

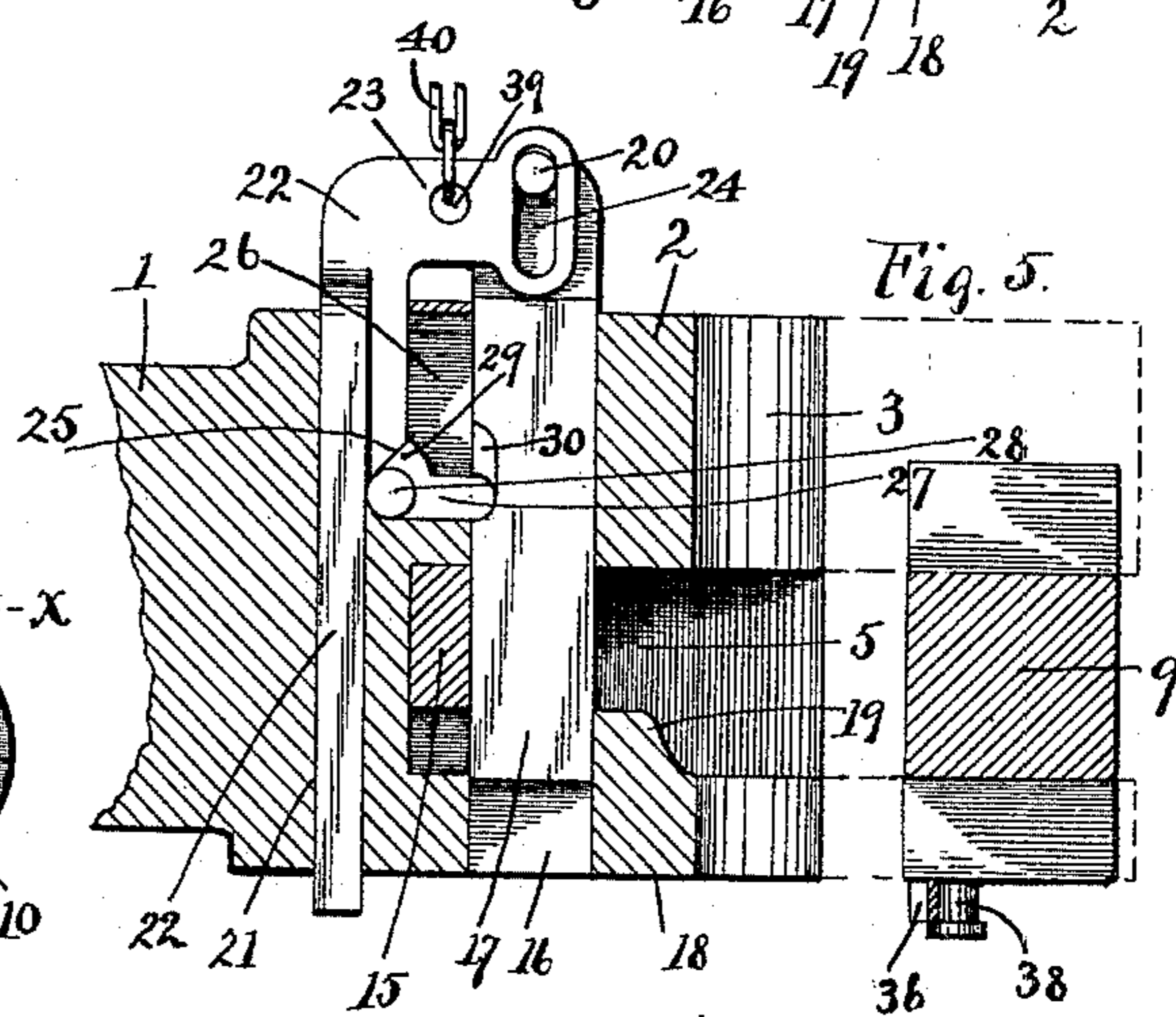
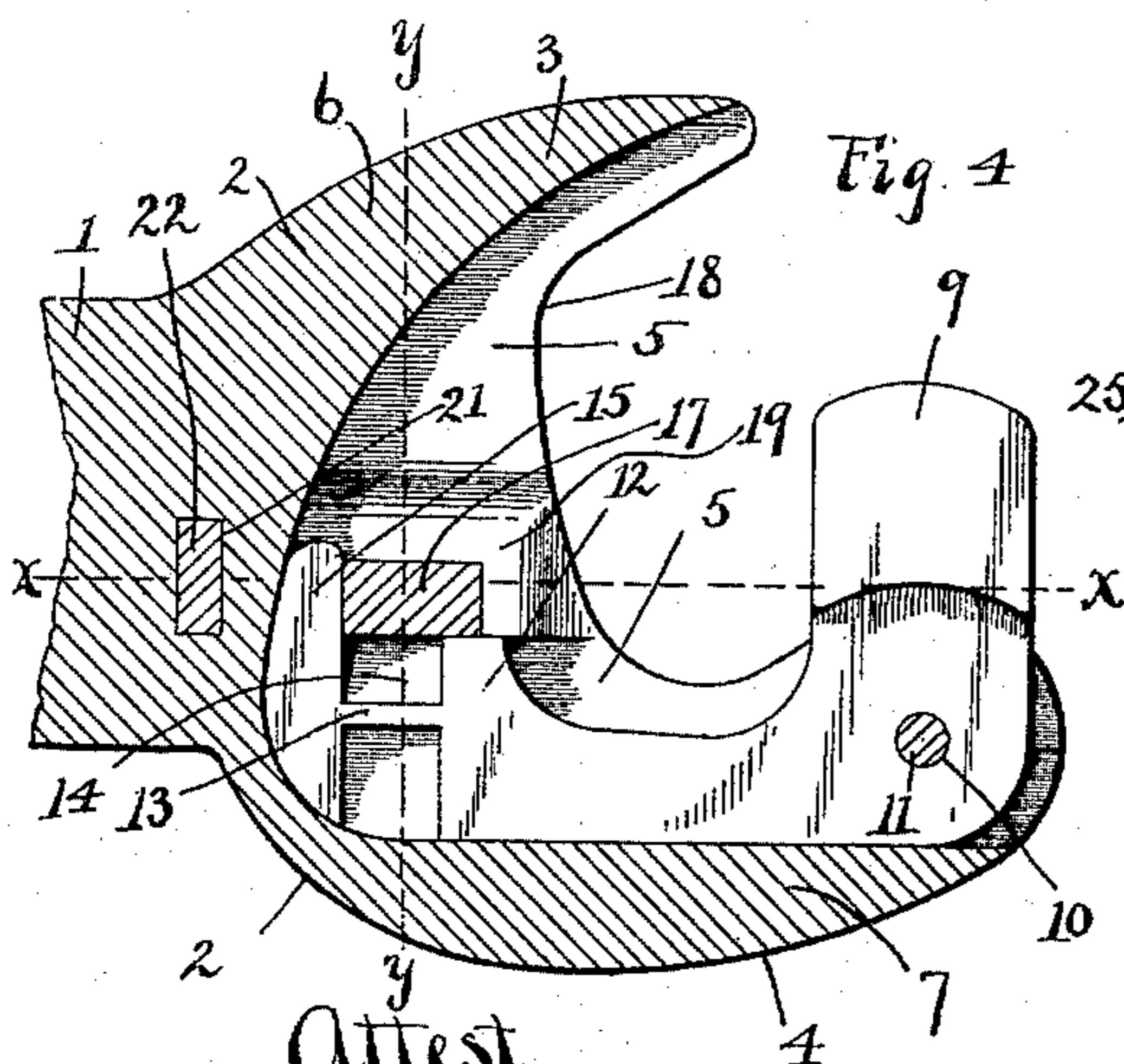
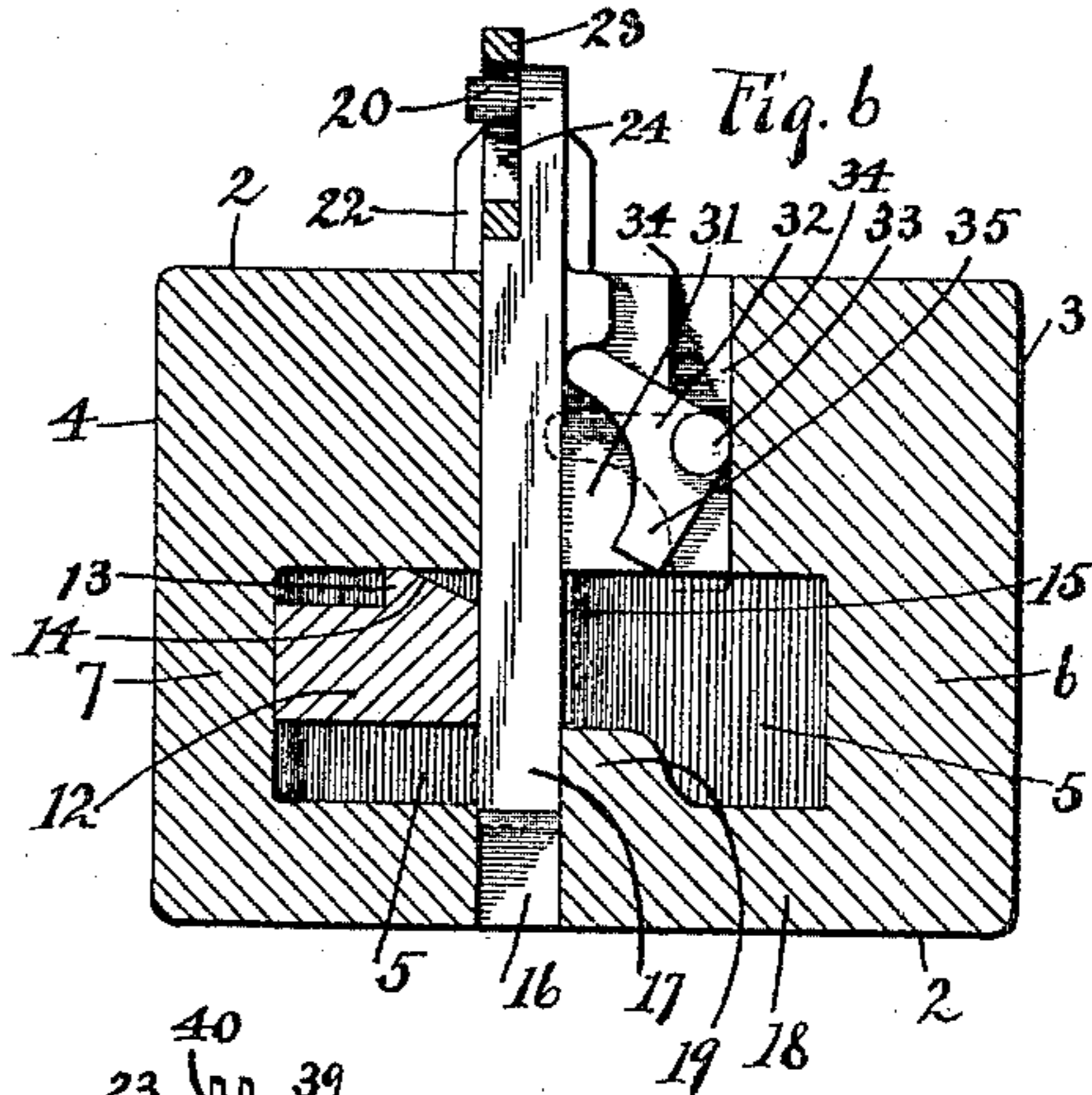
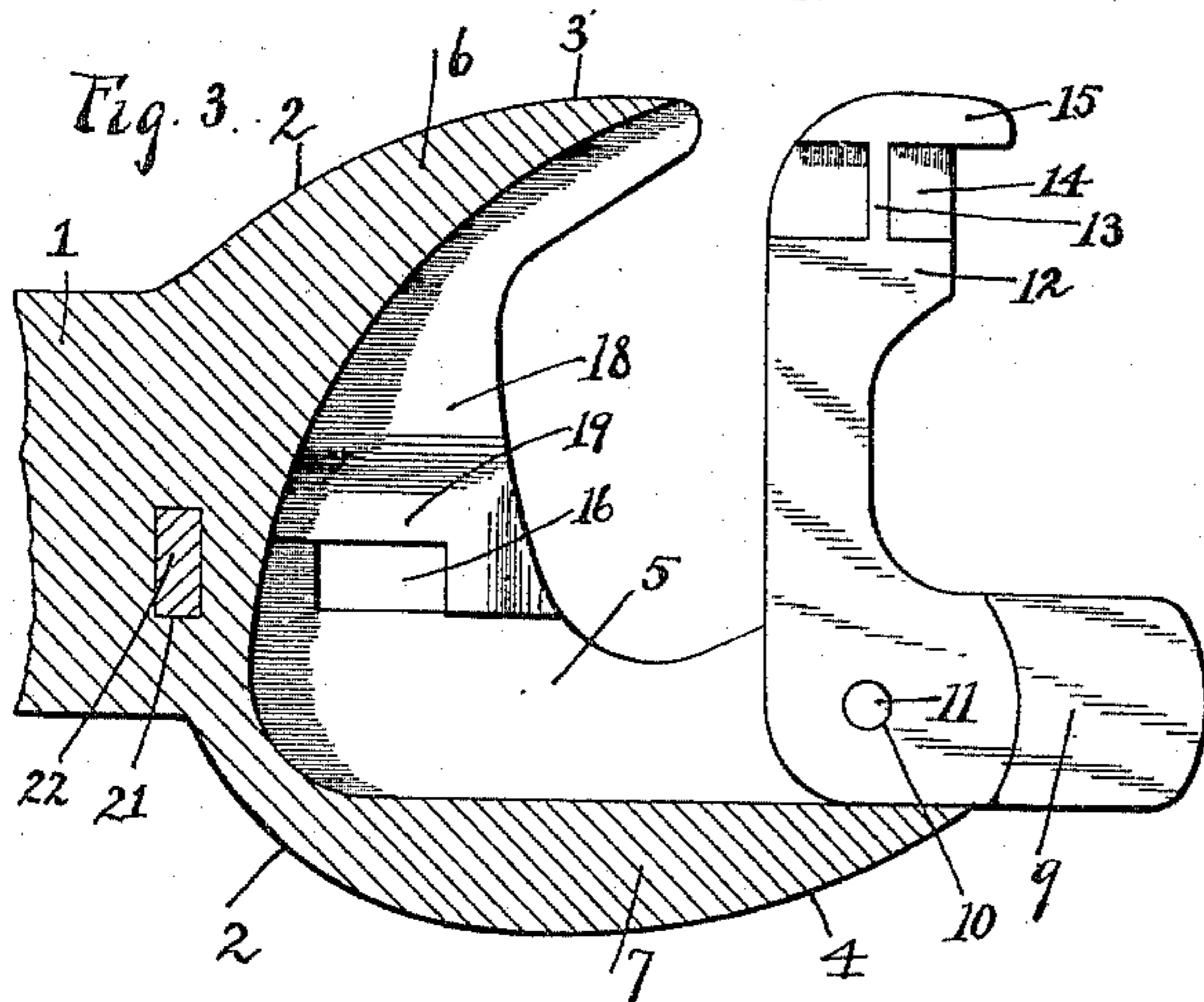
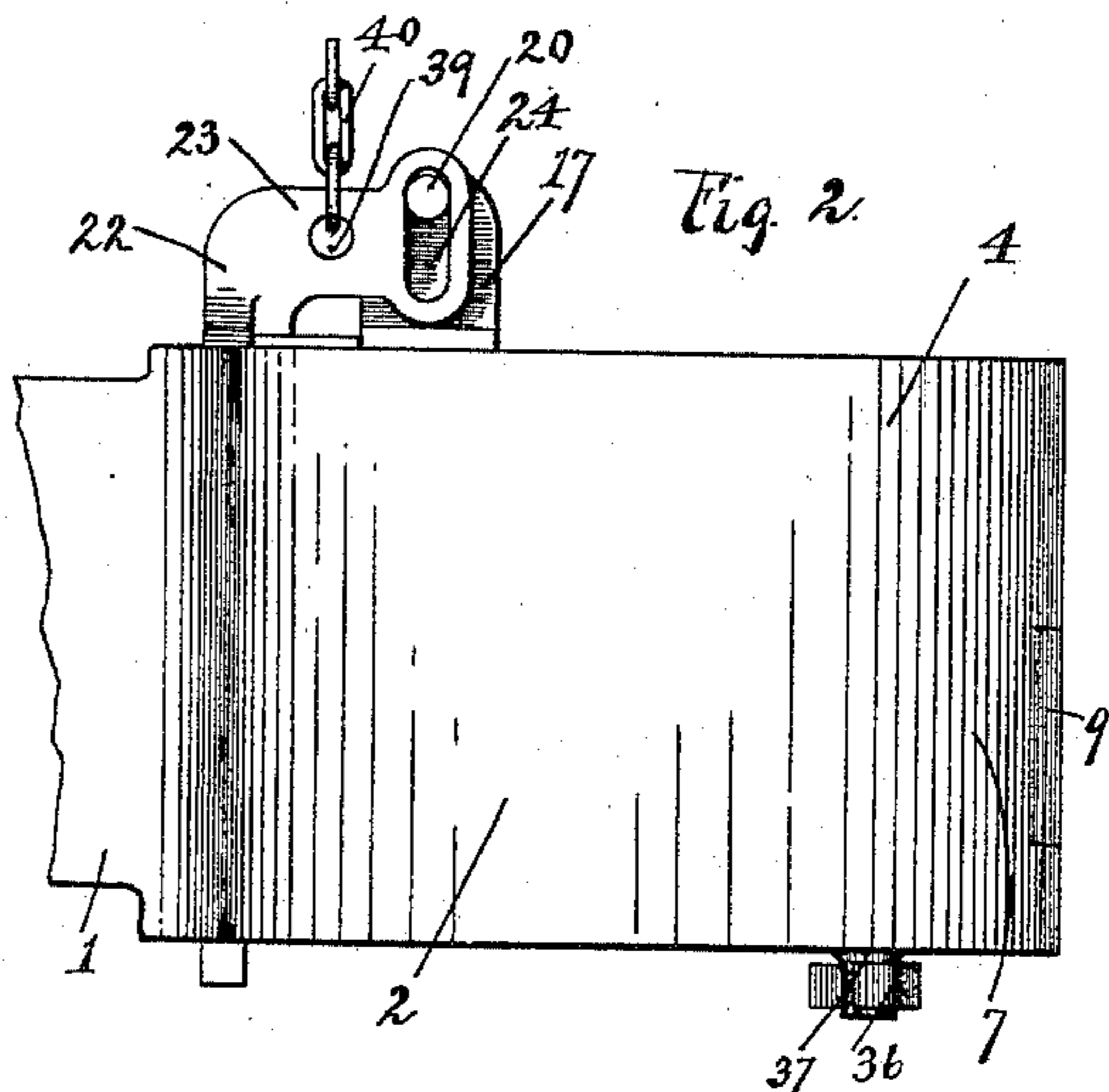
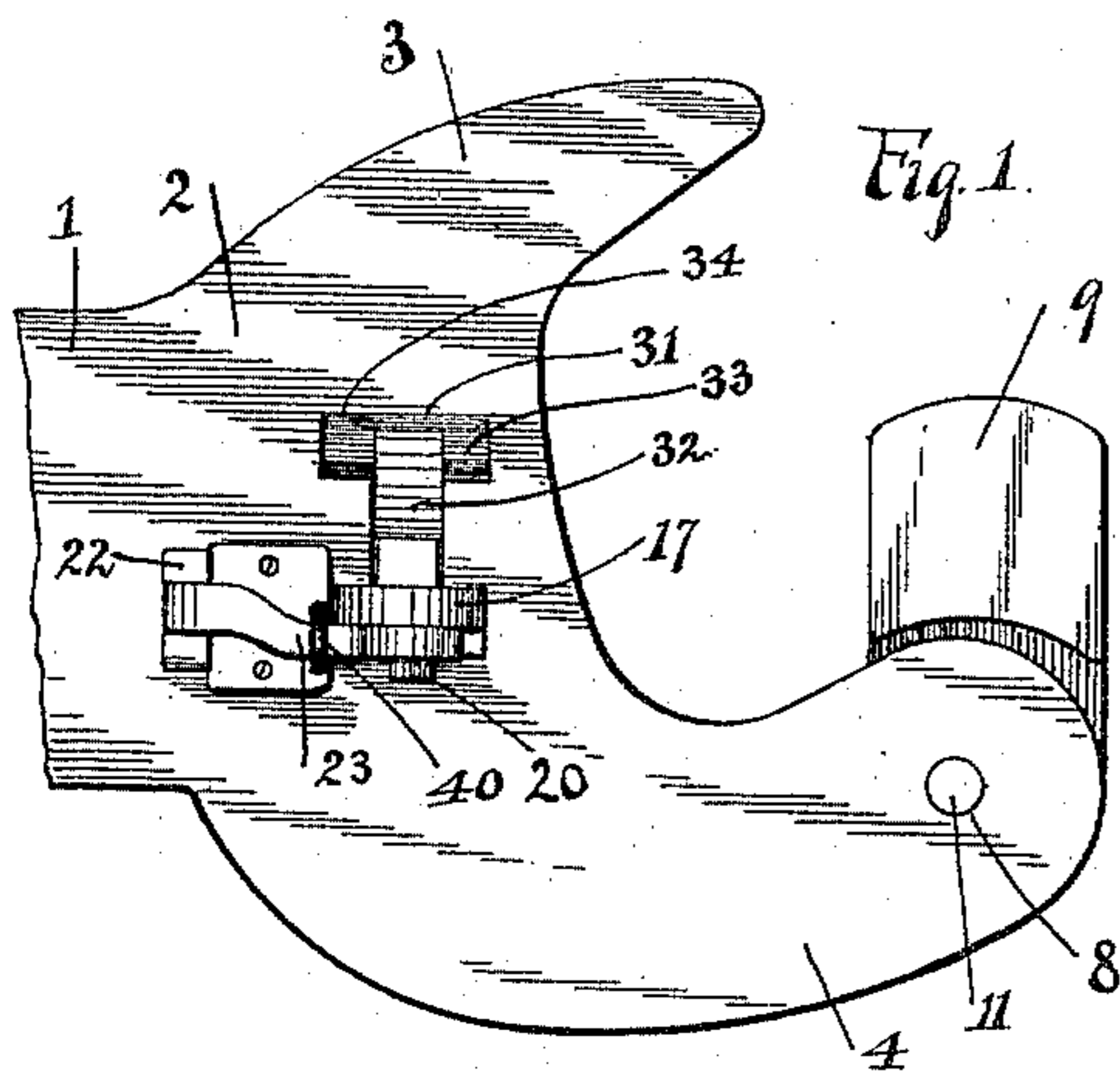
(No Model.)

2 Sheets—Sheet 1.

T. H. HAWICK.
CAR COUPLING.

No. 495,487.

Patented Apr. 18, 1893.



Attest
J. B. Beckwithinger.
G. P. Thomas.

Inventor
Theodore H. Hawick
By Jas. E. Thomas Atty

(No Model.)

T. H. HAWICK.
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2 Sheets—Sheet 2.

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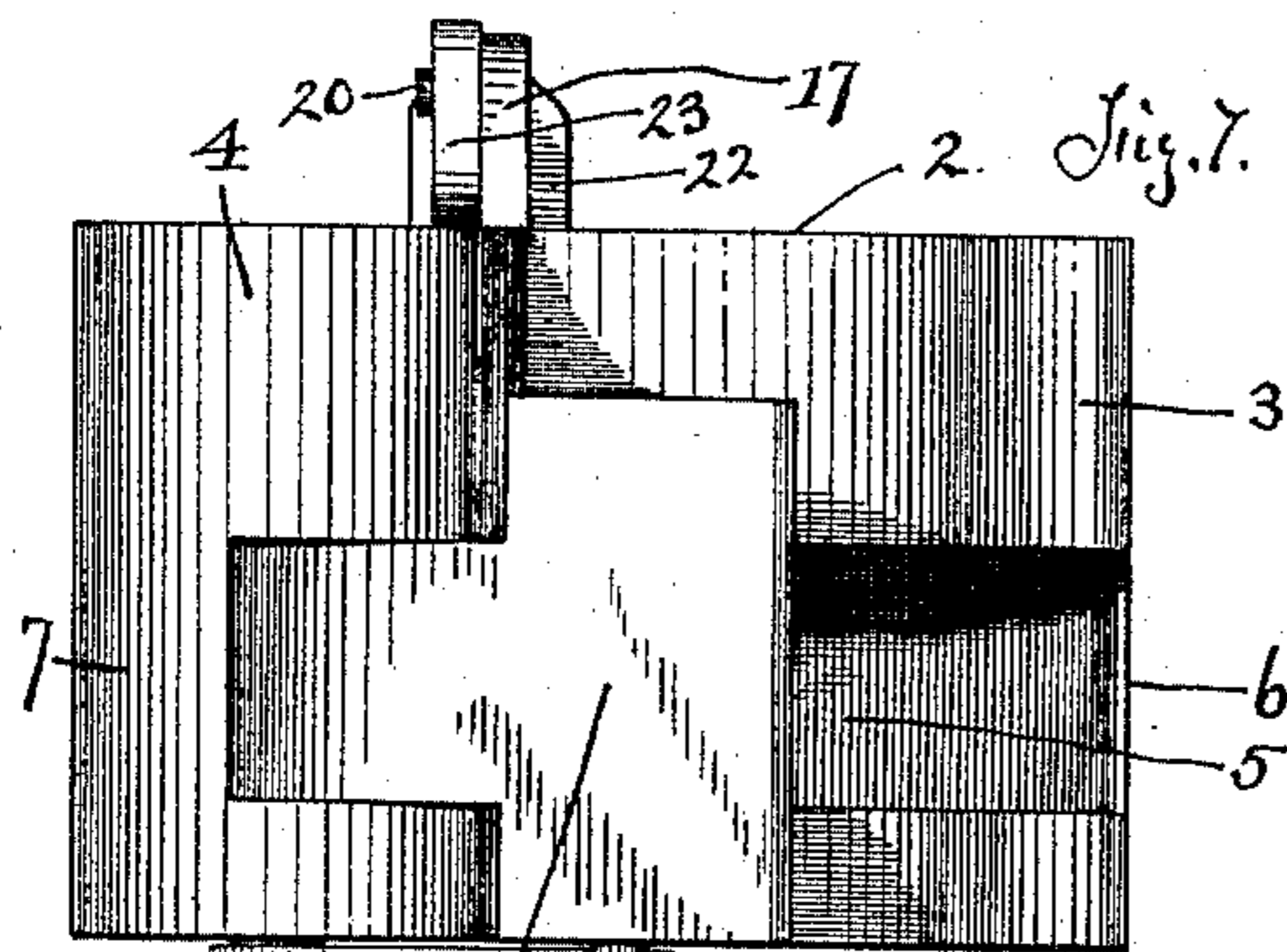


Fig. 7.

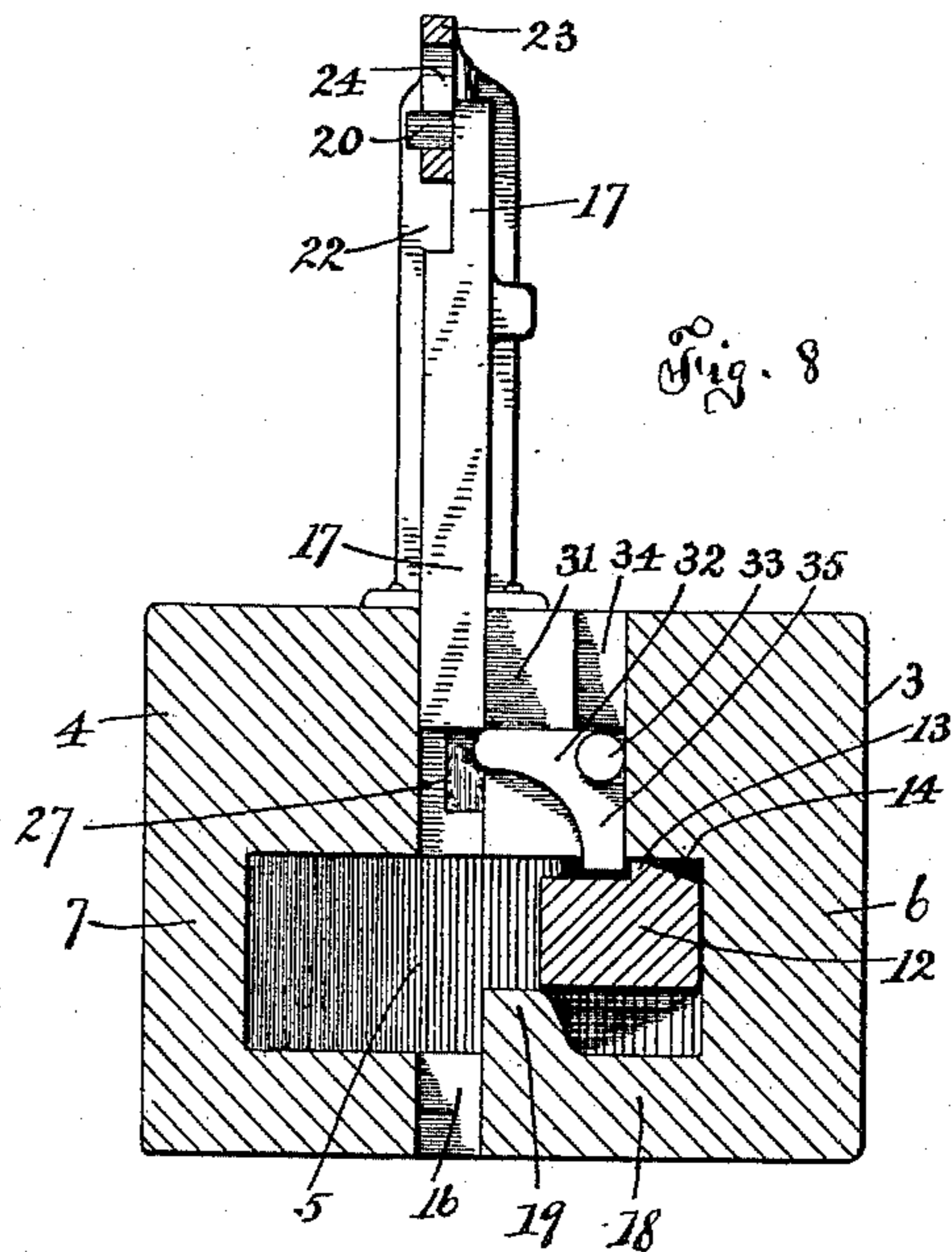


Fig. 8.

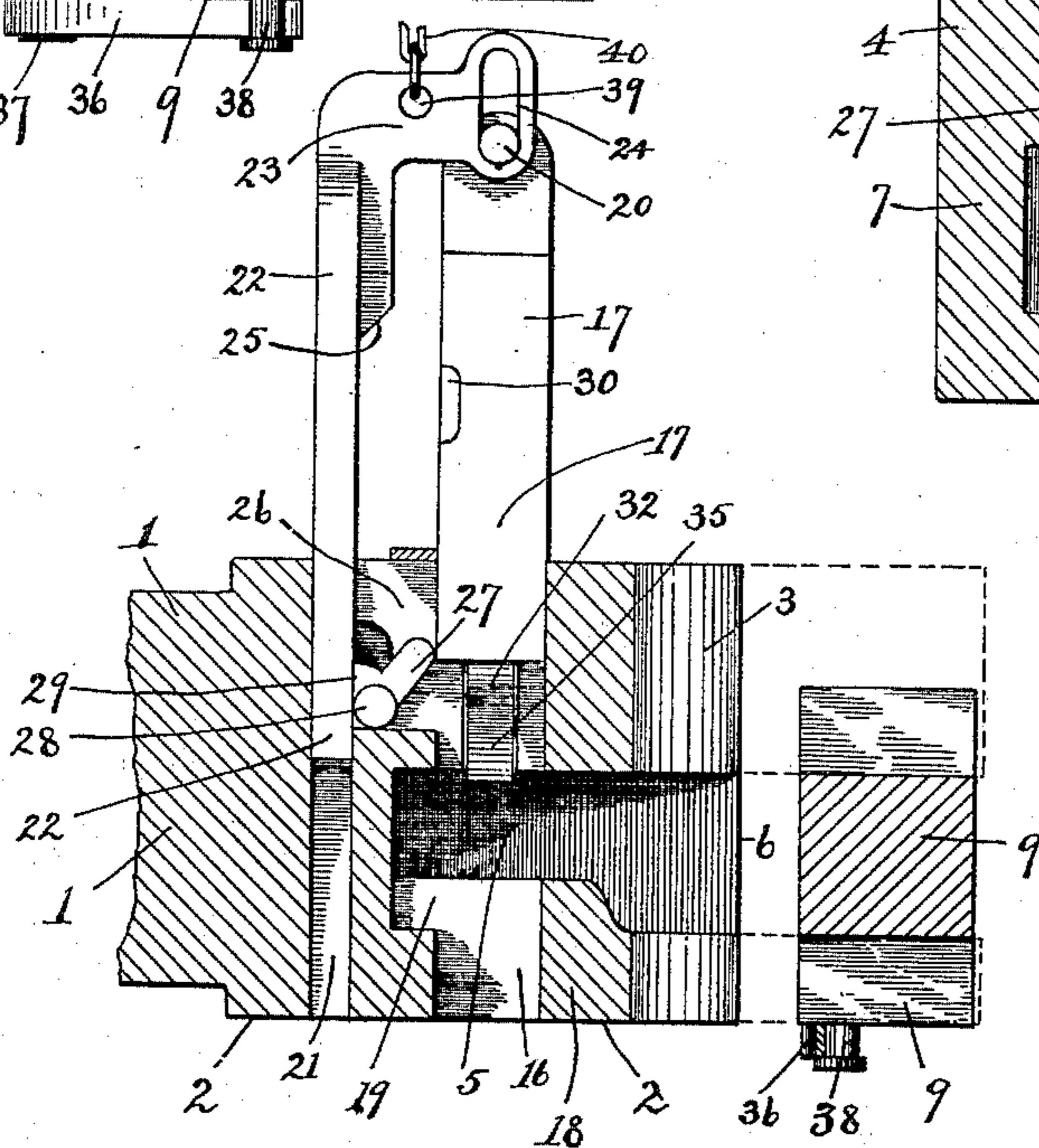


Fig. 9.

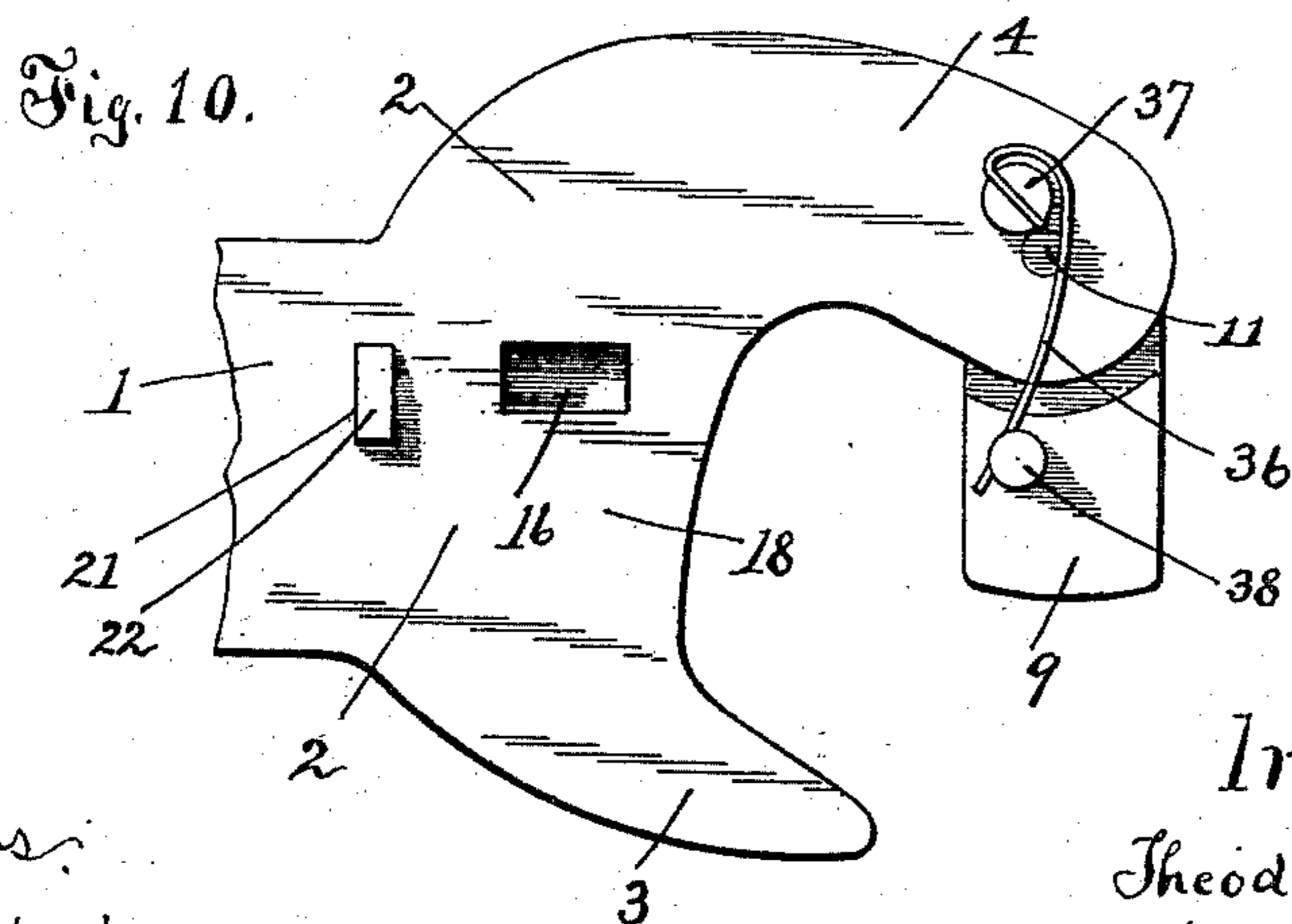


Fig. 10.

Attest.
G. P. Thomas.
J. D. Bissinger

Inventor.
Theodore H. Hawick.
By Jas. E. Thomas.
Atty.

UNITED STATES PATENT OFFICE.

THEODORE H. HAWICK, OF GRAND RAPIDS, MICHIGAN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 495,487, dated April 18, 1893.

Application filed December 29, 1892. Serial No. 456,665. (No model.)

To all whom it may concern:

Be it known that I, THEODORE H. HAWICK, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to improvements in car couplings of the class in which pivoted hooks are used to effect the coupling of the car together, and the invention pertains more especially to the device whereby the hooks
15 are retained in position after the coupling operation is effected, in the means for more readily effecting the coupling, and retain the coupling heads in engagement with each other, and in the means for effecting a free
20 and easy disconnection or uncoupling of the same.

The invention consists in the combination and arrangement of the several devices, and in the operation of the same, as will be hereinafter more definitely explained and specifically pointed out in the claims of this specification.

30 One of the objects of this invention is to provide a car coupling of the class mentioned whereby the devices may be quickly arranged to couple automatically, as the opposing draw heads are brought together, or placed in position that the coupling of the heads when they come together may be prevented as desired.

35 Another object of the invention is to provide means whereby the coupling and uncoupling operations may be effected from either side, without requiring the operator to pass between the cars.

40 Another object is to provide means for retaining the coupling jaws in a locked position whereby the accidental disengagement is avoided.

45 The device and contrivances I use to obtain these objects are illustrated in the accompanying drawings, wherein figures of reference used in the following specification will be found designating the same parts throughout the several views.

50 Figure 1, represents a plan view of my improved coupling, showing the position of the parts when coupled. Fig. 2, is a side view of

the same in elevation. Fig. 3, is a horizontal section of the same with the parts in position for coupling automatically. Fig. 4, is the same showing the position of the parts when coupled. Fig. 5, is the longitudinal section of Fig. 4, taken at $x-x$. Fig. 6, is a transverse section of the same taken at $y-y$. Fig. 7, is a front end view of Fig. 1. Fig. 8, is the same as Fig. 6, with the parts in position when the coupling hook is being operated forwardly. Fig. 9, is the same as Fig. 5, with the coupling pin withdrawn. Fig. 10, is a view of the under side of the coupling as shown in Fig. 1.

1, represents the outer end of the draw bar of any ordinary type, and 2, is a draw head provided on one side with an outwardly extending portion 3, and upon its opposite lateral side with a forwardly extending arm portion 4.

5, is a horizontal chamber arranged in the front portion of the draw head and extending into the portions 3, and 4, preferably arranged in the form of a slot, and leaving a solid portion 6, in rear of the chamber on the portion 3, and the solid portion 7, on the outer lateral side on that part of the chamber which reaches into the portion 4. A vertical opening 8, is arranged in the outer part of the arm 4, through the parts above and below the slot or chamber 5, and a coupling hook or clutch 9, provided with an opening 10, is passed into the chamber 5, in a position to register the opening 10, with the opening 8, and a pivot 11, is passed through these openings for pivotally retaining the coupling hook in position.

An arm 12, is extended at a right angle from the pivoted portion of the coupling clutch 9, and is arranged to reach to the rear portion of the chamber 5, and at the outer end of this arm and upon the upper side thereof is arranged the shoulder 13, facing the outer edge of the arm, and the surface 14, inclined toward the inner edge of the arm transversely, while upon the inner side of the end portion of the arm beyond the incline and the shoulder is arranged an inwardly extending boss or projection 15.

In the portion of the head above the chamber 5, is provided a vertical opening 16, preferably of rectangular form and with its rear side in coincidence with the front side of the

projection 15, when the parts are in the position shown in Fig. 4.

Within the opening 16, is placed a draw-pin 17, with its bottom resting upon the upper surface of the portion 18, of the draw head 5 beneath the chamber 5, and on the front and inner side of the pin, a rib 19, raised from the portion 18, to form a solid support for the lower end of the pin, against a lateral or an outward strain, and the upper end of the pin 10 which projects above the draw head is provided with a transverse pin 20.

The portion of the draw head in rear of the opening 16, is provided with a vertical opening 21, into which is passed a locking pin 22, and this pin is provided with a forwardly extending arm 23, having a vertical slot 24, passed over the pin 20, so that the pin 22, may be moved upwardly alone while the slot moves 20 over the pin 20, and then the pins both move upward together over the remainder of their travel. On its front side the pin 22, is provided with a projection 24, having on its under side an upwardly and forwardly inclined surface 25, and the upper part of the portion between the openings 16, and 21, is cut out forming a space or chamber 26, into which is placed a latch 27, supported by a transverse pivot 28, at its rear end and is provided above its pivot with 30 an upwardly and forwardly inclined face 29, which when the parts are in a working position comes in contact with the face 25, upon the pin, and the forward end of the latch 27, is arranged to engage, when in a working position, with the lower portion of a notch 30, 35 formed in the rear side of the pin 17, and will be held against an upward movement by the inclined surface 25, operating to prevent the upward oscillation of the latch, while the upward movement of the pin 22, removes the inclined surface 25, from contact with the latch and when the pin 20, engages with the lower end of the slot 24, and then both pins move upwardly together, the latch oscillat- 45 ing upwardly and moving out of the notch.

The portion of the draw head on the inner side of the opening 16, is cut away to form a chamber 31, and in this chamber is placed a dog 32, provided on the lateral sides of one 50 end with bosses or journals 33, which rest in vertical grooves 34, in the front and rear sides of the chamber, and this dog is provided on its inner end with a downwardly extending arm 35, with its lower end reaching a point coincident with the upper surface of the chamber 5, when the parts are in a working position as shown in Fig. 6, and reaching slightly into the chamber when the pin 17, is lifted to bring its lower end above the dog 32, so 60 that the pin rests upon the outer end of the dog. The inner side of the arm 35, will rest against the side of the chamber 31, and retain the pin in position free from contact with the arm 12, and when the arm 12, is freed from contact with the pin 17, the coupling hook is 65 actuated outwardly by a spring 36, which has one end secured to a boss 37, projecting be-

neath the part 4, and with its opposite end in contact with a boss 38, upon the under side of the hook 9, and the outward oscillation of the hook operates the arm 12, inwardly 70 and the incline 14, then comes in contact with the projecting end of the arm 35, and moves the dog and the pin upwardly until the arm 12, has passed the pin, and the pin and dog 75 then drop into place as before, and the hook is then held in a position standing forwardly by the spring 36, while the arm 12, stands across the front of the draw-head, so that when two opposing couplings standing in this position 80 are brought together, the outstanding hook of each comes in contact with the arm 12, on the opposing coupling and moves the arms inwardly which turns the hooks on their pivots so that they interlock together, and as the 85 arms move inwardly the shoulder 13, engages with the arm 35, and moves the arm outwardly and oscillates the dog upon its pivot until its end is clear of the end of the pin which then drops upon the upper surface of the arm 12, 90 and as the arm passes the pin it then drops into place in front of the arm and into engagement with the rib 19, so that as the hook is drawn outwardly in moving the cars the inner side of the lever 12, bears against the 95 pin while the projection 15, behind the pin receives the strain of drawing the car.

The arm 23, is provided with an opening 39, to which is attached a chain 40, for withdrawing the pins, or other suitable means may be 100 applied for withdrawing the pins if desired, and any well known means may be applied for lifting the pins from the side of the car. And while the arm 23, is shown as provided with a slot for carrying the pin 20, any equivalent devices may be employed for connecting 105 the pins with each other so as to require an upward movement of the locking pin to obtain before the draw pin is moved, as this feature of the invention is most important and 110 essential, as when the parts are in position for drawing the car, the draw pin is firmly locked in position so that all liability of uncoupling by accident is avoided, and a sure and reliable coupling device is obtained with- 115 out a great increase of expense.

Of course I am aware that while I have described the locking devices as operating with the coupling pin, those parts may be omitted if desired and the coupling pin then operates 120 in the same manner as to its action in drawing the car and the coupling, but for uncoupling the pin would in that case be operated directly for withdrawal, the action of the pin 22, being entirely to lock the coupling pin 125 against withdrawal by any means acting directly upon the coupling pin.

Having described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is— 130

1. In a car coupling, the combination of the draw head provided on one side of its outer end with a forwardly projecting arm and having in its front side a horizontal slotted cham-

ber extending into the inner side of said arm, a coupling hook pivotally secured by one end within said chamber on the outer part of said arm, and having an arm 12, reaching into the rear part of said chamber, and provided with an incline 14, and shoulder 13, a coupling pin passed through a vertical opening 16, in the draw head and engaging with the inner side of the rear end of the arm, with a dog 32, pivotally secured within a grooved chamber 31, in the draw head and with its end extending beneath the coupling pin when the pin is lifted and provided with an arm 35, extending into said horizontal chamber for contact with said inclined face 14, to lift the pin, as the arm moves inwardly, and with the shoulder 13, for tripping the pin when the arm moves outwardly, substantially as set forth.

2. In a car coupling, the combination of the draw head provided on one side with a forwardly projecting arm and with a horizontal chamber in its front face and extending into said arm, the coupling hook pivoted by one

end portion into said chamber and having an arm extending rearwardly into said chamber, a coupling pin passed vertically through the draw head on the inner side of the rear end of said arm, and provided with a notch 30, on its rear side, and with a pin 20, in its upper end, a pin 22, passed through the draw head in proximity to the coupling pin and having an arm 23, with slot 24, engaging said pin 20, and provided on its front side with a projection having an incline 25, and a catch 27, pivotally secured between the coupling pin and the lock pin, and having its forward end extending into said notch 30, and provided on the rear part of its upper side with the incline 29, to retain the catch against lifting, substantially as set forth.

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

THEODORE H. HAWICK.

Witnesses:

WM. G. SAUNDERS,
FRANK ECKERT.