

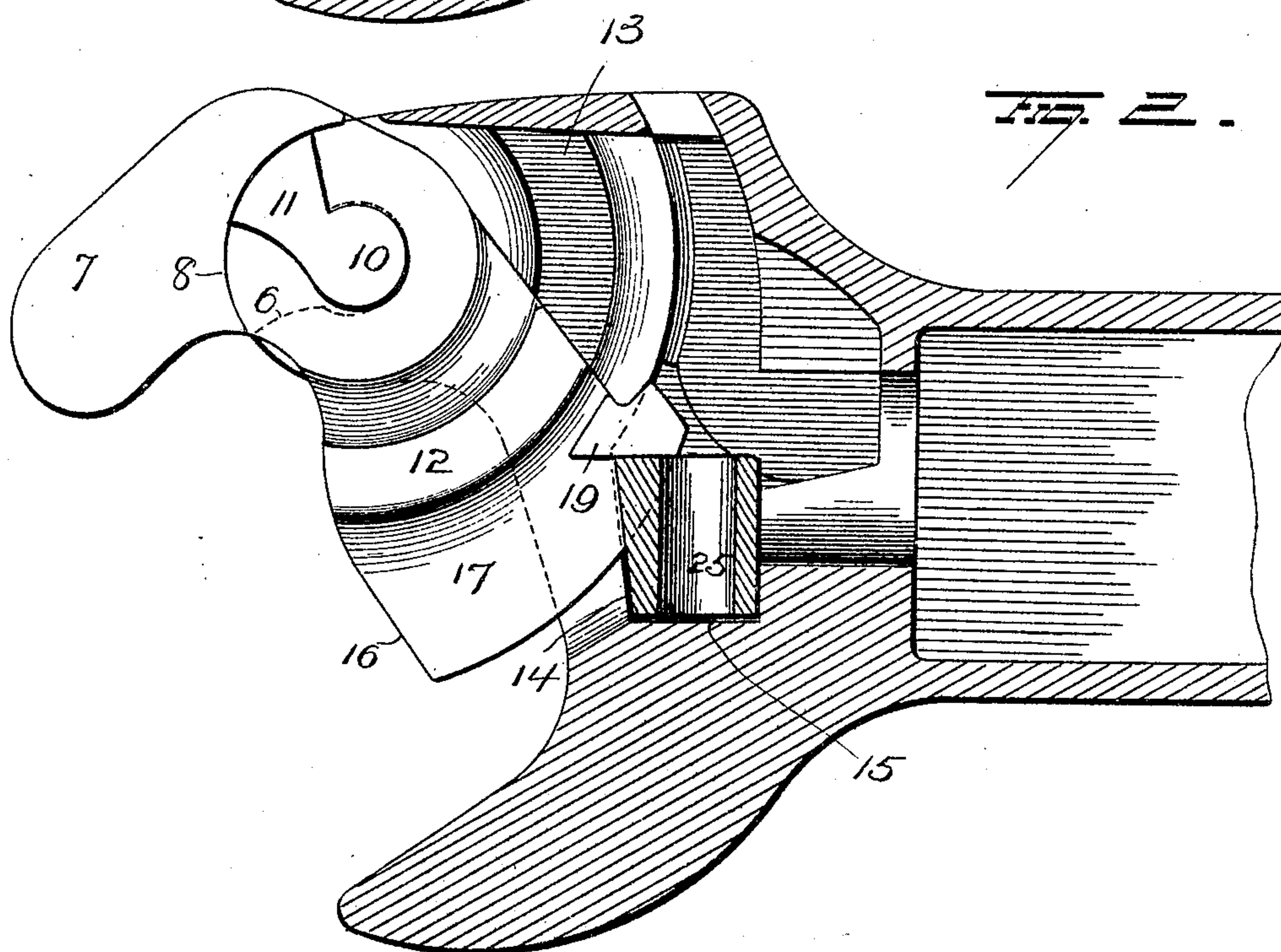
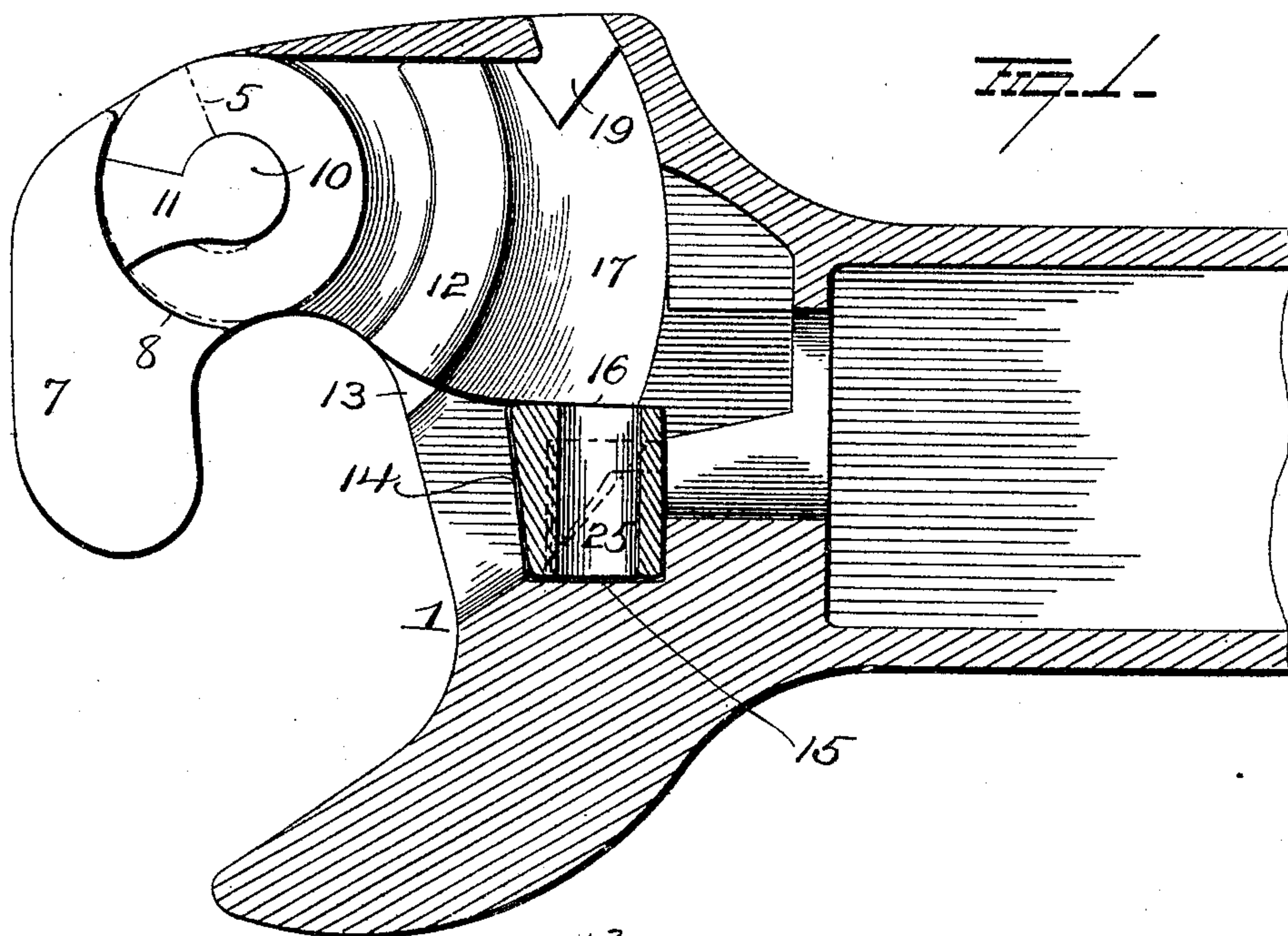
No. 804,276.

PATENTED NOV. 14, 1905.

J. & J. O. TIMMS.
COUPLING.

APPLICATION FILED SEPT. 24, 1904.

3 SHEETS—SHEET 1.



WITNESSES
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G. J. Downing

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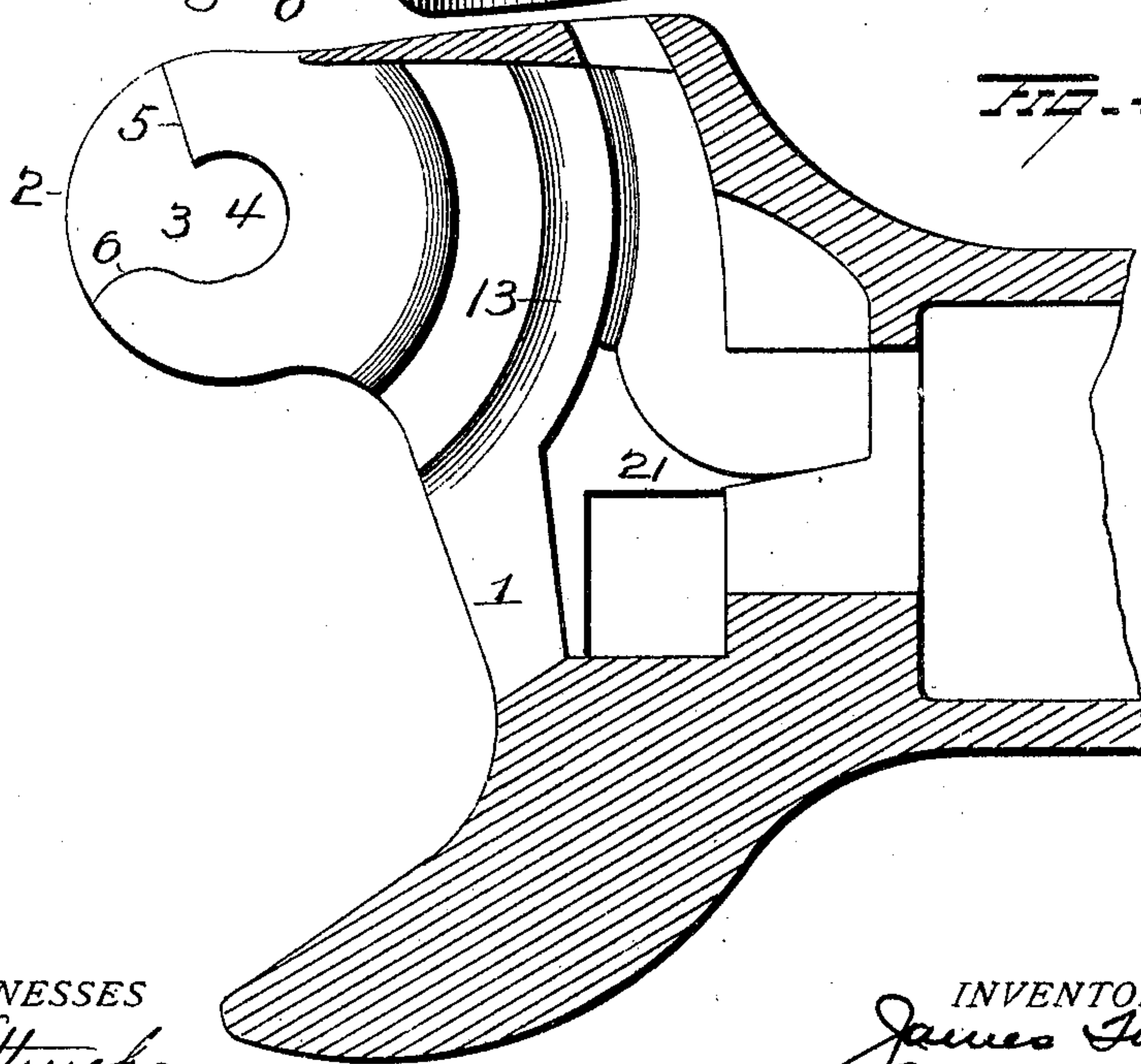
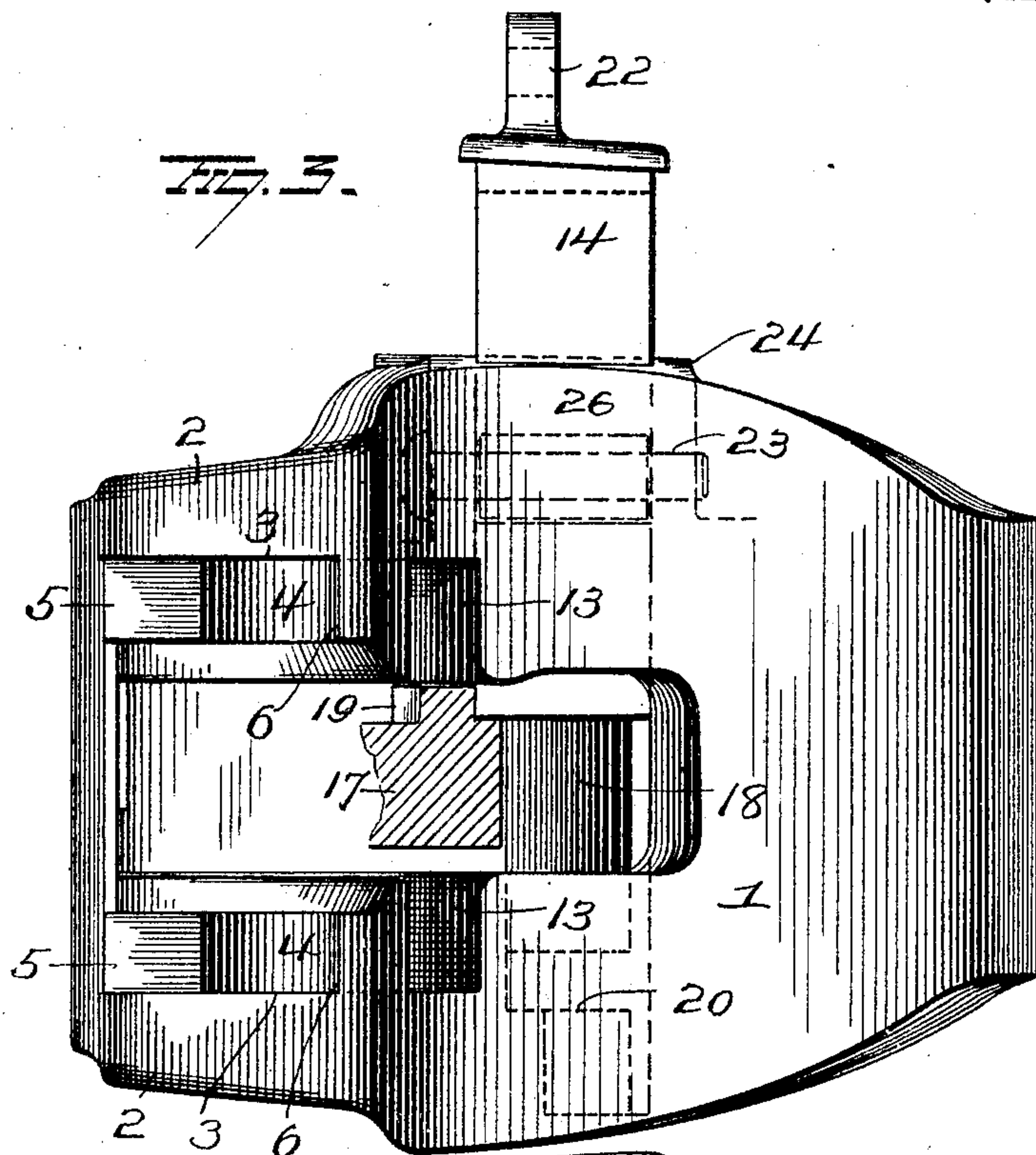
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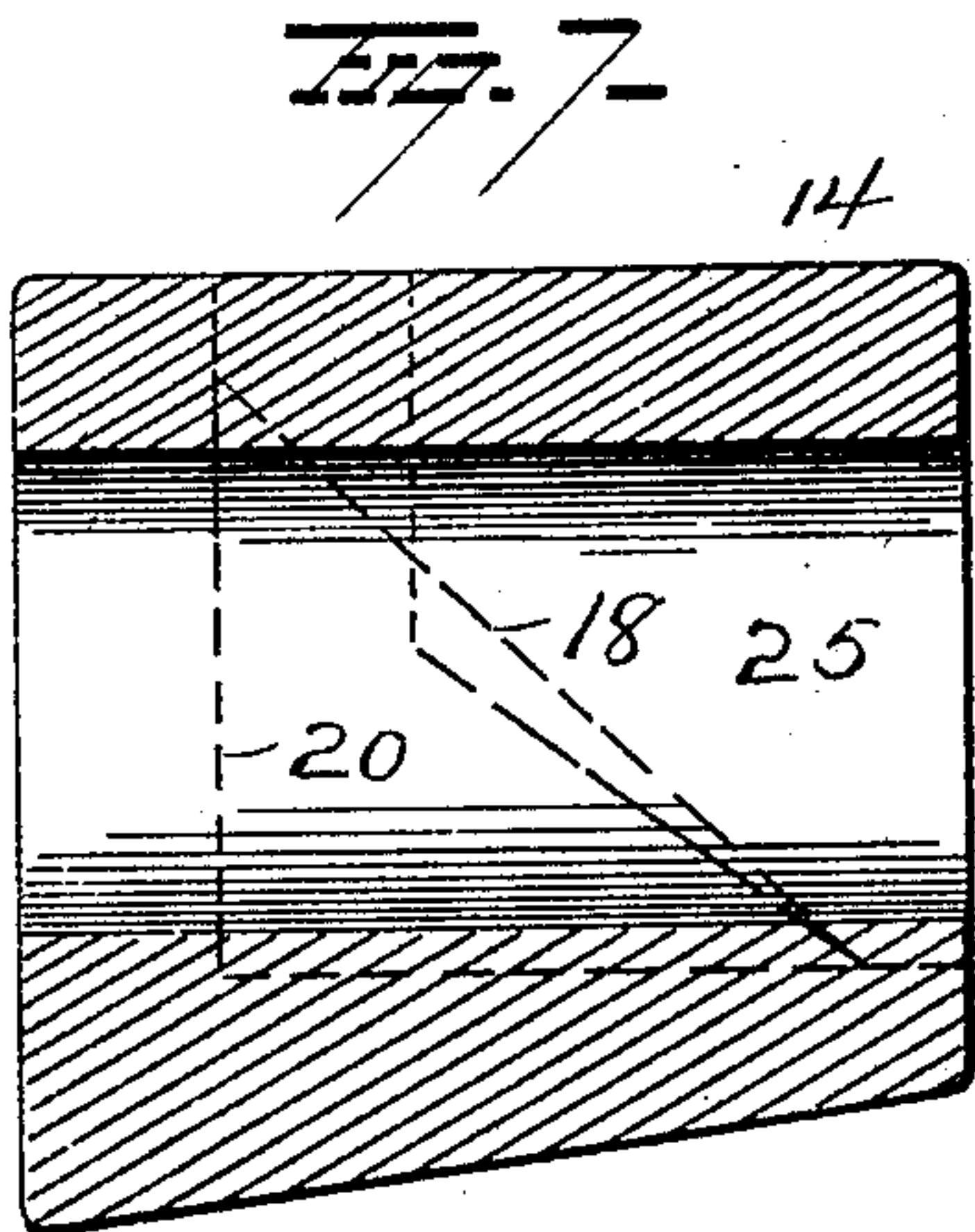
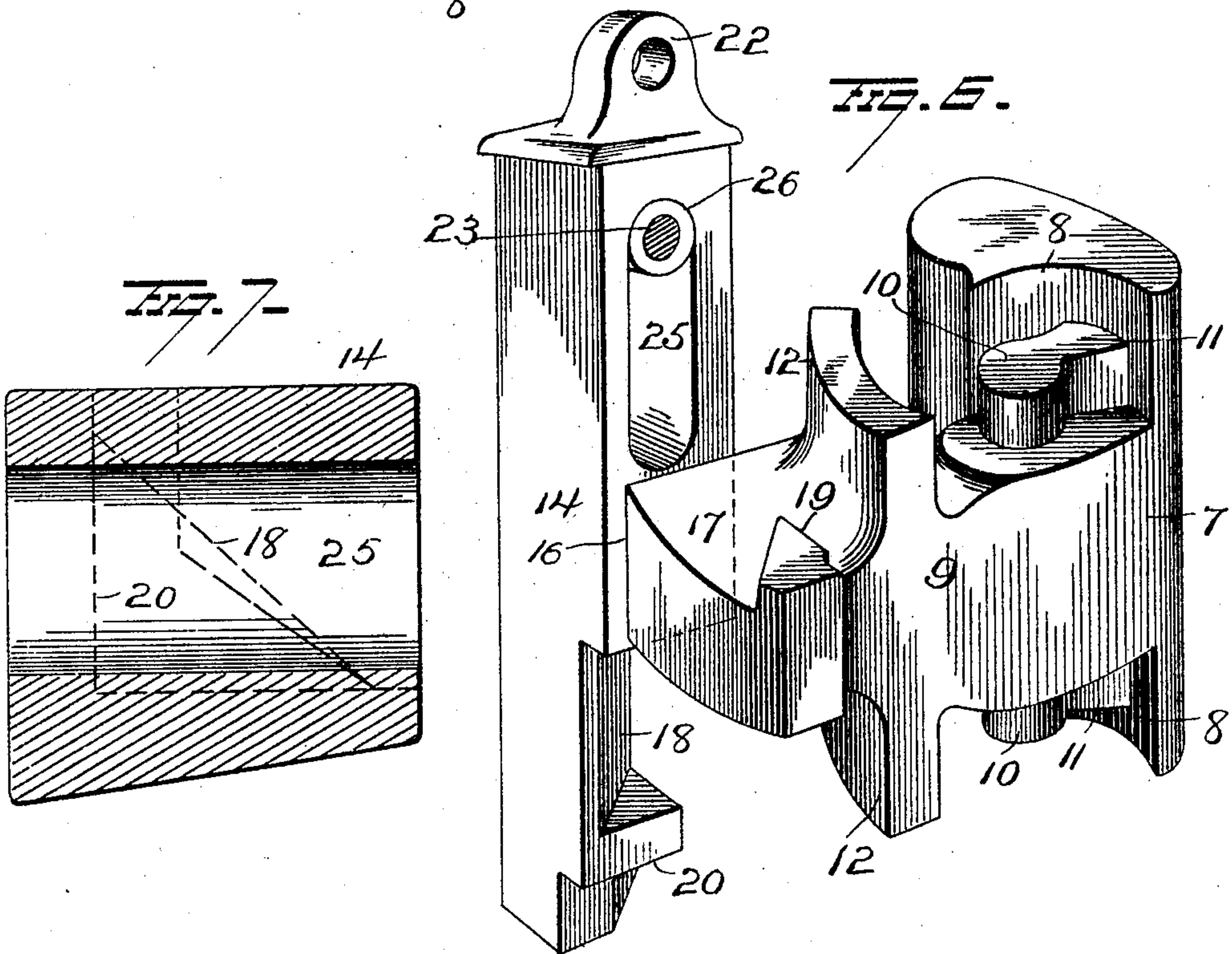
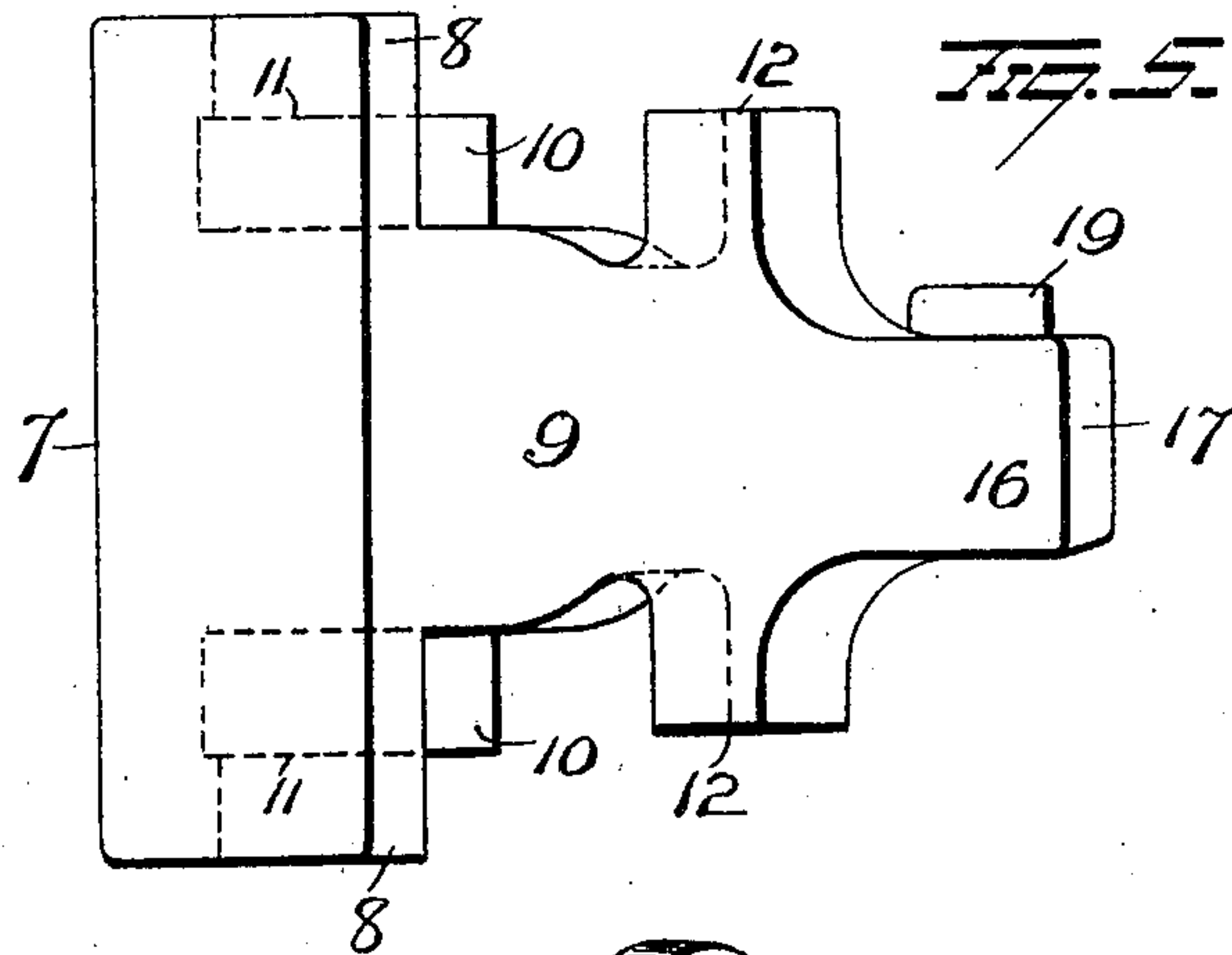
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

JAMES TIMMS AND JAMES O. TIMMS, OF COLUMBUS, OHIO.

COUPLING.

No. 804,276.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed September 24, 1904. Serial No. 225,797.

To all whom it may concern:

Be it known that we, JAMES TIMMS and JAMES O. TIMMS, residents of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Couplings; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to an improved coupling, the object of the invention being to provide an improved construction of parts which dispense with the employment of a pivot-pin to pivotally support the knuckle, thereby preventing the annoyance of bent knuckles at the pivot-pin and broken pivot-pins, as has been the case with couplings of this type heretofore known.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in horizontal section, showing the knuckle in locked position. Fig. 2 is a similar view showing the knuckle open. Fig. 3 is a front view showing a portion of the knuckle-tail in the head. Fig. 4 is a view in horizontal section with knuckle and pin removed. Fig. 5 is a side view of the knuckle. Fig. 6 is a perspective view showing the relative positions of the knuckle and locking-pin, and Fig. 7 is an enlarged view in cross-section of the locking-pin.

1 represents the draw-head of ordinary external shape, having forwardly-protruding lugs 2 at one side, as shown. These lugs 2 are made with recesses 3, having central curved portions or bearings 4 and diverging shoulders 5 and 6 at opposite sides of bearings 4 and merging thereinto, forming flaring enlarged entrances to said bearings.

7 represents the knuckle, having enlarged outer head with curved faces 8 to contact with and turn freely against the curved outer faces of lugs 2, and the main portion 9 of the knuckle is adapted to enter the open front of the coupling-head. On the upper and lower faces of the knuckle adjacent to the curved faces 8 thereof integral lugs 10 are located and connected with the outer head of the knuckle by integral webs 11, the rear faces of which latter being flat or straight, while the front faces are of general compound curva-

ture merging into the curvature of the lugs 10. At top and bottom of the knuckle and curved concentrically with journal-lugs 10 are heavy webs 12, adapted to move in curved grooves 13 in the top and bottom of the draw-head.

By thus constructing our improvements the lugs 10 can be inserted into bearing-recesses 4 and the ends of webs 12 into grooves 13, and when the knuckle is swung into the head the webs 12 will prevent possibility of the knuckle being pulled out of the head until swung beyond its ordinary operative positions, and the knuckle is prevented from swinging this far by the locking-pin, which will now be described.

The locking-pin 14 is approximately rectangular throughout the greater portion of its length, and when in locked position such rectangular portion of the pin rests between a flat wall 15 of the head and the flat face 16 of the knuckle-tail 17, thus absolutely locking the knuckle in its closed position. The lower portion of the pin is recessed, as shown at 18, so that when the pin is raised the knuckle-tail can pass and be permitted to open, such opening movement being, however, restricted by a lug or enlargement 19 on the inner end of the knuckle-tail striking the rectangular portion of the pin and limiting the opening movement of the knuckle.

Near the lower end of pin 14 a shoulder 20 is provided at one side, so that when the pin is elevated and tilted this shoulder 20 will rest on a shoulder 21 in the head and hold the pin in lock-set position, and the eye 22 at the upper end of the pin, with which the operating-chain is connected, is located at one side of or at the center of the pin to insure this tilting of the pin when elevated.

To insure the easy raising of the pin and limit such movement, a cross-pin 23 is passed through the upper pin-casing 24 of the head and through an elongated slot 25 in the pin. This slot 25 is of appreciably greater width than the diameter of the pin, and a hollow roller 26 is located in said slot and receives the pin. This roller 26 turns freely on the pin and reduces the friction of the parts, holding the locking-pin out of frictional contact with the walls of the pin-casing, and this is especially desirable when the draw-head of a coupling in use breaks, the separation of the cars causing the pin to rise and uncouple and prevent the locked couplings falling to the track, which would be the case if the pin were

permitted to bind in the head and not rise, owing to the excessive frictional contact due to the tangential pull of parting cars.

The operation of our improvements is as follows: To open the knuckle, the pin 14 is raised to lock-set position, with shoulder 20 of the pin resting on the shoulder 21 in the head. The knuckle can then be swung open, and in opening the enlargement 19 strikes the pin 14, forcing its shoulder 20 from shoulder 21 and supporting the pin on the knuckle-tail, and when the knuckle is closed the pin will fall from the tail into locked position.

By constructing our improvements as above explained it will be seen that the curved webs 12 in grooves 13 sustain the buffing and pulling strain on the knuckle, relieving the journal-lugs 10 thereof, the latter being of sufficient strength to sustain such blows as necessarily come thereon in ordinary use.

A great many changes might be made in the general form and arrangement of the parts described without departing from our invention, and hence we do not restrict ourselves to the precise details set forth, but consider ourselves at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of our invention.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with a draw-head, of a knuckle therein, a locking-pin in said head having an enlarged slot therein parallel with the longitudinal axis of said pin, a hollow roller in said slot, and a pin in the upper portion of said head passing through said hollow roller.

2. The combination with a draw-head having in its upper and also in its lower wall, a recess, and having divergent faces extending from said recesses, of a knuckle, lugs on the upper and lower faces of the knuckle mounted to turn in said recess in the upper and lower walls of the draw-head, webs connecting said lugs with the body of the knuckle and having faces to engage the said divergent faces on the draw-head.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

JAMES TIMMS.
JAMES O. TIMMS.

Witnesses:

L. BENTON TUSSING,
KATHARINE CORCORAN.