

No. 750,383.

PATENTED JAN. 26, 1904.

A. MOFFITT.  
CAR COUPLING.

APPLICATION FILED MAR. 30, 1903.

NO MODEL.

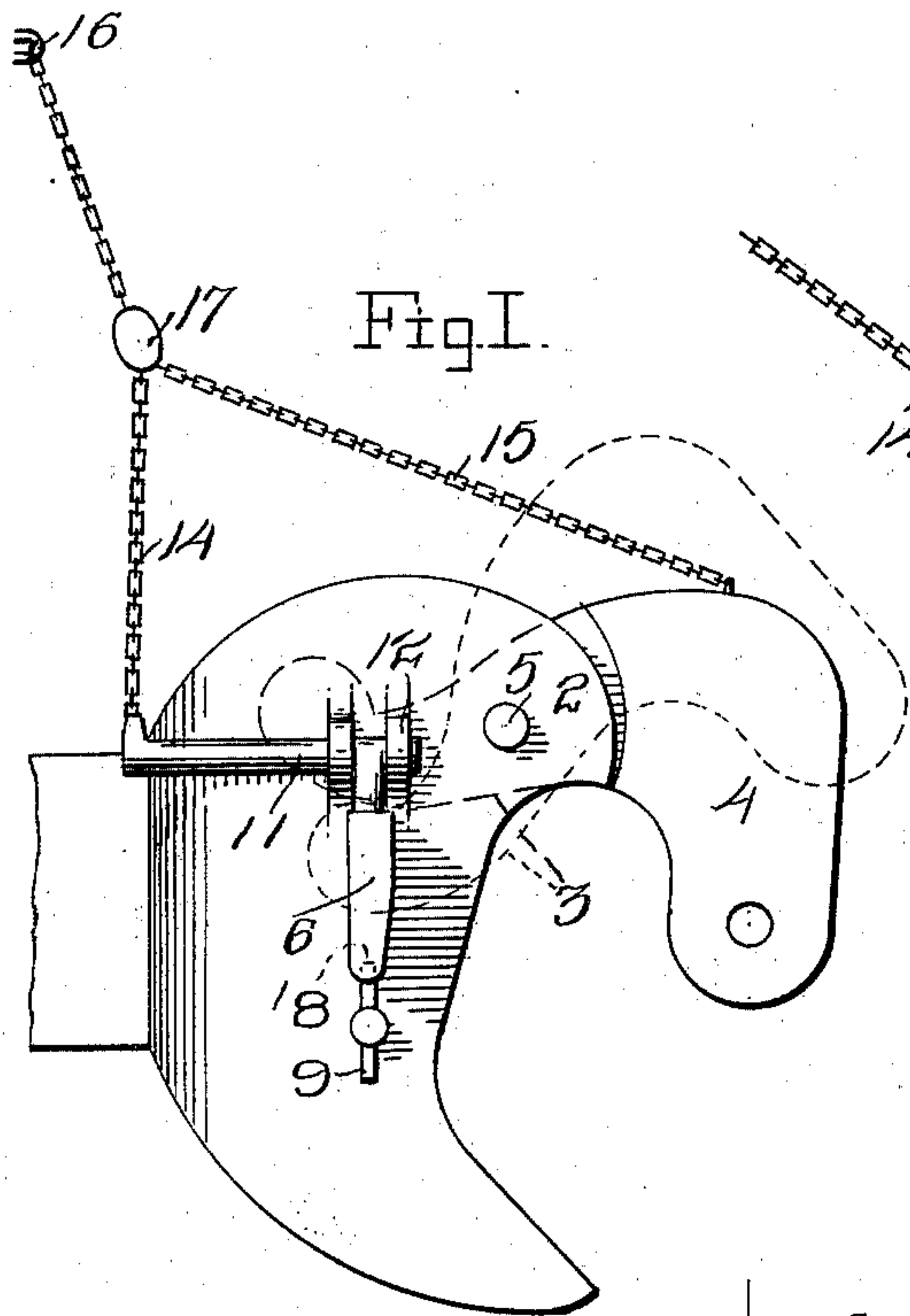


Fig. 3.

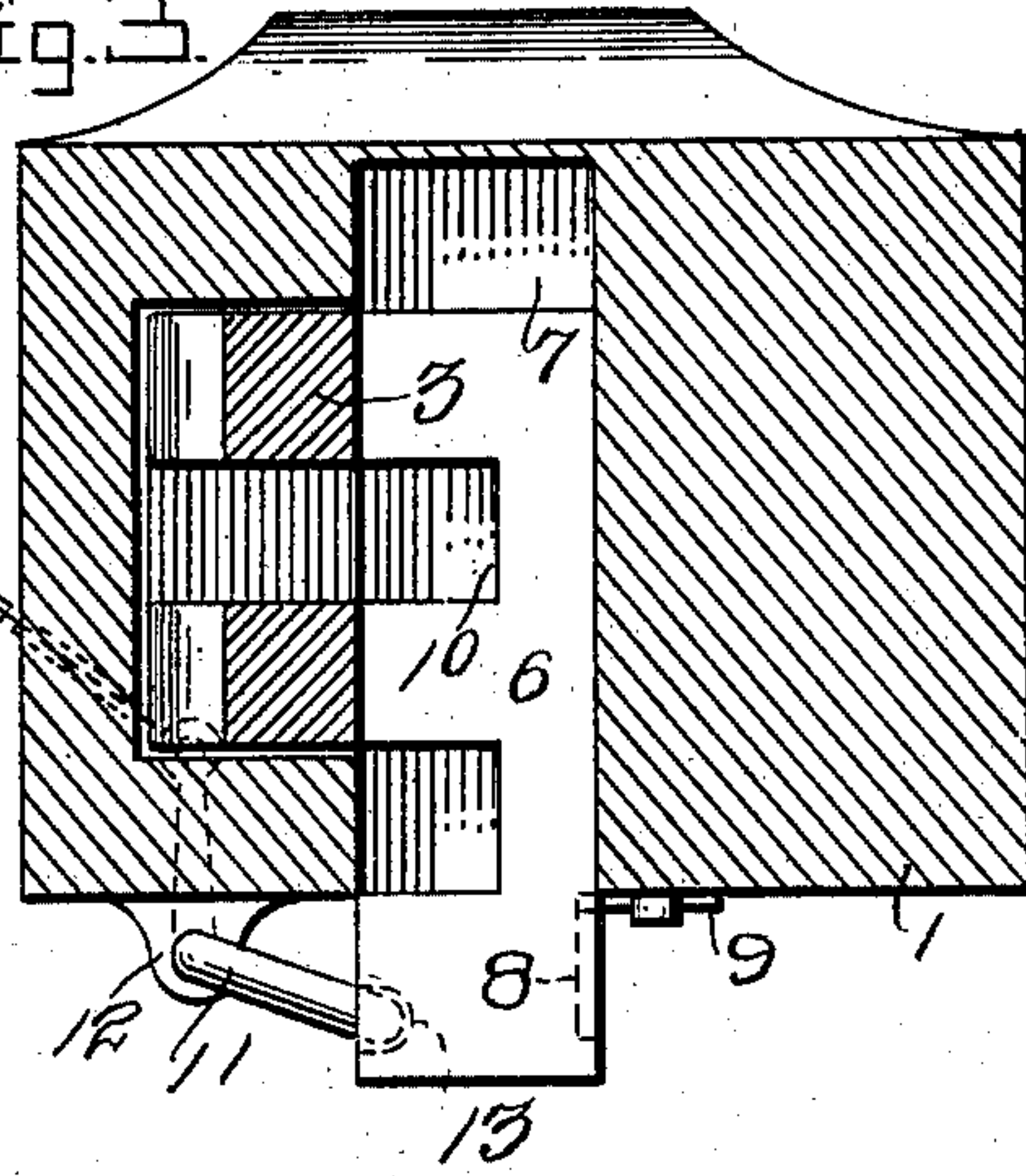


Fig. 4.

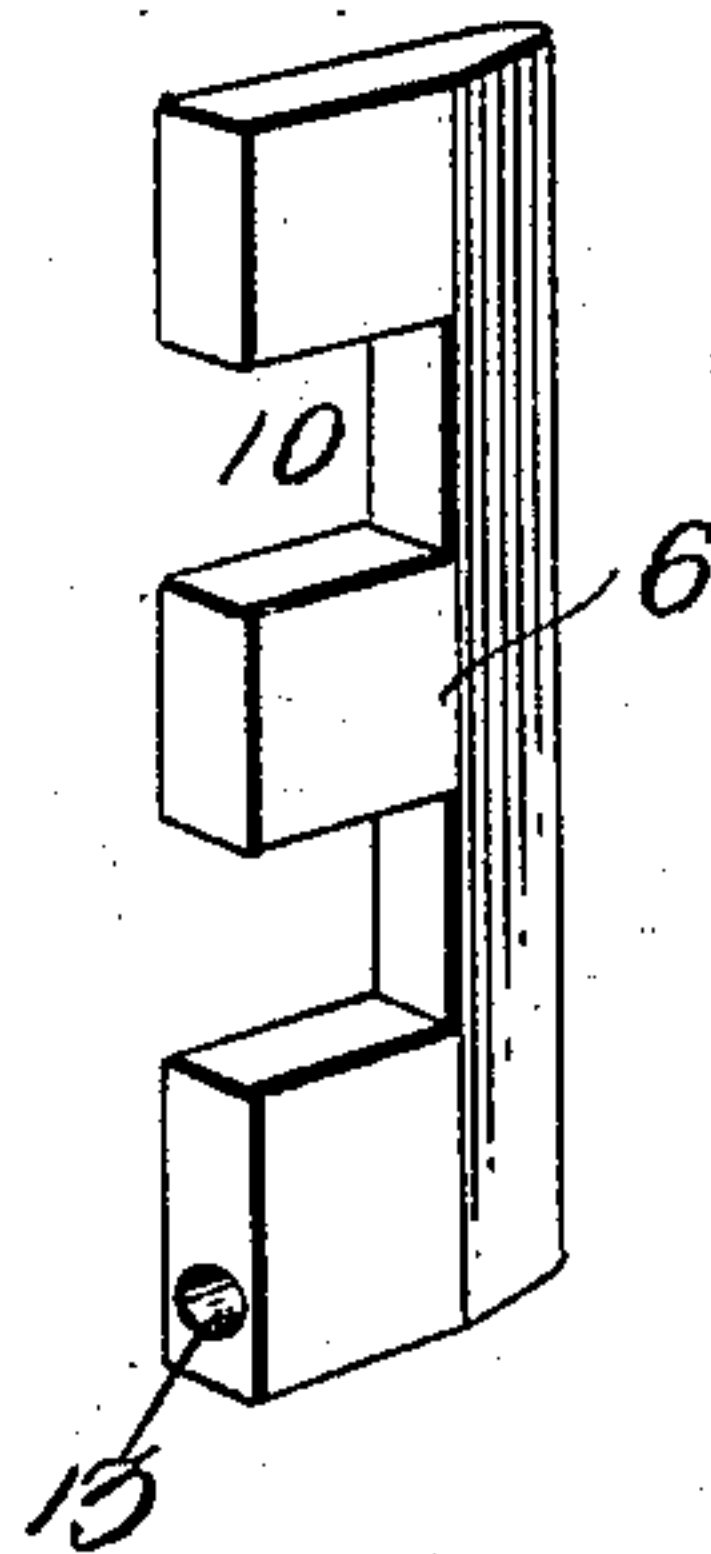
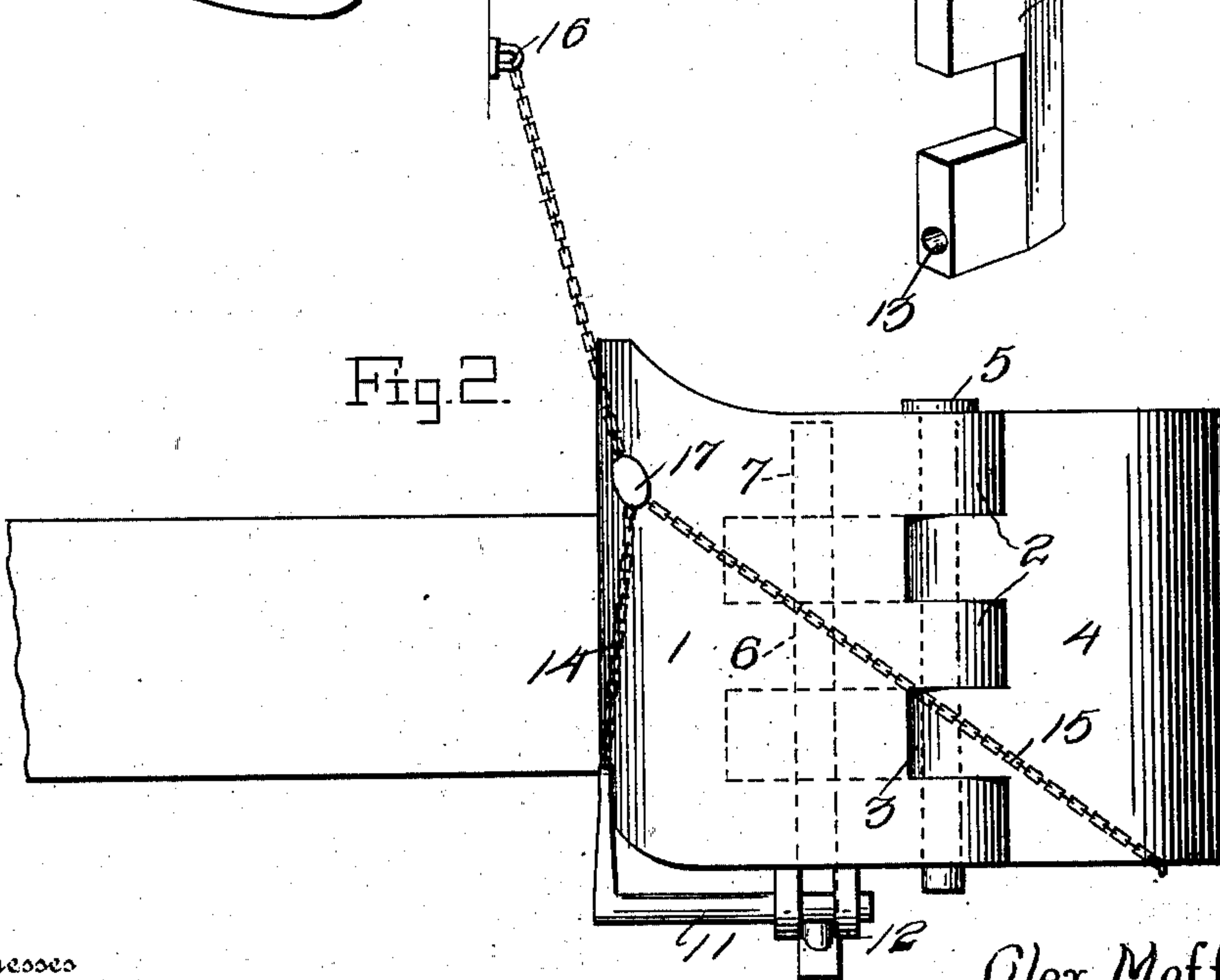


Fig. 2.



Inventor

Witnesses

C. H. Reichenbach.

*A. B. Wilson*

By

Alex. Moffitt.  
*A. B. Wilson*

Attorney.



# UNITED STATES PATENT OFFICE.

ALEXANDER MOFFITT, OF ELKINS, WEST VIRGINIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 750,383, dated January 26, 1904.

Application filed March 30, 1903. Serial No. 150,271. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER MOFFITT, a citizen of the United States, residing at Elkins, in the county of Randolph and State of West Virginia, 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.

This invention relates to car-couplers of that type in which a pivoted swinging knuckle is employed as the coupling element, and pertains particularly to improved means for holding the knuckle closed or in coupled position and for simultaneously releasing the holding means and swinging the knuckle open, so that it may interlock with the knuckle of an opposing coupler.

The object of the invention is to provide a coupler of simple construction in which improved latch mechanism is provided for locking the knuckle, in which the latch mechanism is protected from the elements, in which the draft and buffing strains instead of being sustained wholly by the knuckle-pin are partially sustained by the drawhead, and in which simple and effective means are provided to enable a trainman to retract the latch and throw open the knuckle without the necessity of going between cars.

With this and subordinate objects in view, which will appear as the nature of the invention is better understood, the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

Figure 1 is a bottom plan view of a car-coupler constructed in accordance with my invention, showing the knuckle in full and broken lines in its closed and open positions. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical section showing the knuckle held locked by the latch-bar, and Fig. 4 is a detail view of the latch-bar.

Referring to the drawings, 1 denotes a chambered draw-head having a plurality of spaced ears 2, between which fit the spaced curved locking-arm 3 of the swinging knuckle 4,

which arms are pivoted to the ears by the usual pivot-pin 5, which passes downward through the drawhead, thereby adapting the knuckle to have the usual swinging movement.

A latch-bar 6 is adjustable vertically in the chamber of the draw-head and in an opening 7 in the bottom thereof and is provided in its rear face near its lower end with a key seat or recess 8, receiving a stop-pin or key 9 on the bottom of the draw-head, which stop-pin or key limits the vertical movement of said bar and at the same time prevents it from dropping out through the slot or opening 7. The latch-bar is further provided in its front edge with locking-notches 10, adapted to receive the arms 3 to permit the knuckle to swing open on the pivot 5. When the knuckle is closed, however, the notches 10 are out of register with the arms 3, and the latter bear against the front edge of the latch-bar between the notches, thus holding the knuckle locked against outward swinging movement.

To raise the latch-bar to bring the notches 10 into the path of movement of the arms 3, a bell-crank lever 11 is provided. One arm of this lever is journaled in a bracket 12 on the draw-head and engages a recess 13 in the latch-bar, while the other arm thereof is attached to a chain or like element 14, by means of which the bell-crank lever may be rocked to elevate the latch-bar. Another chain 15 is connected at one end to the knuckle and joined at its opposite end to the chain 14, the outer end of which is connected by a fastening 16 to the adjoining end of the car. A handle 17 is connected to the two chains at their point of junction, so that the two chains may be simultaneously pulled upon—one to elevate the latch-bar and release the knuckle and the other to swing the knuckle outward to its open position, as will be readily understood. This handle forms a coupling uniting the chain 15 to the chain 14.

Fig. 1 shows in broken lines the knuckle in open position in readiness to be swung closed by the knuckle of an opposing coupler, and in such position the latch-bar is held raised by the arms 3, occupying the notches 10, allowing said arms when struck by the knuckle of the opposing coupler to swing out of said



notches and past the latch-bar, whereupon the bar drops by gravity and the plane portions of its locking edge bear against the arms, as shown in full lines in Fig. 1, thereby locking the knuckle against outward movement. To release the knuckle, the handle 17 is pulled upon, whereby the chains 14 and 15 are drawn upon to respectively elevate the latch-bar to bring the notches 10 into the path of movement of the arms 3 and to swing the knuckle outwardly. The mode of coupling and uncoupling will be readily understood from the foregoing description.

It will be observed that the construction is such that instead of all the strains being sustained by the pin 5 a portion of them will be transmitted to and sustained by the draw-head. Also that as the latch-bar is free from projection through the top of the coupler water cannot enter and freeze and interfere with its operation.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car-coupler, the combination of a draw-head, a pivoted knuckle provided with a locking-arm, a notched gravity-dropping latch-bar, a horizontally-disposed bell-crank lever arranged upon the under side of the draw-head and acting on the bar to raise the same to permit the arm of the knuckle when the latter is open to enter the notch in the bar, a flexible connection secured at one end to the car and at the other end to said lever, a second flexible connection secured at one end to the base of the knuckle, and a coupling connecting the other end of said second flexible connection to the first-named flexible connection and forming a handle by which both connections may be simultaneously drawn upon to actuate the knuckle and bell-crank lever, substantially as described.

2. A car-coupler, comprising a chambered draw-head having an opening in the bottom thereof, a knuckle pivoted to the draw-head and provided with curved locking-arms, a gravity-dropping latch-bar vertically movable in said opening and in the chamber of the

draw-head and provided with notches and with a key seat or groove, a slidable key mounted on the draw-head and projecting into said key seat or groove and adapted to limit the movement of the bar, a bell-crank lever acting on the bar to raise the same to permit the arms of the knuckle when the latter is open to enter said notches, an operating-handle, and connections between said handle and the knuckle and bell-crank lever, whereby the latch-bar may be raised and the knuckle simultaneously swung open, substantially as described.

3. A car-coupler, comprising a chambered draw-head having an opening in the bottom thereof, a knuckle pivoted to the draw-head and provided with curved locking-arms, a gravity-dropping latch-bar vertically movable in said opening and in the chamber of the draw-head and provided with notches and with a key seat or groove, a slidable key mounted on the draw-head and projecting into said key seat or groove and adapted to limit the movement of the bar, a bell-crank lever acting on the bar to raise the same to permit the arms of the knuckle when the latter is open to enter said notches, a flexible connection secured at one end to the car and at the other end to said lever, a secured flexible connection secured at one end to the knuckle, and a coupling connecting the other end of said second flexible connection to the first-named flexible connection and forming a handle by which both connections may be simultaneously drawn open to actuate the knuckle and bell-crank lever, substantially as described.

4. A car-coupler, comprising a draw-head, a swinging knuckle provided with locking-arms, an adjustable latch-bar coacting with said arms, a bell-crank lever for operating the latch-bar, a flexible connection attached at one end to the car and at the other end to the lever, a second flexible connection attached at one end to the knuckle, and a knob or sleeve connecting the other end of said second flexible connection to the lever-operating flexible connection, and forming a coupling and a handle by which both connections may be simultaneously operated to release and swing open the knuckle, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALEXANDER MOFFITT.

Witnesses:

D. P. HARPER,  
W. E. BAKER.