

(No Model.)

F. R. BROWN.
CAR COUPLING.

No. 472,249.

Patented Apr. 5, 1892.

Fig. 1.

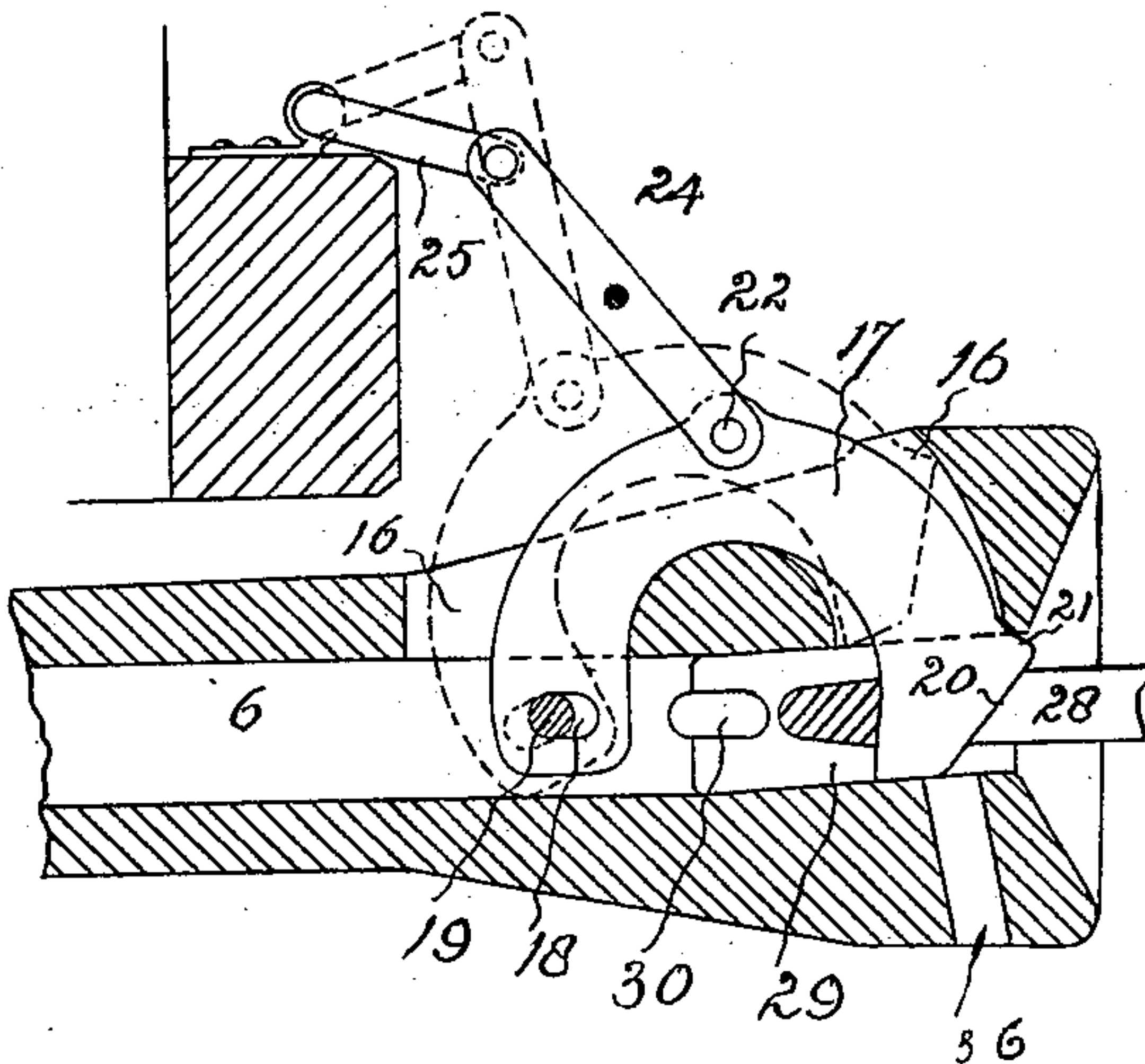
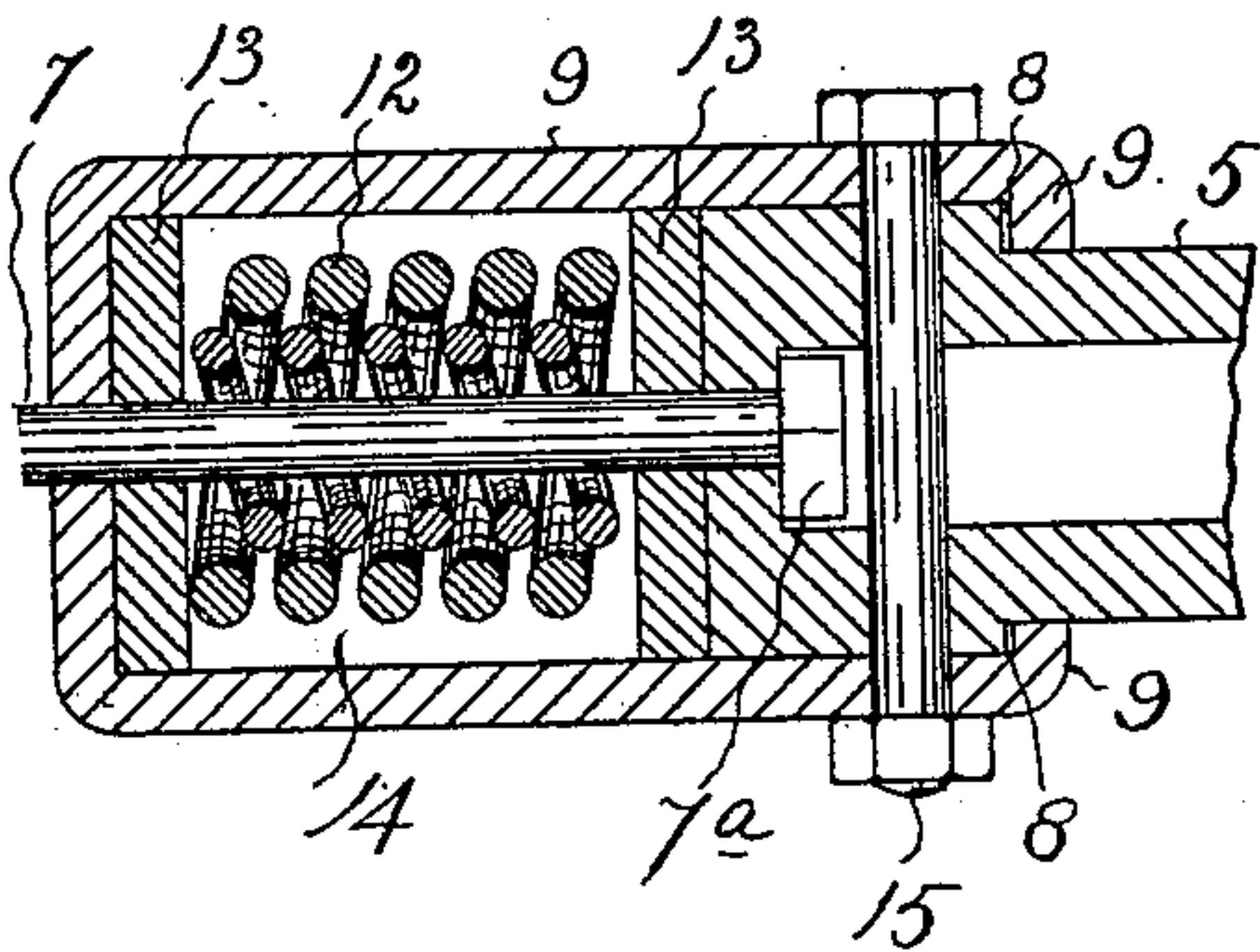
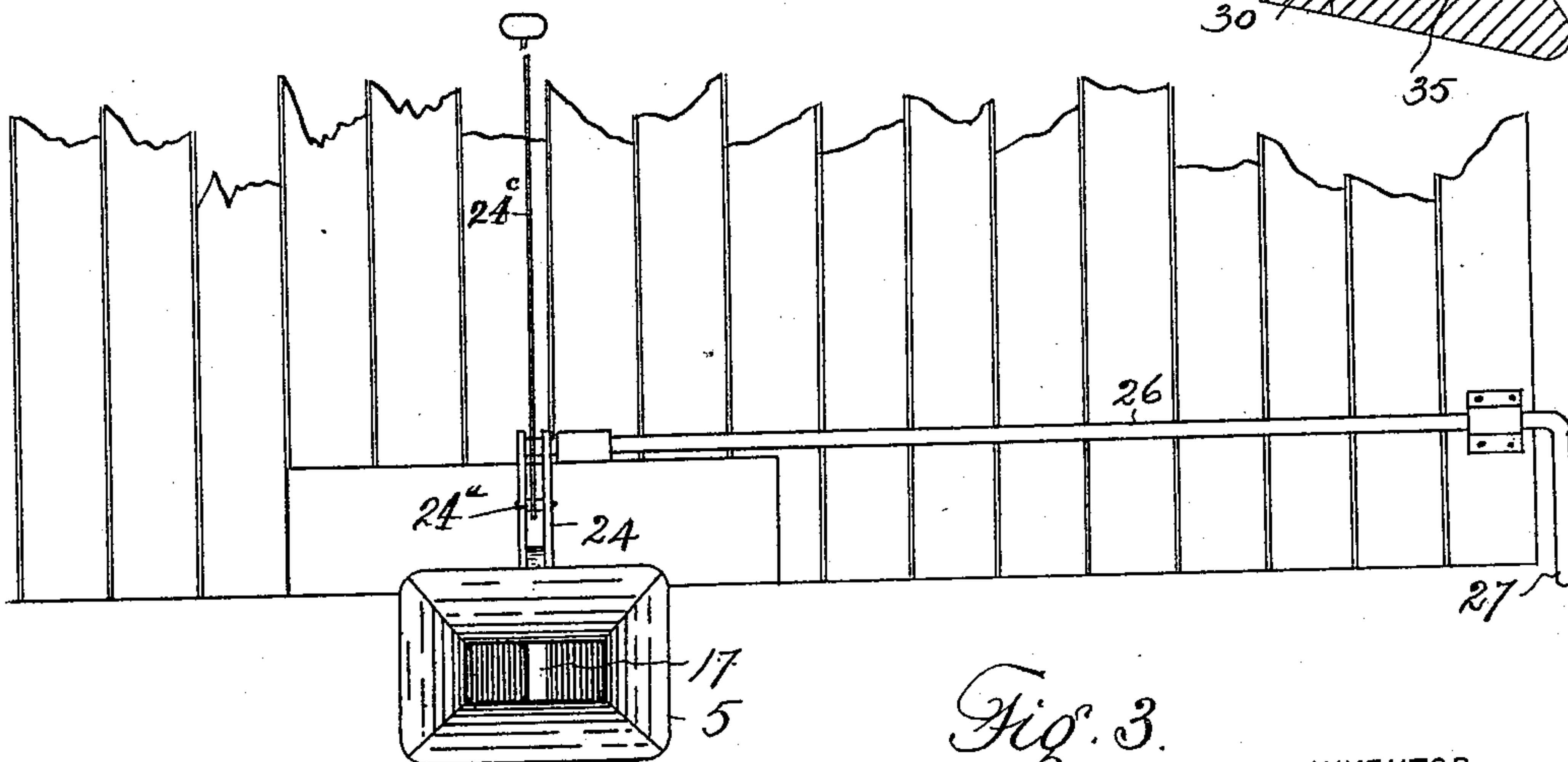
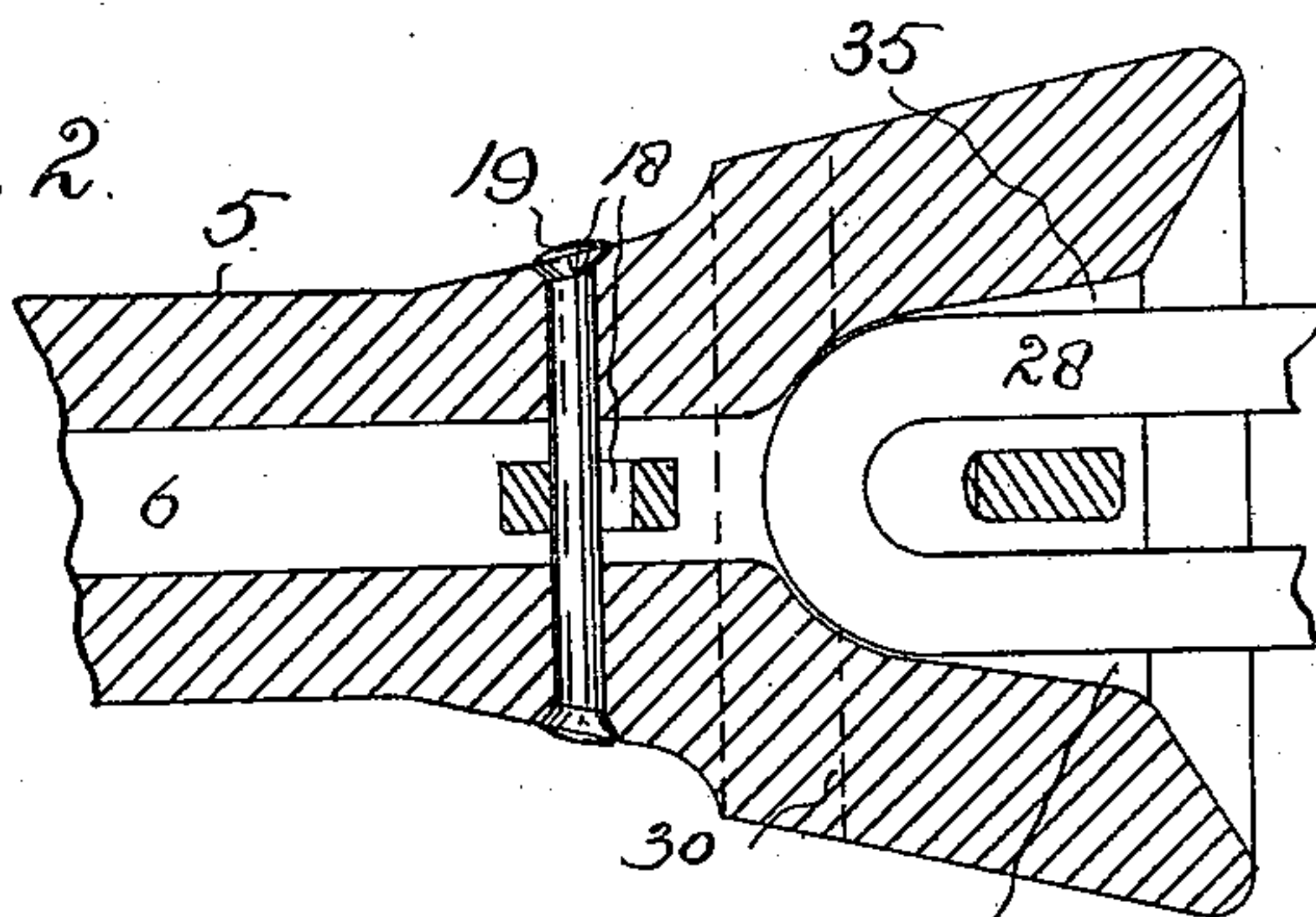
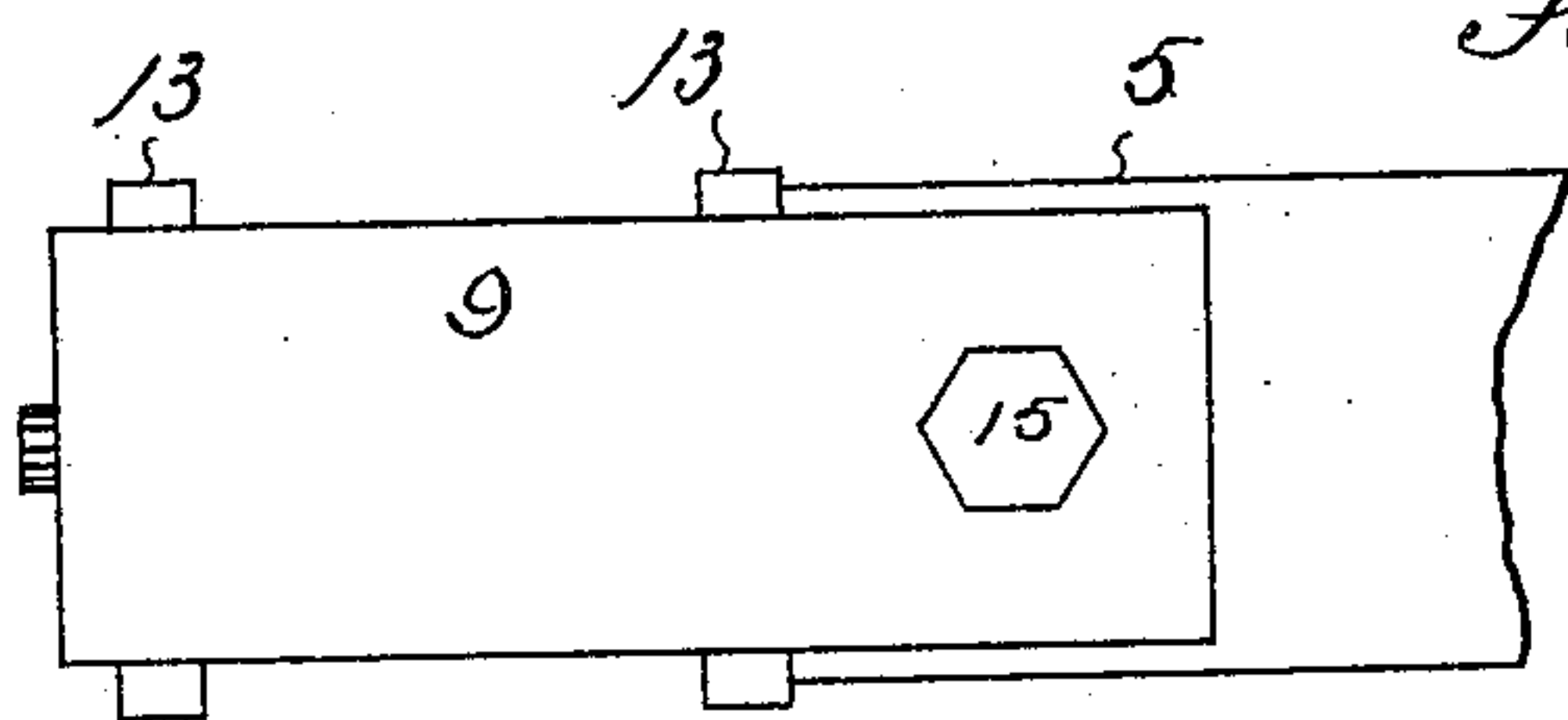


Fig. 2.



WITNESSES:

G. J. Rolland
W. M. Cornell

Fig. 3.

INVENTOR
Francis R. Brown
BY *A. J. Brown*
ATTORNEY.

UNITED STATES PATENT OFFICE.

FRANCIS R. BROWN, OF DENVER, COLORADO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE GLOBE MANUFACTURING COMPANY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 472,249, dated April 5, 1892.

Application filed November 25, 1891. Serial No. 413,128. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS R. BROWN, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Car-Couplers; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car-couplers; and the object of the invention is to provide a device of the class stated which shall be of simple and economical construction, reliable, durable, efficient in use, and thoroughly automatic in operation.

To these ends the invention consists of the features, arrangements, and combinations hereinafter described and claimed.

In the accompanying drawings is illustrated an embodiment of my improved device.

In the drawings, Figure 1 is a longitudinal vertical section taken through the center of a draw-head provided with my improved coupling mechanism. Fig. 2 is another view of the draw-head, the rear portion being shown in elevation and the forward part in horizontal longitudinal section. Fig. 3 is an end view of a car partly broken away, showing the draw-head in place and attachments whereby the cars may be uncoupled either from the top or outside thereof.

Similar reference characters indicating corresponding parts or elements of the mechanism in the several views, let the numeral 5 designate the draw-head, 6 the central opening therethrough, and 7 the bar or rod connecting the draw-head with the car. The rear extremity of the draw-head is shouldered, as shown at 8, and adapted to engage the flanges 9 of the clamp 10, forming a cage for the springs 12 and followers 13, which are located in the chamber 14, lying between the rear extremity of the draw-head and the rear end of the clamp. The clamp is secured in place upon the draw-head by a bolt 15, located just

forward of the head 7^a of bolt 7. The forward portion of the draw-head is centrally recessed or cut away at the top, as shown at 16, forming two openings through the upper part of the head, extending to the longitudinal opening 6. This recess 16 is formed for the reception of the curved locking or coupling arm 17, the rear extremity of which is provided with an elongated aperture 18 for the reception of a horizontal pin 19, passed through a suitable opening in the draw-head and forming the retaining-pivot for the curved locking-arm. Arm 17 is semicircular in shape, and its extremities enter the openings formed through the top of the draw-head, as shown in Fig. 1. The face of the forward extremity of arm 17 is beveled, as shown at 20, while just above this beveled face is formed a shoulder 21, adapted to engage the upper part of the draw-head when the coupling-arm is in the locked position. To the upper portion of arm 17 is pivoted one extremity of a link 24 by passing a bolt or rivet through a suitable opening 22, formed in the top of the arm. The opposite extremity of link 24 is pivoted to a crank-arm 25, made fast to a movable rod or bar 26, attached to the end of the car and terminating in an outer crank arm or handle 27. Link 24 is provided with a central rivet 24^a, surrounded by a short sleeve placed between the parts of the link to keep them in place when disconnected from its attachments. To the link 24 is connected a chain or rod 24^c, extending upward to the top of the car and affording a means for lifting the coupling and uncoupling the cars from the top of the train.

My improved coupling-arm is adapted for use with the ordinary link 28, which is shown in position in Figs. 2 and 3. The bottom of the link-recess is inclined, as shown at 29, and in such a manner as to cause the link when loose in the draw-head to occupy an inclined position with its outer extremity uppermost, so that the link may be in position to the more readily enter the link-recess of the opposite approaching draw-head. The draw-head is provided with a horizontal opening 30, formed through its sides in line with the rear portion of the link-recess. The object of this opening is to afford access to the rear extremity

of the link for the purpose of forcing the link forward when the two draw-heads are together and the link is too short to couple. This difficulty is often encountered by train-men for the reason that no standard link as regards length has as yet been adopted by railroad companies, and as a result the links in use are not of uniform lengths. When the cars have been moved to the coupling position and the two draw-heads are in contact, if the link does not project sufficiently from the one into the recess of the other for coupling purposes the train-man has only to insert into opening 30 a stick, rod, or anything accessible and shove the link forward into the opposite draw-head. Heretofore under similar circumstances it has been necessary to separate the cars, insert the hand, and draw the link forward from the outer extremity of the draw-head.

From the foregoing description the operation of my improved coupler will be fully understood. Assuming that the coupling-arm is in the position shown in Fig. 1, when the link of the opposite draw-head engages the outer extremity or face of the arm the latter is first forced backward bodily until its pin 19 engages the forward extremity of the slotted aperture 18. This movement is sufficient to disengage or unlock shoulder 21 of the arm from the engaging part of the draw-head. This having been accomplished, the continued pressure of the link, acting on the inclined face 20 of the arm, raises said arm to the position shown by dotted lines in Fig. 1, allowing the link to enter the recess, when the coupling-arm falls by gravity to the locked position,

and as soon as the cars move forward the coupling-arm is again drawn to its forward limit of movement, with its shoulder engaging the draw-head, as shown in Fig. 1. The link-recess is slightly enlarged laterally, as shown at 35, to permit the required lateral movement of the link in making curves. The draw-head is further provided with a vertical aperture 36, formed in its forward portion for the reception of the ordinary coupling-pin when for any reason such use may be necessary or desirable. The cars may be uncoupled either by turning rod 26 from the outside of the car and thus lifting the coupling-arm, or by raising the arm directly by pulling upon a chain or rod 24^c from the top of the car.

Having thus described my invention, what I claim is—

In a car-coupler, the combination, with the draw-head provided with the top recess, of the curved or semicircular coupling-arm located in said recess and pivoted through its rear extremity, its forward extremity being beveled and lying in the path of the link, and means for lifting the coupling-arm, consisting of a link pivoted to the arm at one extremity and to a crank at the opposite extremity, said crank-arm being connected with a movable rod extending to the outside of the car, substantially as described.

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

FRANCIS R. BROWN.

Witnesses:

WM. MCCONNELL,
G. J. ROLLANDEL.