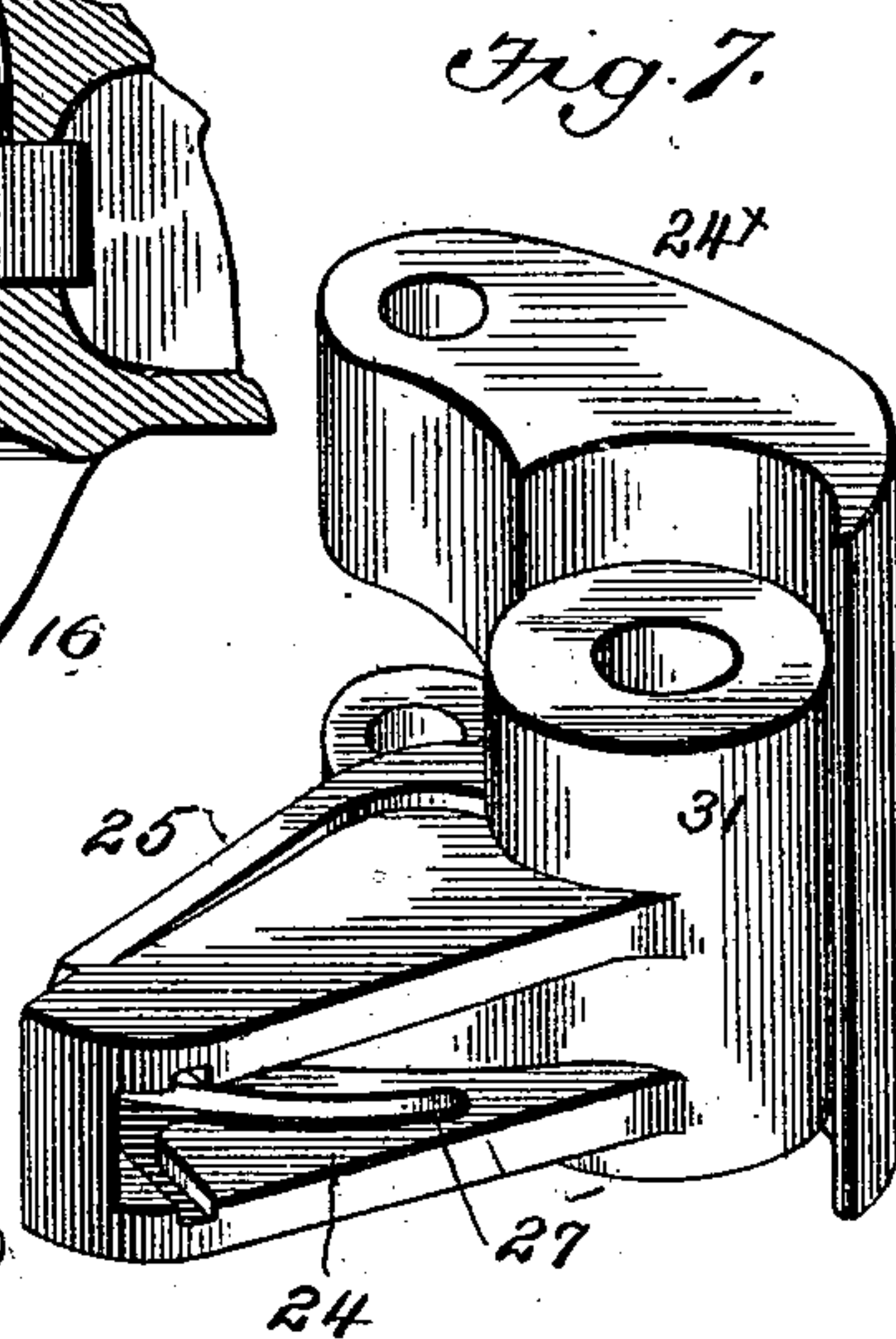
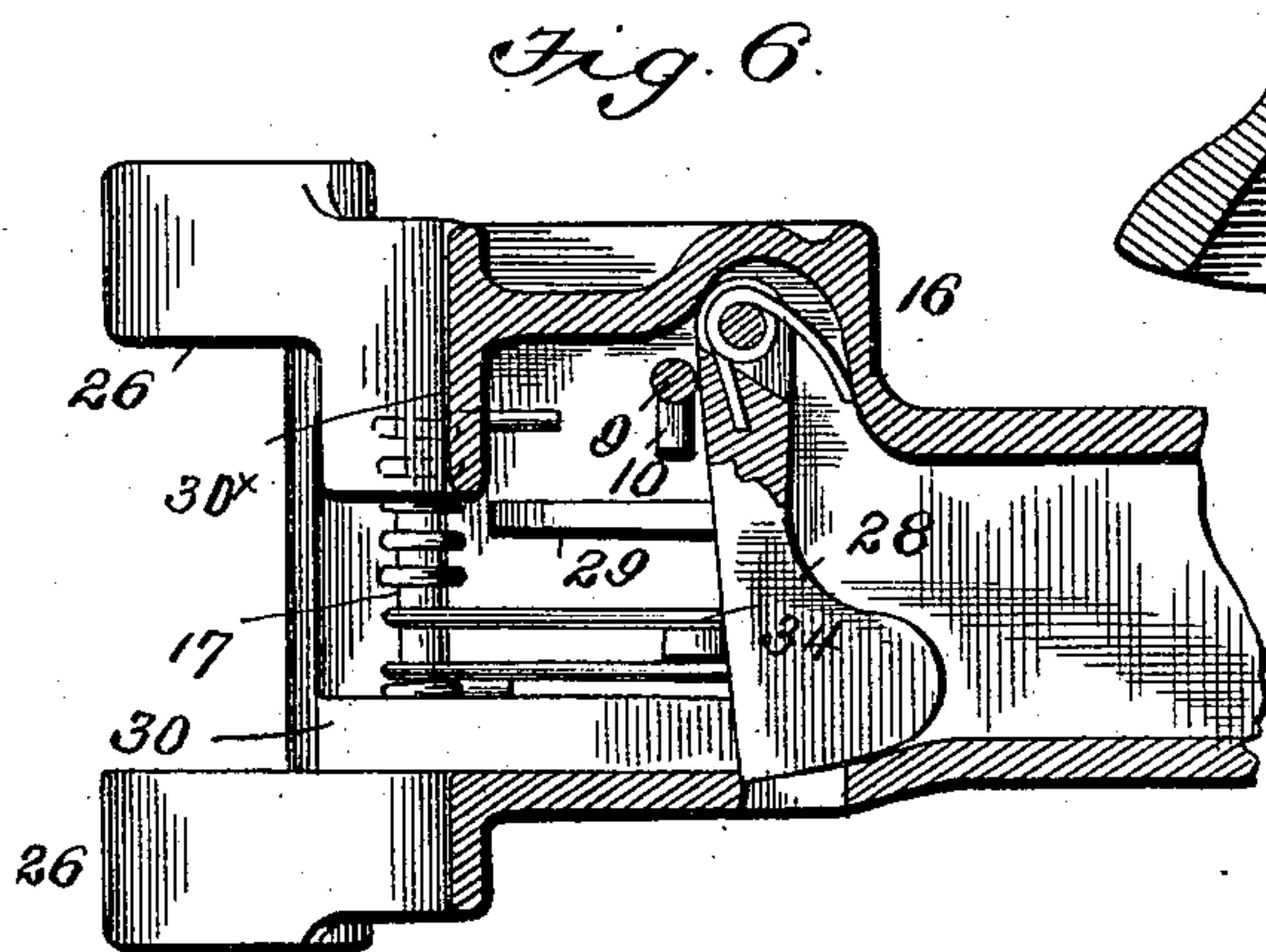
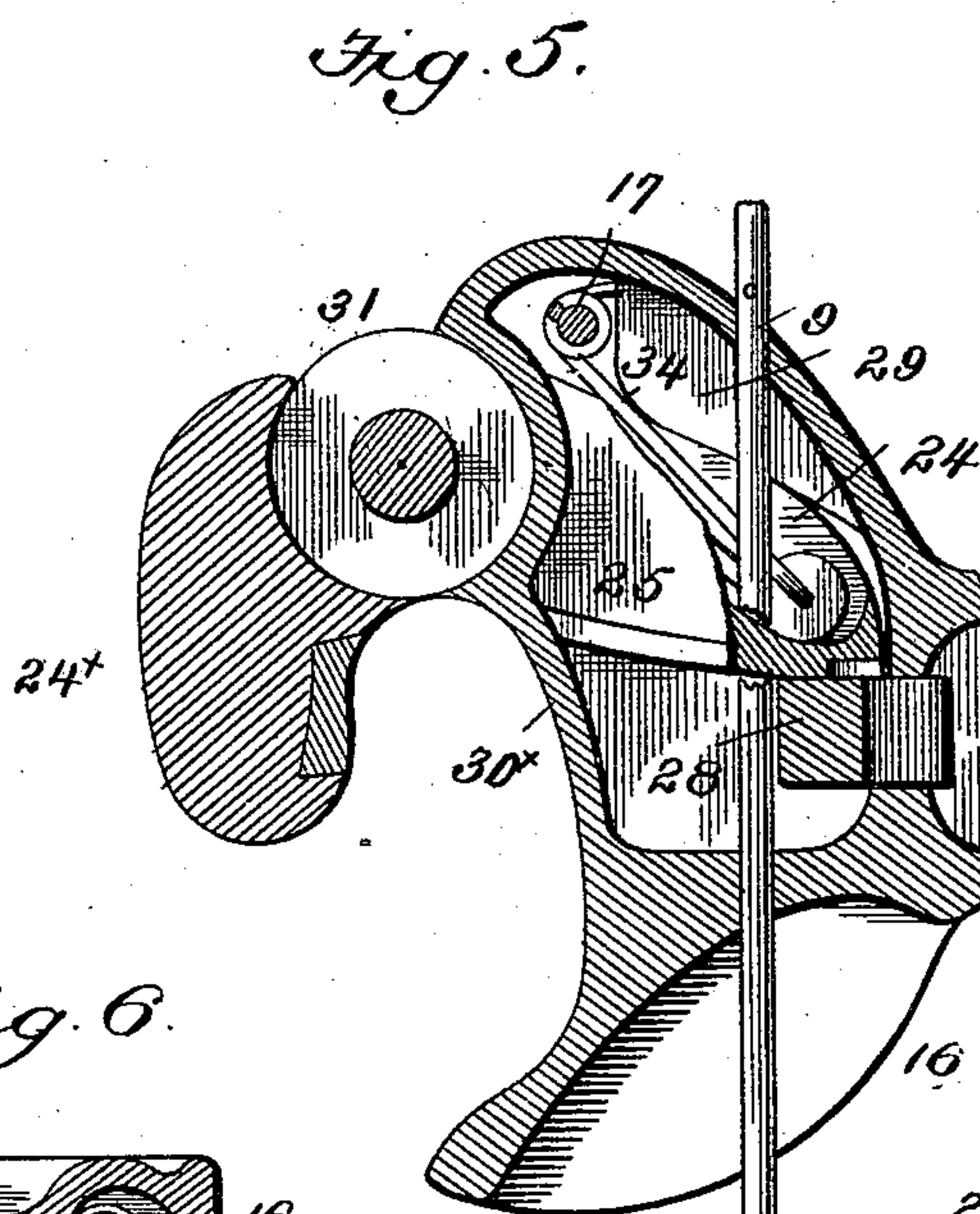
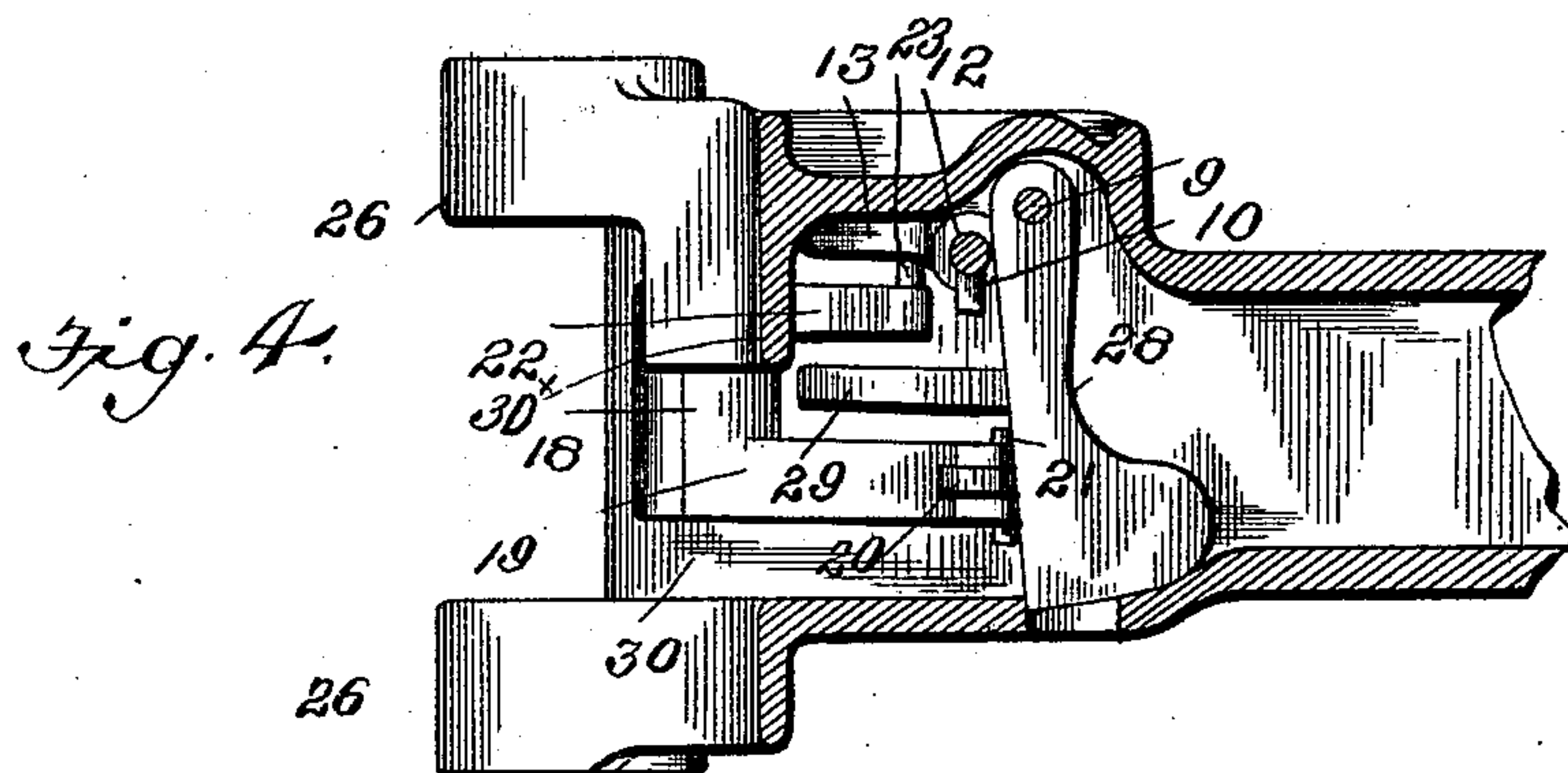
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Witnesses
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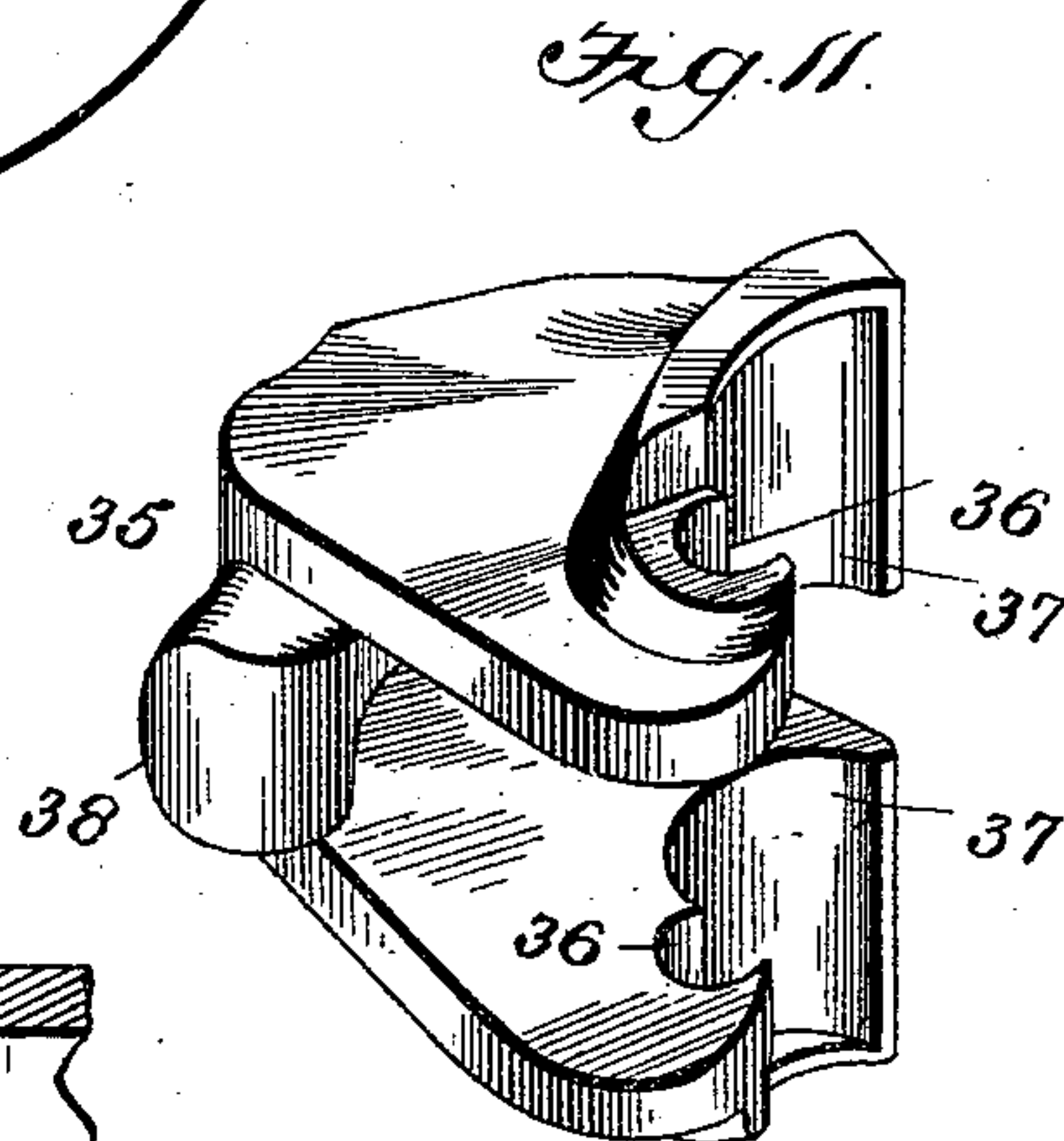
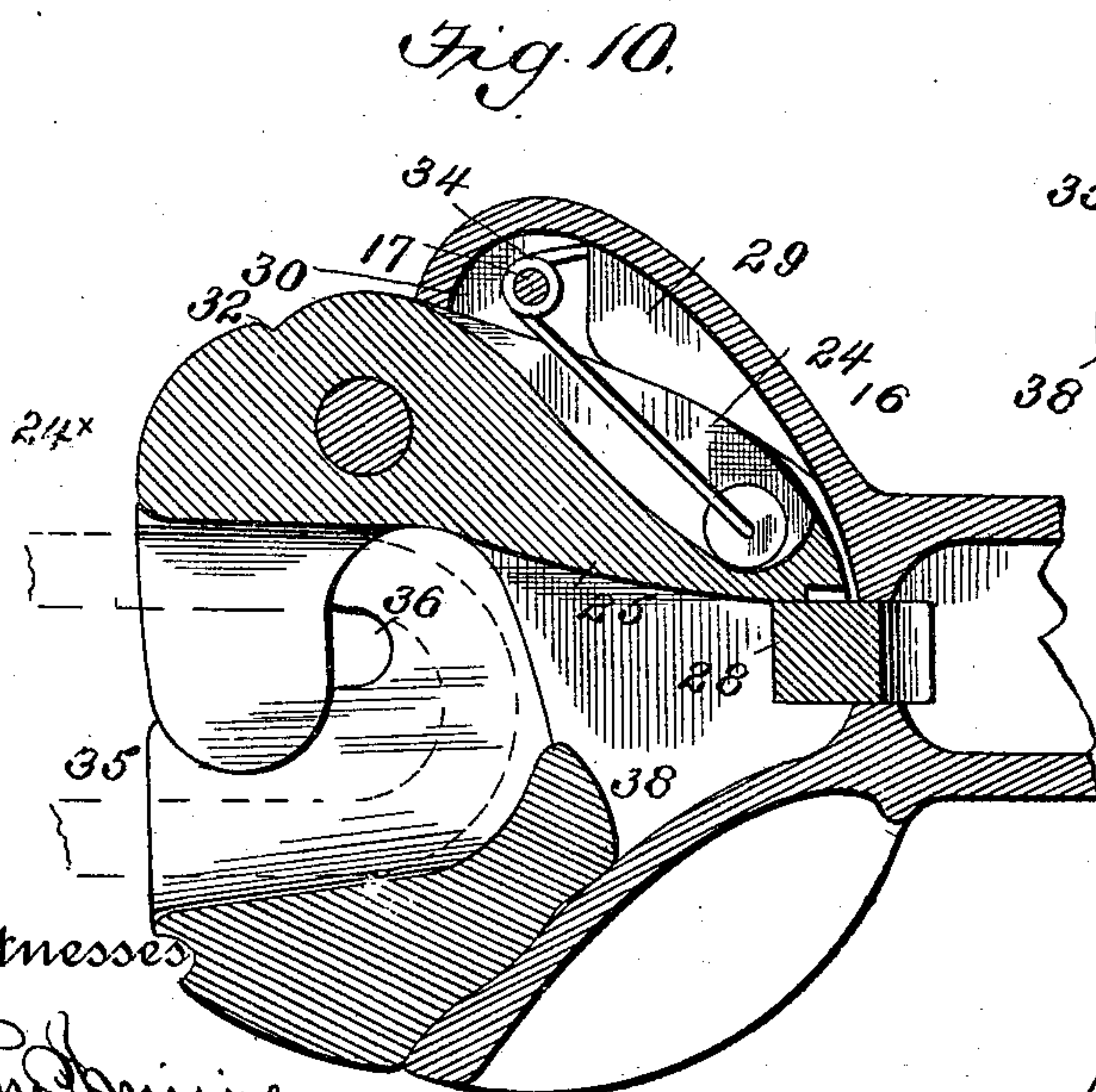
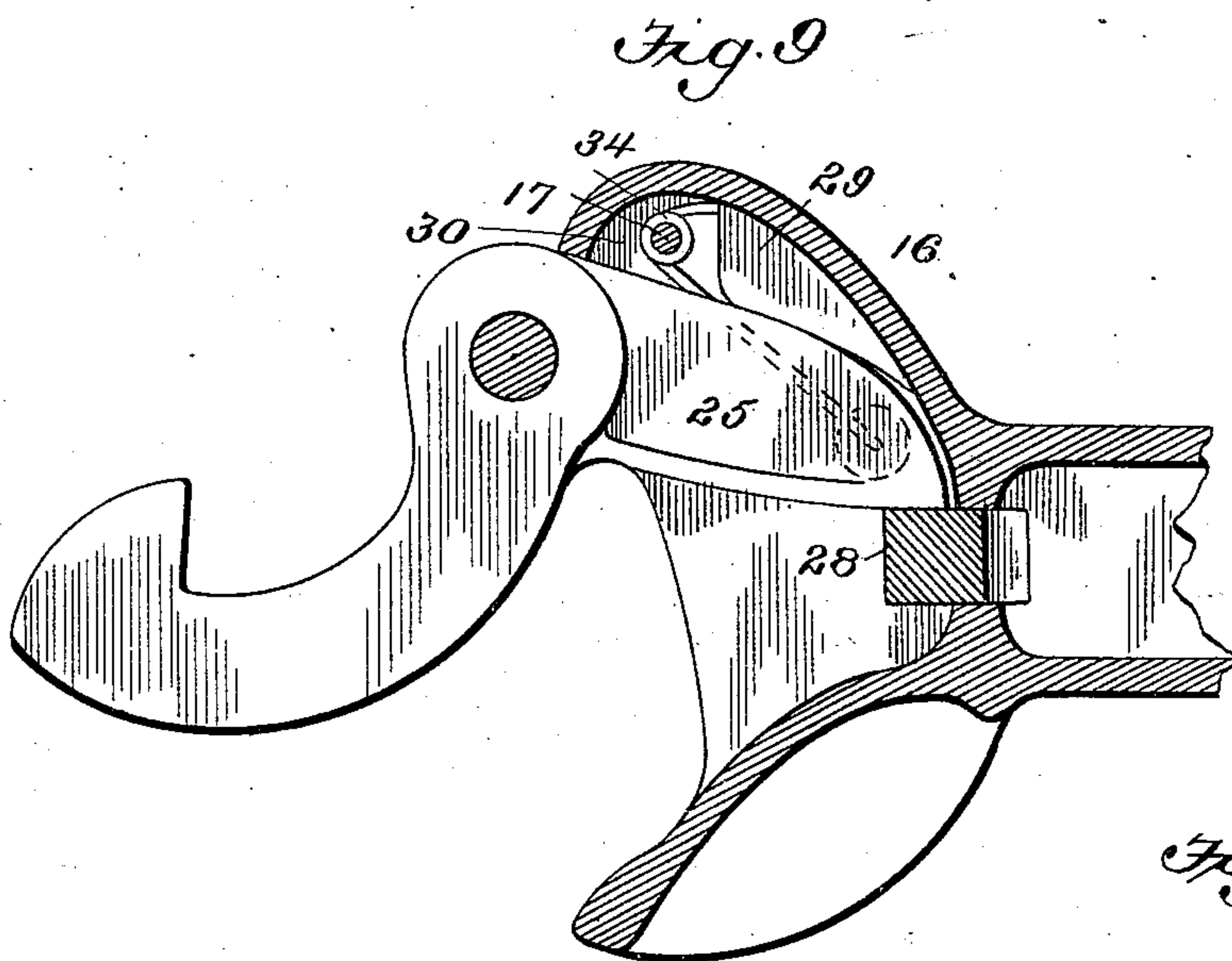
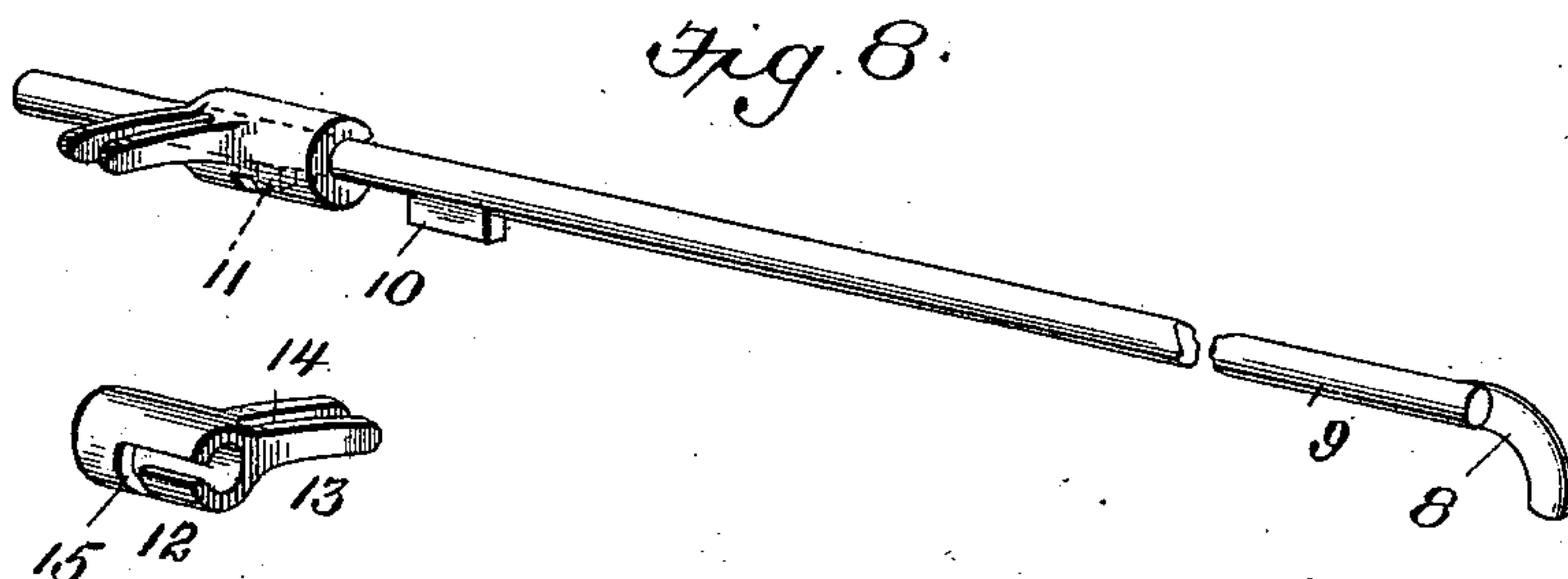
(No Model.)

3 Sheets—Sheet 3.

P. BROWN.
CAR COUPLING.

No. 542,237.

Patented July 9, 1895.



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UNITED STATES PATENT OFFICE.

PERRY BROWN, OF WILMINGTON, DELAWARE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 542,237, dated July 9, 1895.

Application filed September 7, 1894. Serial No. 522,348. (No model.)

To all whom it may concern:

Be it known that I, PERRY BROWN, a citizen of the United States, residing at Wilmington, in the county of New Castle and State of Delaware, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

This improvement relates to that class of couplings known as "twin-jaw" couplings, and is mainly designed to make said couplings more convenient in operation, so that they may be operated both in opening and closing from the platform.

To this end the invention consists in the peculiar construction, arrangement, and combinations of parts hereinafter more particularly described and then definitely claimed.

In the accompanying drawings, Figure 1 is a front view of a part of a car having my coupling. Fig. 2 is a side view of the same. Fig. 3 is a horizontal section of the coupling on the line *xx* in Fig. 2, with parts broken away. Fig. 4 is a vertical central section of the same with the clutch removed. Fig. 5 is a horizontal section, corresponding to the line *xx* on Fig. 2, of a modification with part of the clutch broken away. Fig. 6 is a vertical section of the same. Fig. 7 is a perspective view of the clutch detached. Fig. 8 is a perspective view of a rock-shaft and sleeve, also detached. Fig. 9 is a central horizontal section showing my draw-bar in use with a "Miller" hook. Fig. 10 is a horizontal section showing a detached block to be used when it is desired to couple with a car having an ordinary link. Fig. 11 is a perspective view of said detached block.

Referring now to the details of the drawings by figures, 1 represents the platform, 2 the rail thereof, and 3 a lever having a diagonal slot 4 and an eye 5.

At 6 is shown a hollow casting set in the platform and provided with a roller 7, which works in the slot 4 as the lever moves up and down in operating the coupling.

In the eye 5 works a curved arm 8 of a rock-shaft 9, mounted in the draw-bar 16, provided with a second shorter arm 10 and a lug 11. On the inner extremity of the rock-shaft 9 is a sleeve 12, having an arm 13, provided with a groove or slot 14, and in the body of the sleeve

is an angular slot 15, making, in conjunction with the lug 11, a bayonet-joint for connecting the sleeve 12 and rock-shaft together.

Pivoted in the mouth of the draw-bar 16 by a pin 17 is a double crank 18, having one arm 19, provided with a roller 20, working on a pin 21, and a second arm 22, having an upwardly-projecting pin 23, which works in the groove 14. The roller 20 and pin 21 work in a recess 24 in the locking-arm 25 of the clutch 24^x, which is pivoted in the ears 26 of the draw-bar. The roller 20 bears against the back of the recess, while the pin 21 acts against the walls of grooves 27 in the walls of the recess 24.

At the back of the mouth of the draw-bar is pivoted a swinging locking-dog 28, which coacts with the locking-arm of the clutch to hold the latter in the locked position.

On the left-hand side of the mouth two ribs 29 30 are formed, with which the back of the locking-arm of the clutch comes in contact when the said arm is driven back in coupling the cars. These ribs serve two purposes, one being a cover or protection for the arm 19, and the other purpose is to strengthen the draw-bar and thus overcome the weakness at this point, which frequently causes the ears 26 to break off. The draw-bar is further strengthened by the rib 30^x, which depends from the top of the mouth of the draw-bar and partially surrounds the upper part of knuckle-joint 31 of the clutch.

At 32 is shown a guard-arm to catch the opposite coupling should it break away. The upper end of this guard-arm embraces one of the ribs of the draw-bar and is secured there by a bolt 33, passing through the guard and rib.

To allow the rock-shaft 9 to be inserted in its bearings in the draw-bar with the arm 10 fast thereon, the hole through which the rock-shaft passes is made of keyhole shape, as shown in Fig. 2, the round part fitting the shaft and the oblong part being of proper size to admit of the passage of the arm 10 and lug 11.

The operation is as follows: If the clutch is closed and the operator desires to open it he moves the lever 3 toward the left, which first causes it to ride upward on the roller 7, as shown by the dotted lines nearest the lever in full lines in Fig. 1, and as it rises it rocks

the shaft 9, causing the arm 10 to move backward the locking-dog 28, and thus liberating the locking-arm of the clutch. As the motion of the lever is continued to the position shown by the second dotted lines, the shaft 9 is moved endwise, causing the arm 13 of the sleeve 12 to move also, which causes the arm 22 to move outward, carrying with it the arm 19 and roller 20, which latter pushes the clutch outward. To draw the clutch inward the reverse movement of the lever is made, which makes the rock-shaft first rock on its axis, so as to allow the locking-dog to fall and then move endwise, causing the pin 21 to act on the walls of the grooves 27 in the locking-arm of the clutch, and thus return the latter to its closed position, where it is locked by the dog 28.

In some cases I may make the operating device as shown in Figs. 5 and 6, in which the roller 20 is carried by a spring which forces the clutch open when the locking-dog is forced backward by the arm 10. With this arrangement no endwise movement of the shaft is necessary.

I show in Fig. 6 a spring which may be used to assist the motion of the locking-dog, but I do not consider this necessary, as the dog will surely drop of its own gravity.

In order to allow of the use of the ordinary link and pin, I provide a detached block 35, which fits into the space between the clutch and the draw-bar, as shown in dotted lines in Fig. 3 and in full lines in Fig. 10, and is provided with vertical recesses or holes 36 to receive the coupling-pin, and a horizontal recess to receive the link indicated by dotted lines in Fig. 10. The front of the block is provided with sockets 37 to receive the end of the clutch, and at the rear is a projection 38, which enters the mouth of the draw-bar to prevent the block from swinging outward.

I prefer to support the locking-dog against the force exerted by the locking-arm of the clutch by making that wall of the recess in which the dog works, which is opposite said locking-arm when closed, project farther than the other side, as shown at 40 in Fig. 3. This, however, is not absolutely necessary.

What I claim as new is—

1. The combination with a car-coupling, of a detached block 39 fitting between the clutch and the draw-head, having a single projection 38 midway of its height, semicircular recesses to receive the coupling-pin, and recesses 37 adapted to receive the nose of the clutch of the coupling, and having flanges at top and bottom to keep the same from shifting vertically, substantially as described and shown.

2. The combination with a coupling, having a clutch and a locking-dog, of a rock-shaft

adapted to move longitudinally provided with an arm to move the locking-dog, and intermediate mechanism between the rock-shaft and clutch constructed and arranged to open the clutch by an endwise movement as the rock-shaft moves in one direction, and close the same as it moves in the opposite direction, substantially as described.

3. The combination with a car-coupling having a clutch and a locking-dog, of a sliding lever working on a fulcrum parallel with the length of the car, and intermediate mechanism between said lever and the clutch and dog, constructed and arranged to operate the dog and push open the clutch by a movement of the lever crosswise of the car, substantially as described.

4. The combination with a coupling, having a clutch and locking dog, of a slotted lever pivoted near the platform, a rock-shaft having an endwise movement, and intermediate mechanism between the shafts and the clutch for operating said clutch, substantially as described.

5. The combination with a car coupling, having a clutch and a locking dog, of a lever 3 having a slot 4, a support for said lever near the platform, a rock-shaft 9 having arms 8 and 10, and an arm 13 connected with said rock-shaft 9, and a double crank 18, one arm of said crank being connected to the arm 13, and the other arm acting on the clutch, substantially as described.

6. The combination in a coupling having a swinging clutch and a locking device therefor, of a crank constructed and arranged to throw out and draw in said clutch, and a rock-shaft independent of the locking device and having a cam operating on said locking device and means for moving said crank, substantially as described.

7. In a car coupling, the combination with the clutch 14, a crank 18 for operating the same, of ribs 29, 30 for protecting the crank and strengthening the draw-bar, substantially as described.

8. The combination with a draw-bar having an external rib, of a guard-arm 32 having its upper end bent to form a clamp embracing said rib, and a bolt passing through both jaws of the clamp and the rib, whereby the guard is securely fastened by a single bolt, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 7th day of September, 1894.

PERRY BROWN.

Witnesses:

THOS. E. ROBERTSON,
W. E. CLENDANIEL.