

(No Model.)

W. J. WALKER & A. L. BEDFORD.
CAR COUPLING.

No. 500,448.

Patented June 27, 1893.

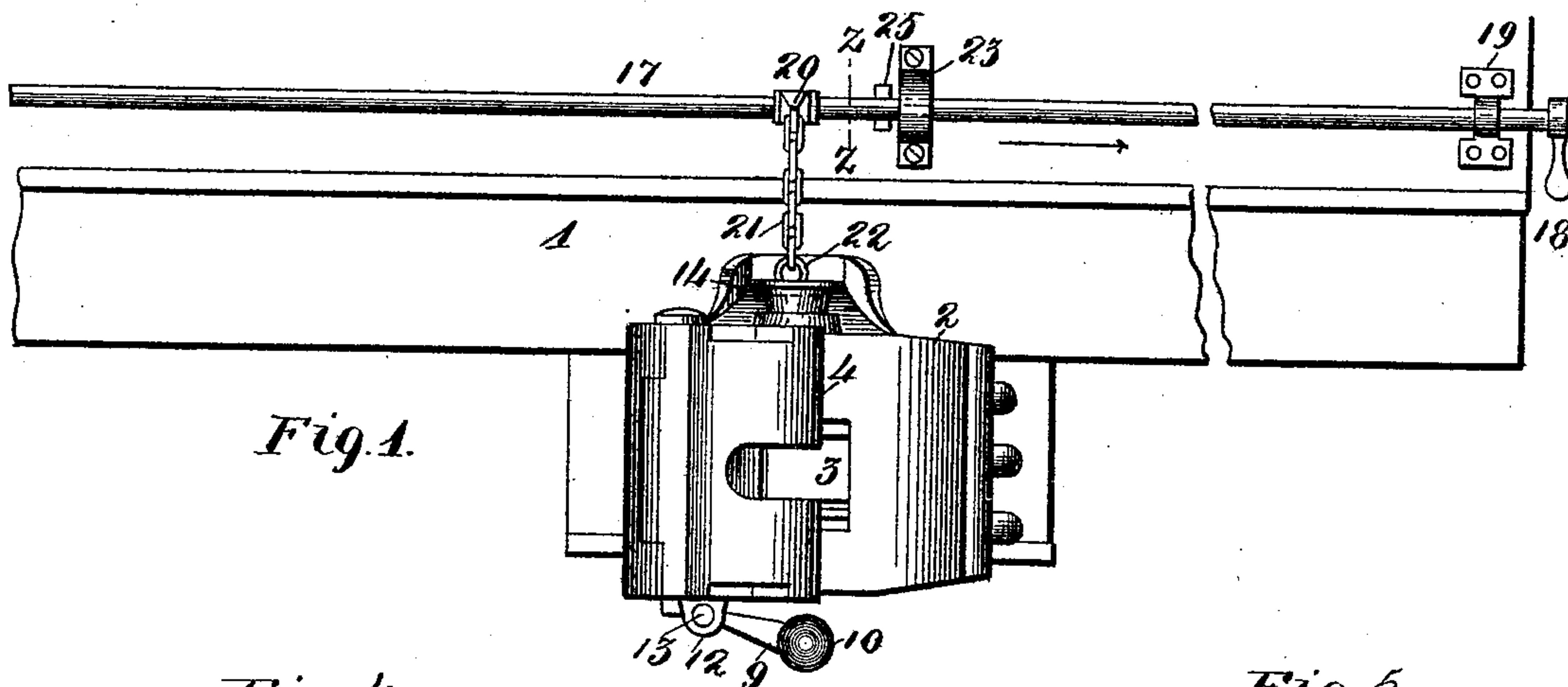


Fig. 1.

Fig. 4.

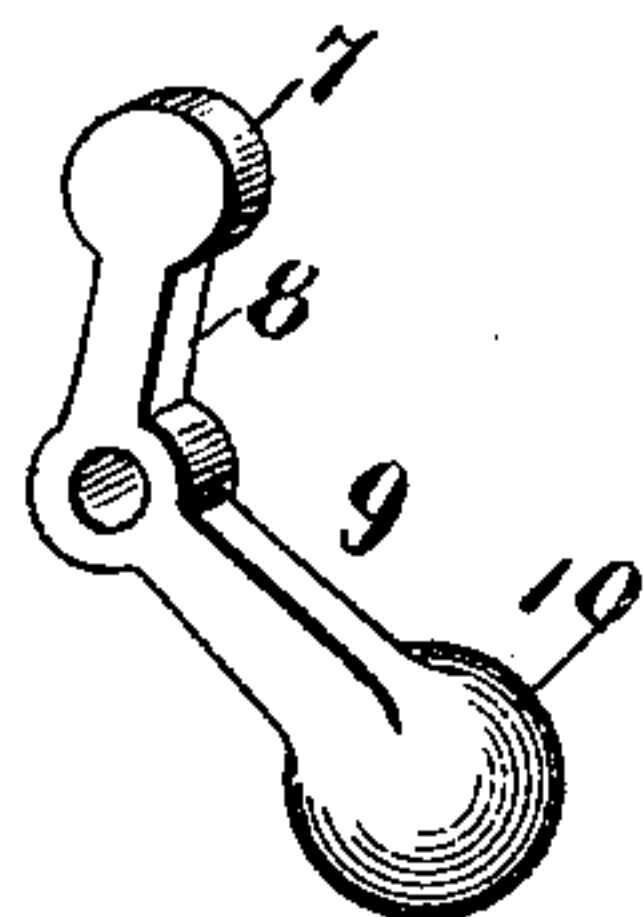


Fig. 2.

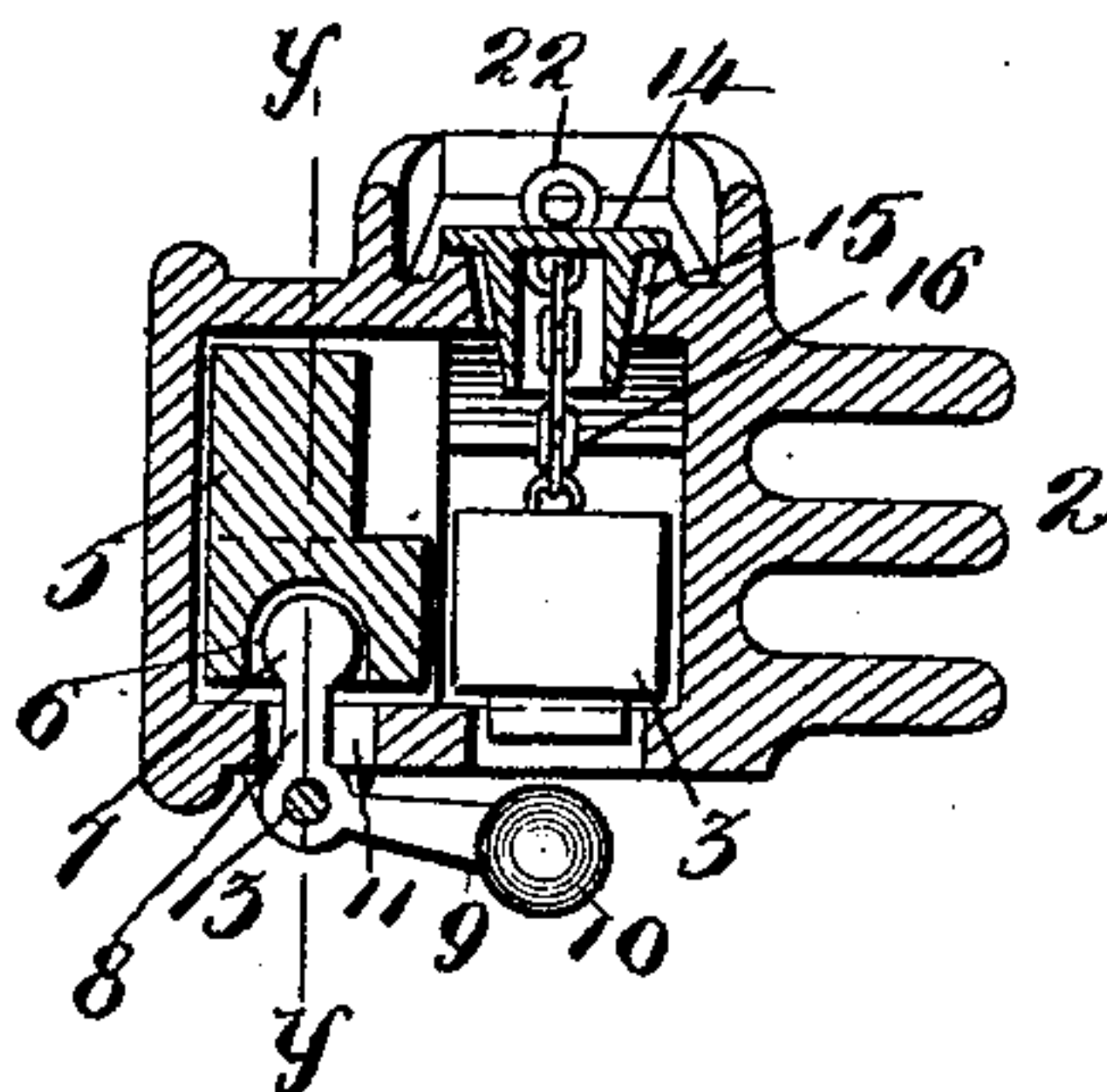


Fig. 5.

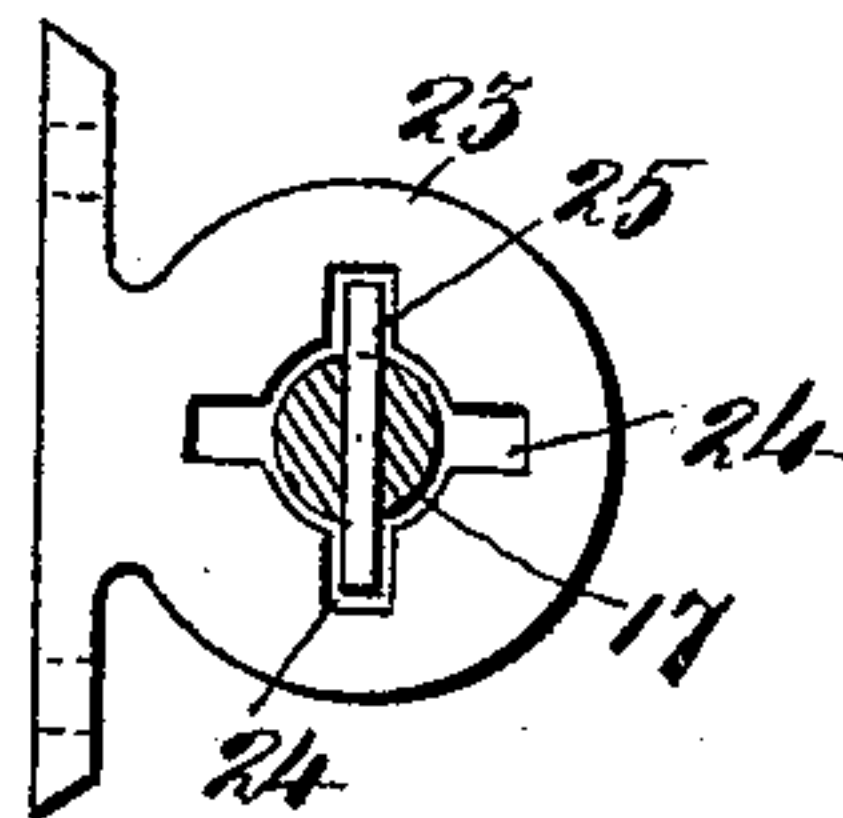
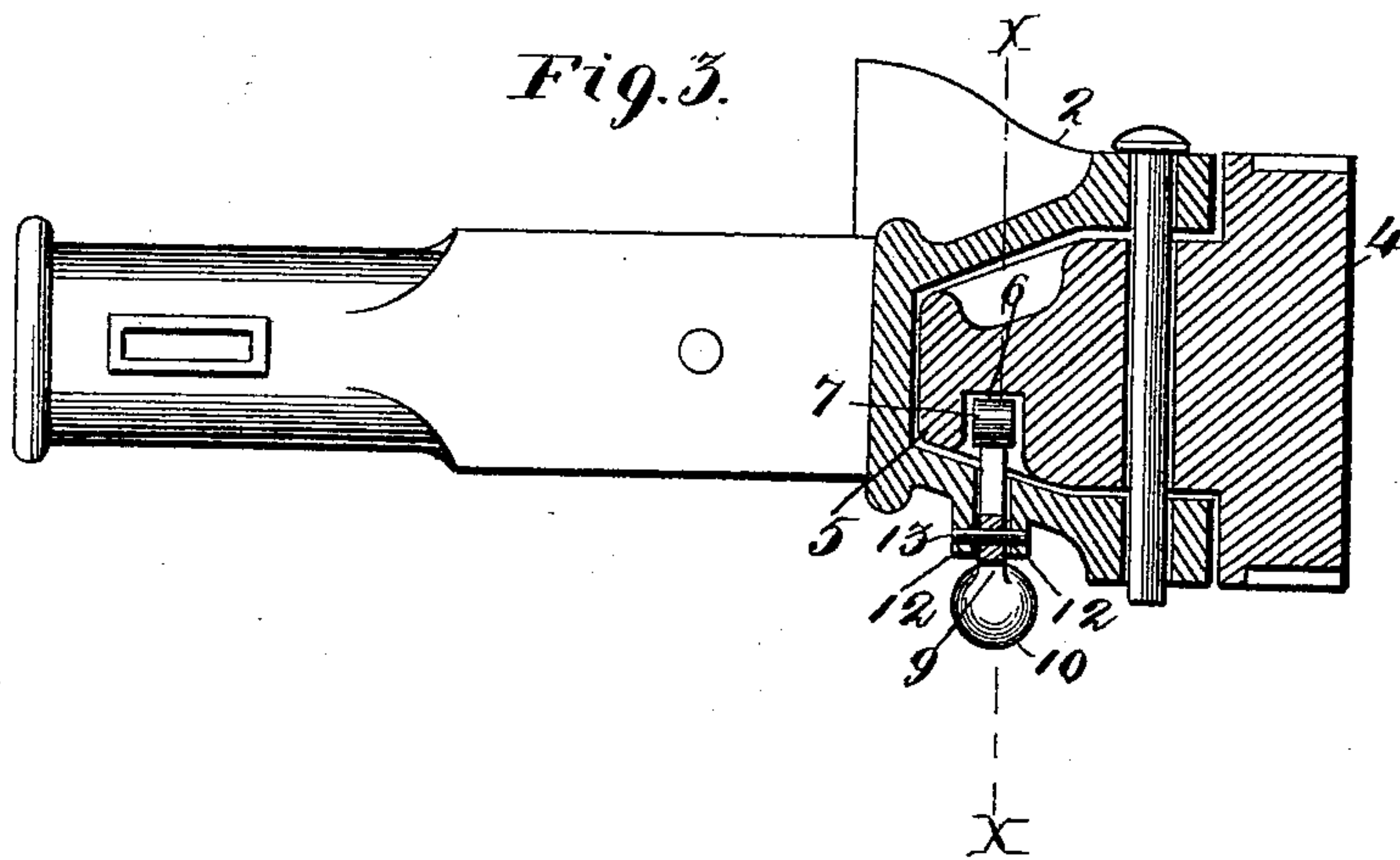


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 500,448, dated June 27, 1893.

Application filed March 20, 1893. Serial No. 466,829. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. WALKER and ALEXANDER L. BEDFORD, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention has relation to improvements in car couplers and consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a front elevation of the complete invention. Fig. 2 is a transverse section taken on the line $x-x$ of Fig. 3. Fig. 3 is a cross section taken on the line $y-y$ of Fig. 2. Fig. 4 is a perspective view of the gravity arm detached for opening the knuckle; and Fig. 5 is an enlarged transverse section taken on the line $z-z$ of Fig. 1 showing the operating shaft and means for holding the same in any position.

The object of the present invention is to provide means for automatically opening the knuckle by gravity after the same has been released from its locked position, and it further consists in constructing the operating shaft in such a manner that the same may be held in two different positions, viz., one for holding the locking device in an elevated position for releasing the knuckle and the other for locking the shaft when the locking device is in its lowest position. The coupler to be described is provided with an opening in the upper wall of the same for allowing the chain attached to the locking device to pass. Ordinarily dirt or other accumulations will pass through said opening and into the interior of the drawhead which is liable to render the parts inoperative, and in order to overcome this objection a hollow plug is employed, the construction of which will be hereinafter fully described.

Referring to the drawings, 1 represents a portion of the car to which the invention is attached, and 2 a drawbar of a well known type. The coupler to which the present improvements are applied consists of a vertically operating lock 3 which when elevated

to a proper height releases the knuckle 4 and allows the same to be turned as best shown in Fig. 2.

5 represents the tail end of the knuckle and formed in the lower surface of the same is a cavity 6 which normally receives the head 7 formed on the short arm 8 of the bell lever 9. The opposite arm of the said lever is weighted by a ball 10, the object of which is to force the knuckle open automatically when the locking device 3 is elevated and the knuckle released from its locked position. Formed in the bottom of the drawhead and immediately below the cavity 6 formed in the tail end of the knuckle is an opening 11 through which the short arm 8 of the lever 9 is free to move, and formed integrally with the drawhead and located on either side of the said opening 11 are two ears 12, 12, between which the lever 9 is pivoted by a pin 13.

In practice the head 7 of the lever 9 is always located within the cavity 6 whether the knuckle be closed or open, and thus the lever cannot shift from its proper position, the same being operated by the knuckle in one direction when the same is closed.

14 represents a hollow plug which is preferably round in cross section, and is of such a size as to freely move in the opening 15 formed in the upper wall of the drawhead, premising however that said plug is of such a length that a portion thereof is always located within the opening 15 notwithstanding the position of the locking device 3, thus preventing dirt or other accumulations from gaining access to the interior of the coupler.

16 represents a short chain the opposite ends of which are attached to the plug and locking device respectively thus forming a movable connection between the two.

17 represents an operating shaft which runs transversely across the front end of the car and is provided with an operating handle or lever 18 located at one or both ends thereof and beyond the side of the car and in easy reach of the operator.

19 represents an ordinary bearing which is located near the side of the car and adjacent to the lever 18. In practice two of such bearings are employed, the other being located at the opposite side of the car (but not shown).

20 represents an arm which is fixed to the operating shaft 17 intermediate of its ends and to the free end of said arm is attached one end of a chain 21 the opposite end of said chain being attached to an eye 22 fixed to the plug 15.

From the above description it will be seen that when the lever 18 is turned in the proper direction, the plug 14 will be elevated as shown in Fig. 1, but not to a sufficient height to allow the same to move out of the opening 15 formed in the drawhead, and thus release the locking device from its engaging position with the knuckle 4.

23 represents a casting which is bolted to one end of the car in close proximity to the arm 20 of the shaft 17 through which the said shaft is free to turn, and formed in said casting are four depressions 24 which are oppositely located, two of which are adapted to receive the projecting ends of the pin 25 carried by the shaft 17 as best shown in Fig. 5. When the shaft 17 is in position as shown in Fig. 1 and the locking device elevated, the pin 25 is in a position to receive two of the depressions 24 formed in the casting 23, the engagement being accomplished by moving the shaft 17 in a transverse direction, or until the pin 25 has been moved within the casting. This position of the shaft will cause the locking device 3 to be held in an elevated position which is very desirable where cars are to be uncoupled before the same are separated. To release the shaft 17 from the above described position, the same is moved transversely until the pin 25 assumes the position as shown in Fig. 1 or out of contact with the casting 23, thus allowing the locking device 3 to be operated in a well known manner. Should it be desired to lock the shaft 17 against movement when in the opposite position to that shown in Fig. 3, the ends of the pin 25 are brought in contact with the other two depressions 24, the operation of the shaft being likewise carried out. In operating the shaft 17 it is to be observed that the same is not only turned but moved in a transverse direction, locking the same against movement when moved in the direction as shown by the arrow in Fig. 1, and released or permitted to be turned when moved in the opposite direction in which position

the pin 25 is out of contact with the casting 23 as also shown in Fig. 1.

Having described our invention, what we claim is—

1. In a car coupler having a vertically operating locking device, an opening formed in the top of the coupler, a plug movable in said opening and covering the same, and a chain or other like device attached to said locking device and plug, substantially as set forth.

2. In a car coupler having a pivoted hook or knuckle, a cavity formed in the tail end of the knuckle, and a bell lever movably attached to the bottom of the coupler and having one of its arms normally located within said cavity for automatically opening the knuckle by gravity, substantially as set forth.

3. A car coupler comprising a pivoted knuckle, a cavity 6 formed in the tail end of the same, a bell lever 9 movably attached to the lower surface of the coupler one arm of which passes through an opening 11 formed in the same and normally located within said cavity, and a weight 10 carried by said bell lever for automatically opening the knuckle when released, substantially as set forth.

4. A car coupler comprising a vertical locking device and pivoted knuckle, an opening 15 formed in the top of the coupler, a plug 14 normally located within said opening, a chain 16 connecting the said plug with the locking device, and an operating shaft and chain for elevating said plug and locking device, substantially as set forth.

5. In a car coupler the combination of a pivoted knuckle and a vertically operating locking device, an operating shaft susceptible of two movements, a pin 25 carried by the shaft and projecting therefrom, a casting 23 secured to the car and provided with depressions 24 for receiving the ends of said pin, and suitable connections between the said shaft and the locking device, substantially as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

WILLIAM J. WALKER.

ALEXANDER L. BEDFORD.

Witnesses:

JAMES J. O'DONOHUE,

EMIL STAREK.