

F. A. MOORE.
CAR COUPLING.

APPLICATION FILED DEC. 4, 1905.

Fig. 1

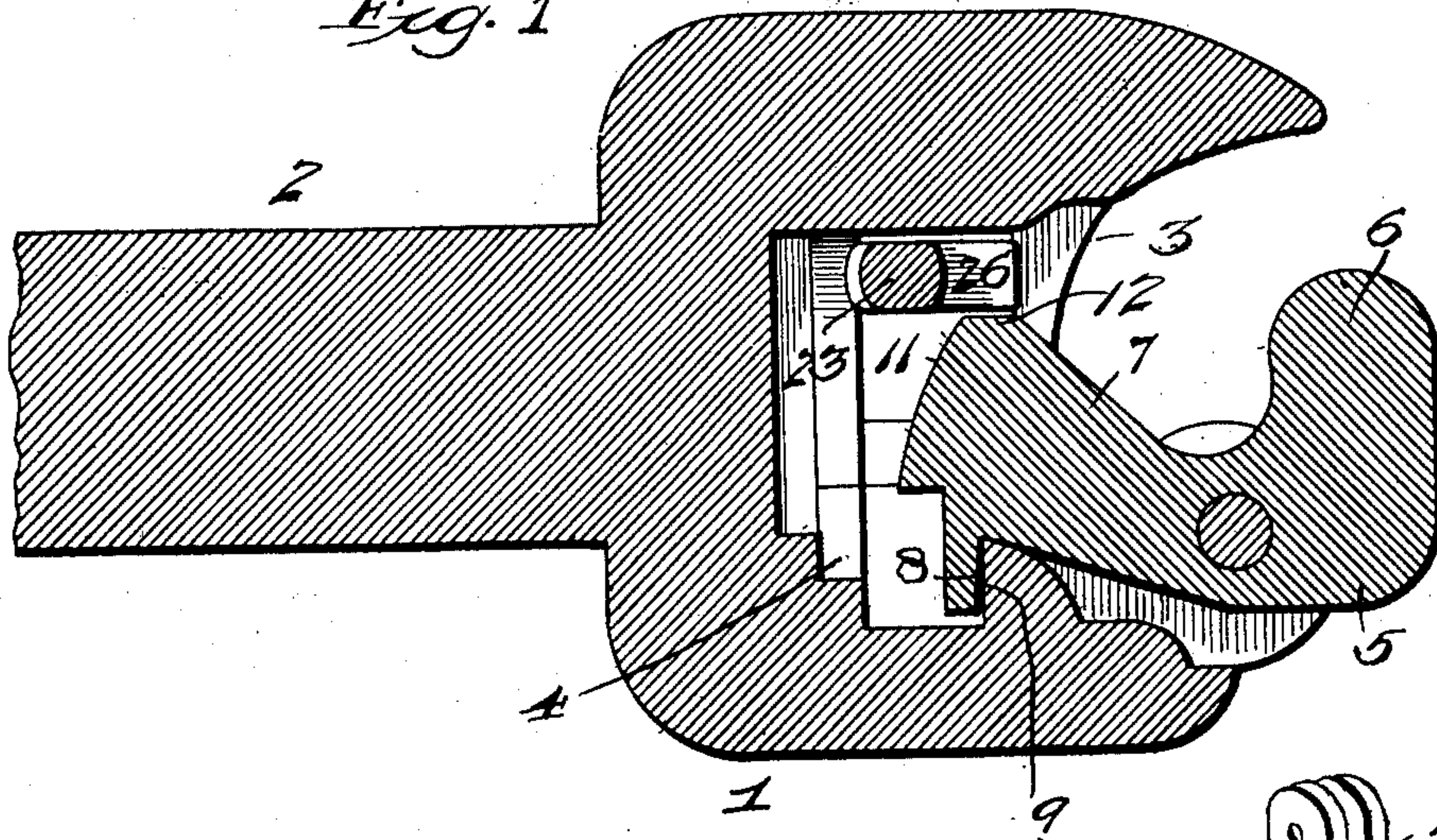


Fig. 2

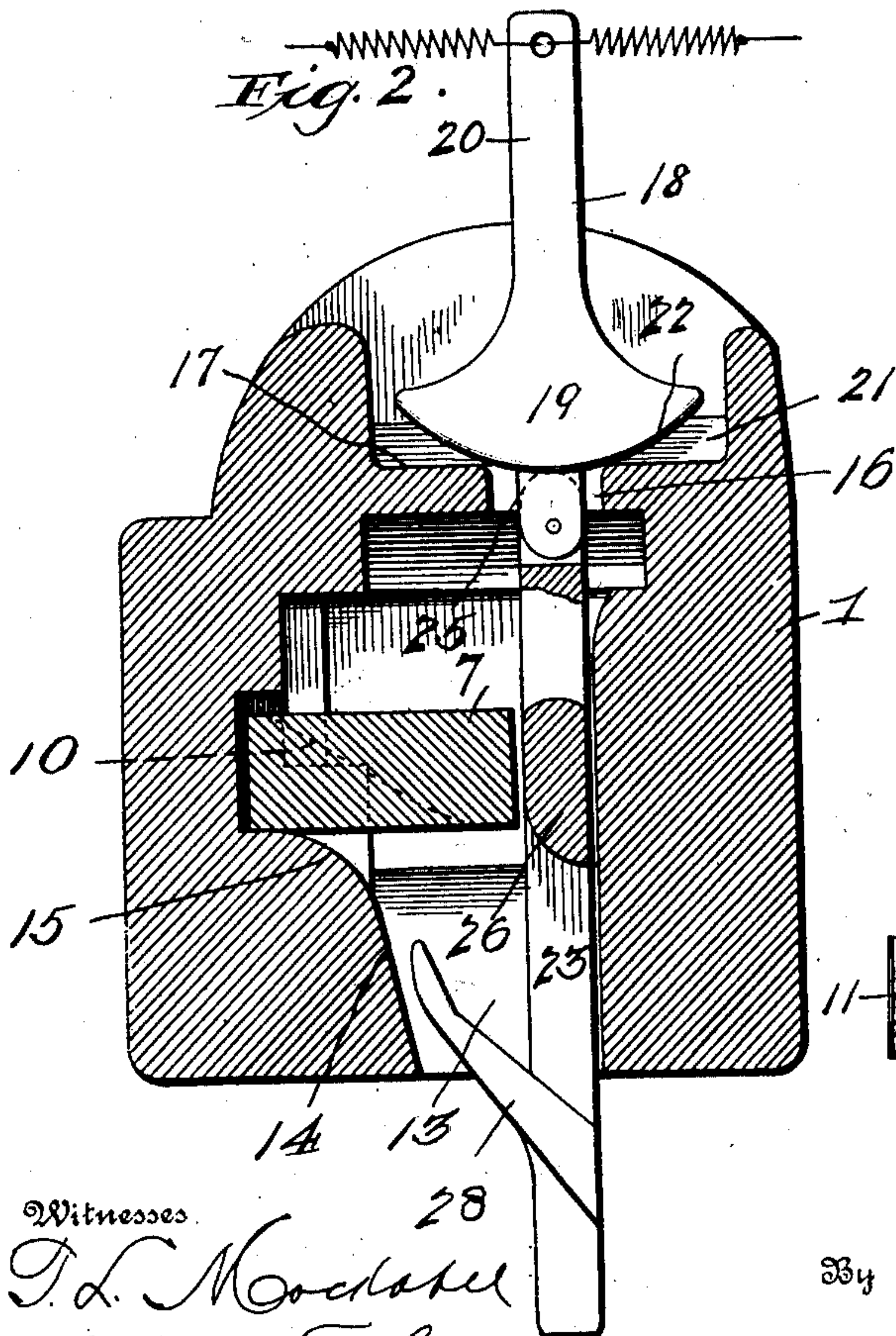


Fig. 3

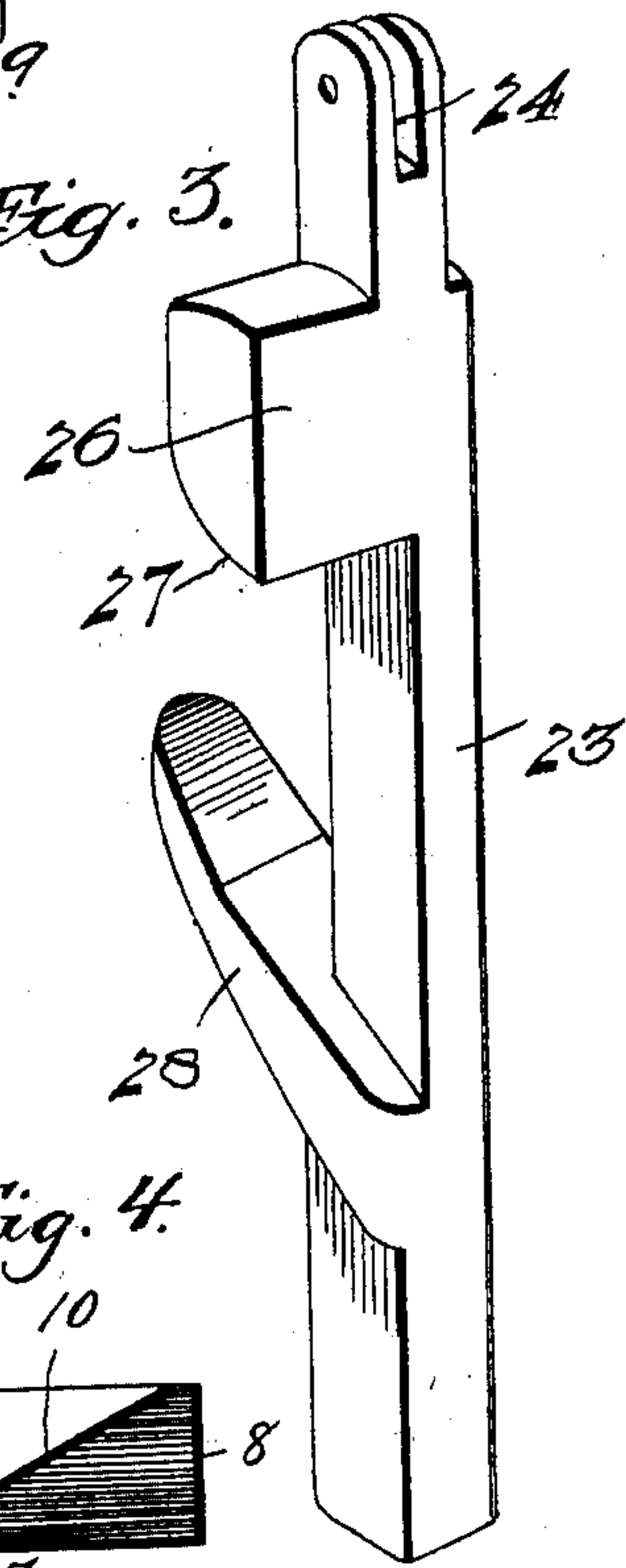
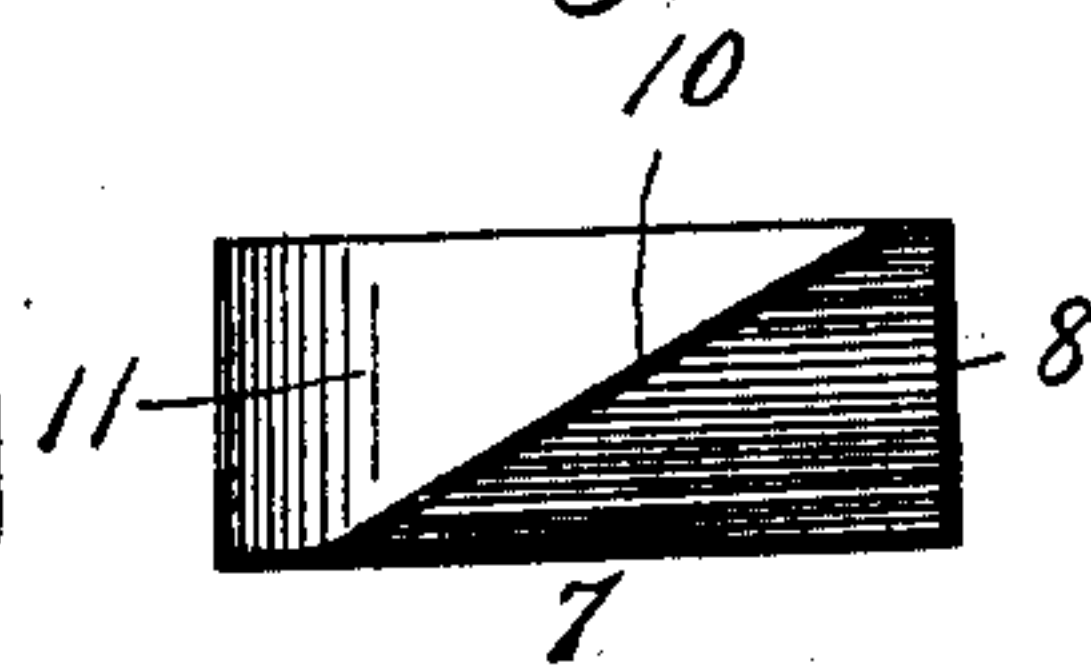


Fig. 4



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UNITED STATES PATENT OFFICE.

FRANCIS A. MOORE, OF TYLER, TEXAS, ASSIGNOR OF ONE-THIRD TO
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CAR-COUPLING.

No. 826,951.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed December 4, 1905. Serial No. 290,213.

To all whom it may concern:

Be it known that I, FRANCIS A. MOORE, a citizen of the United States, residing at Tyler, in the county of Smith and State of Texas, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to car-coupling devices of the Janney type; and the primary object of the same is to provide positive operating means for locking the knuckle in both open and closed positions and to obstruct any release of the locking means for the knuckle during transportation of a car carrying the coupler and which might ensue but for the resistance of the restricting element to such accidental release, as will be more fully hereinafter set forth.

A further object of the invention is to provide means readily operable from either side or any other portion of a car for releasing the locking means for the knuckle without requiring an operative to pass between the car ends during the coupling movement of the cars, and thereby avoid accidents.

A still further object of the invention is to simplify the general organization of knuckle-couplers and to also render the same convenient in operation without materially increasing the cost of manufacture and use.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter set forth.

In the drawings, Figure 1 is an enlarged horizontal section of the coupling-head and a part of the draw-bar. Fig. 2 is a transverse vertical section through the draw-head and partly showing the locking means for the knuckle. Fig. 3 is a detail perspective view of the knuckle-locking means. Fig. 4 is a detail view of a portion of the device.

Like reference characters refer to like parts throughout the several views.

The numeral 1 designates the coupler or draw-head, which is practically of the same form ordinarily used in Janney type couplers, with the exception of such modifications as will be hereinafter noted in the interior structure to accommodate the application of the features of the invention. The coupler or draw-head 1 is provided with the usual draw-bar 2 and at its front end has a knuckle-recess 3 and chamber 4, communicating with said recess. To one side of the center of the

recessed end of the head a knuckle 5 is pivotally mounted, as usual, and embodies a coupling-jaw 6 to cooperate with a similar jaw on a companion coupling-head. The knuckle in the present instance has an inwardly-projecting extension 7, having an outer shoulder 8, adapted to contact with a stop 9, formed as a part of the head. The shoulder 8 bears against the stop 9 when the knuckle is closed, and the latter is thus braced or reinforced.

Adjacent to the shoulder 8 the outer under portion of the rear extremity of the extension 7 is formed with an upwardly-inclined cam-way or slot 10, as clearly shown in dotted lines by Fig. 2 and partially indicated as fully open by Fig. 1 in view of the plane of the section illustrated by the latter figure. The chamber 4 is of such shape as to permit the free movement of the rear terminal of the extension 7 therein, and the rear edge of said extension is arcuate, as at 11, said arcuate edge intersecting an abutting face 12, which is adjacent to the locking means, in a manner which will be more fully hereinafter explained. An opening 13 extends through the bottom of the head 1, and the side wall 14 thereof adjacent to the extension 7 of the knuckle 5 is upwardly and outwardly inclined and continues into an upper grooved surface 15 to guide the locking member in a manner which will also be hereinafter set forth. The opening 13 is continued upwardly through the top of the head in reduced form, as at 16, and is positioned centrally with respect to a transverse seat 17, in which a rocking lever 18 is arranged, and has a lower rocking shoe 19 and an upwardly-projecting shank 20. The shoe 19 is held in proper position by front and rear ribs 21, and the side thereof which moves over the upper terminal of the opening 13 is regularly curved, as at 22.

The locking member for the knuckle is clearly shown in detail by Fig. 3 and embodies a shank or pin-like structure 23, with an upper bifurcated end 24, pivotally connected to a centrally-depending tongue 25, forming part of the shoe 19 of the rocking lever. The upper reduced portion 16 of the opening through the draw-head is of such transverse extent as to permit the locking member to move laterally during the uncoupling operation when the rocking lever is actuated. Projecting forwardly from the shank or coup-

ling-pin 23 is a locking boss or projection 26, having the lower edge inclined in a curved plane, as at 27. Below the locking-boss 26 is an upward laterally-extending knuckle-releasing finger 28, which contacts with and moves over the wall 14 and engages the cam groove or slot 10 in the rear portion of the extension 7 of the knuckle.

When the locking member is normally positioned or lowered through the coupling-head, the locking-boss 26 is located adjacent to the abutting face 12 of the extension 7, as clearly shown by Figs. 1 and 2, and prevents accidental opening movement of the knuckle.

When the shank 23 is raised, the locking-boss 26 clears the abutting face, and at the same time the knuckle-opening finger 28 moves upwardly into the cam groove or slot 10 and forces the knuckle open and throws a portion of the extension 7 under the lower upwardly-inclined end 27 of the locking-boss 26, and when the shank is released and gravitates or lowers the said lower edge of the locking-boss contacts with the upper surface of the extension 7 of the knuckle thereunder, and is so held until a further coupling operation automatically releases the extension 7 from the coupling-boss and permits the coupling member to move downwardly into locking position, as heretofore explained.

The coupling member is raised by pulling on the upper end of the rocking lever 18, said pulling operation with respect to the lever causing the shoe to elevate the shank 23. Any suitable means may be employed for operating the lever 18.

The improved coupler will be found exceptionally advantageous in its operation, particularly for use on freight-cars, and it will be observed that no modifications in the car-coupler are necessary to practically apply the same.

All the changes in the structure are confined to the draw-head, and in view of the positive operation of the several cooperating elements the coupling and releasing movements of the knuckle are insured.

What I claim is—

1. In a car-coupler of the class set forth, the combination of a draw-head, a knuckle pivotally mounted therein, a locking member provided with a locking-boss to engage the knuckle, and an opening-finger for the knuckle, and a rocking lever having an arcuate lower extremity held on the top portion of the draw-head and movably attached to the locking member, said lever being pro-

vided with means for operating it in opposite directions.

2. In a car-coupler of the class set forth, the combination of a draw-head having a chamber therein and an opening extending vertically therethrough, a knuckle pivotally mounted to swing in the chamber, a gravitating locking member having a locking-boss to engage a portion of the knuckle and an opening-finger to also engage a part of the knuckle, and a lever mounted on the upper portion of the draw-head to rock in opposite directions and pivotally connected to the upper end of the locking member, and having pull devices attached thereto and extending in opposite directions.

3. In a car-coupler of the class set forth, the combination of a draw-head having a chamber and an opening therein, a knuckle pivotally attached to the draw-head and having an extension movable in the said chamber, a locking member freely movable in the said opening and provided with a locking-boss having a lower rounded corner and adapted to cooperate either with one edge or the upper part of the extension of the knuckle, the locking member being also provided with an upwardly-projecting outwardly-inclined finger for opening the knuckle when the latter is released, and a rocking lever movably connected to the upper end of the locking member and having means for operating the same in opposite directions.

4. In a car-coupler of the class set forth, the combination of a draw-head having a chamber and an opening therein, a knuckle pivotally disposed in the draw-head and provided with an extension movable in the chamber, said extension having an upwardly-inclined slot and an abutting face, a locking member vertically movable in the said opening and provided with a locking-boss having a lower upwardly-inclined curved edge, the said locking member being also provided with an upwardly-inclined finger to engage the slot of the knuckle to open the latter, a rocking lever movably attached to the upper end of the locking member, and means connected to the rocking lever for operating the same in opposite directions.

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

FRANCIS A. MOORE.

Witnesses:

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R. P. DOROUGH.