

(No Model.)

A. G. W. FOSTER.

CAR COUPLING.

No. 390,766.

Patented Oct. 9, 1888.

Fig. 1.

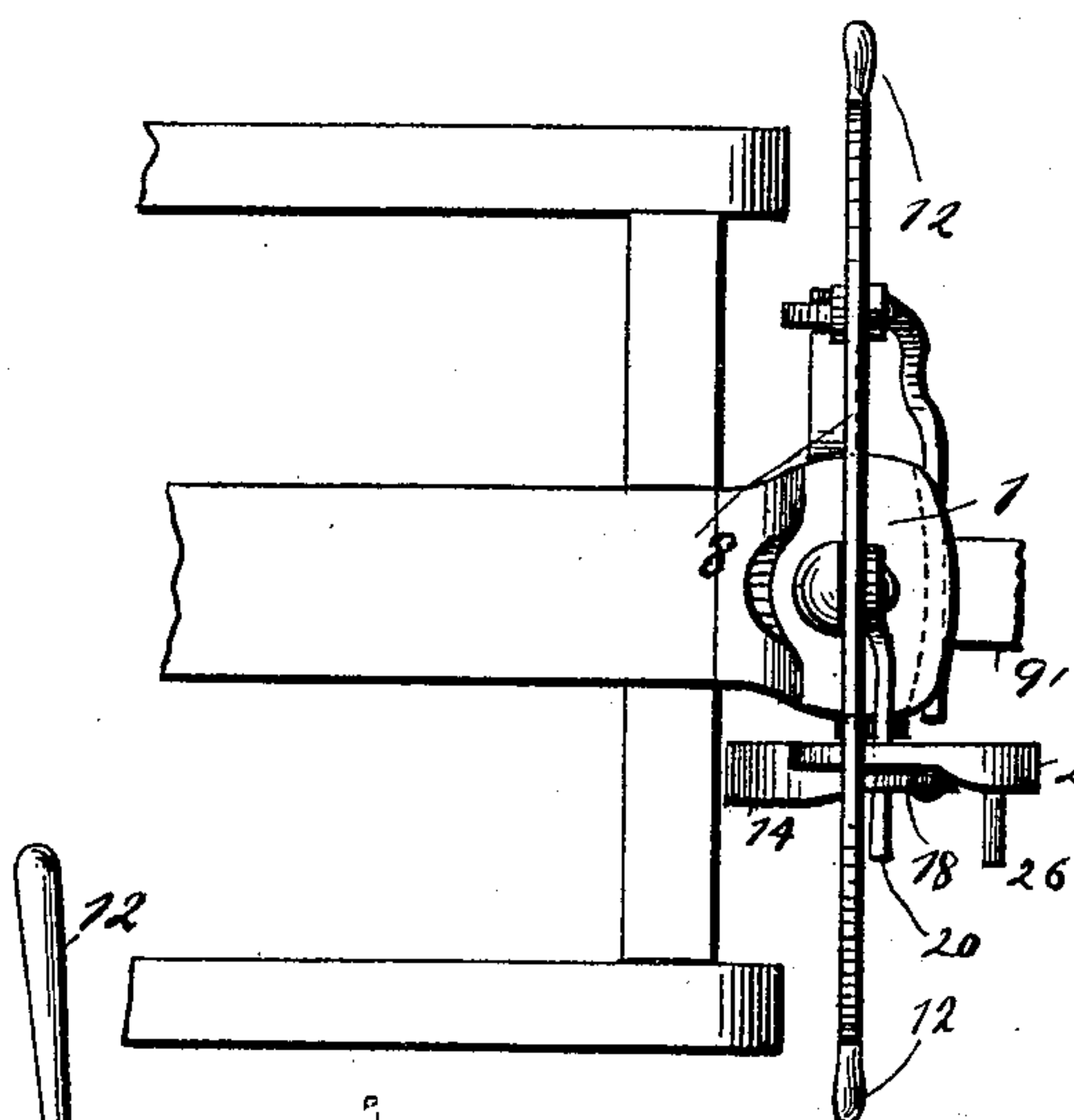


Fig. 2.

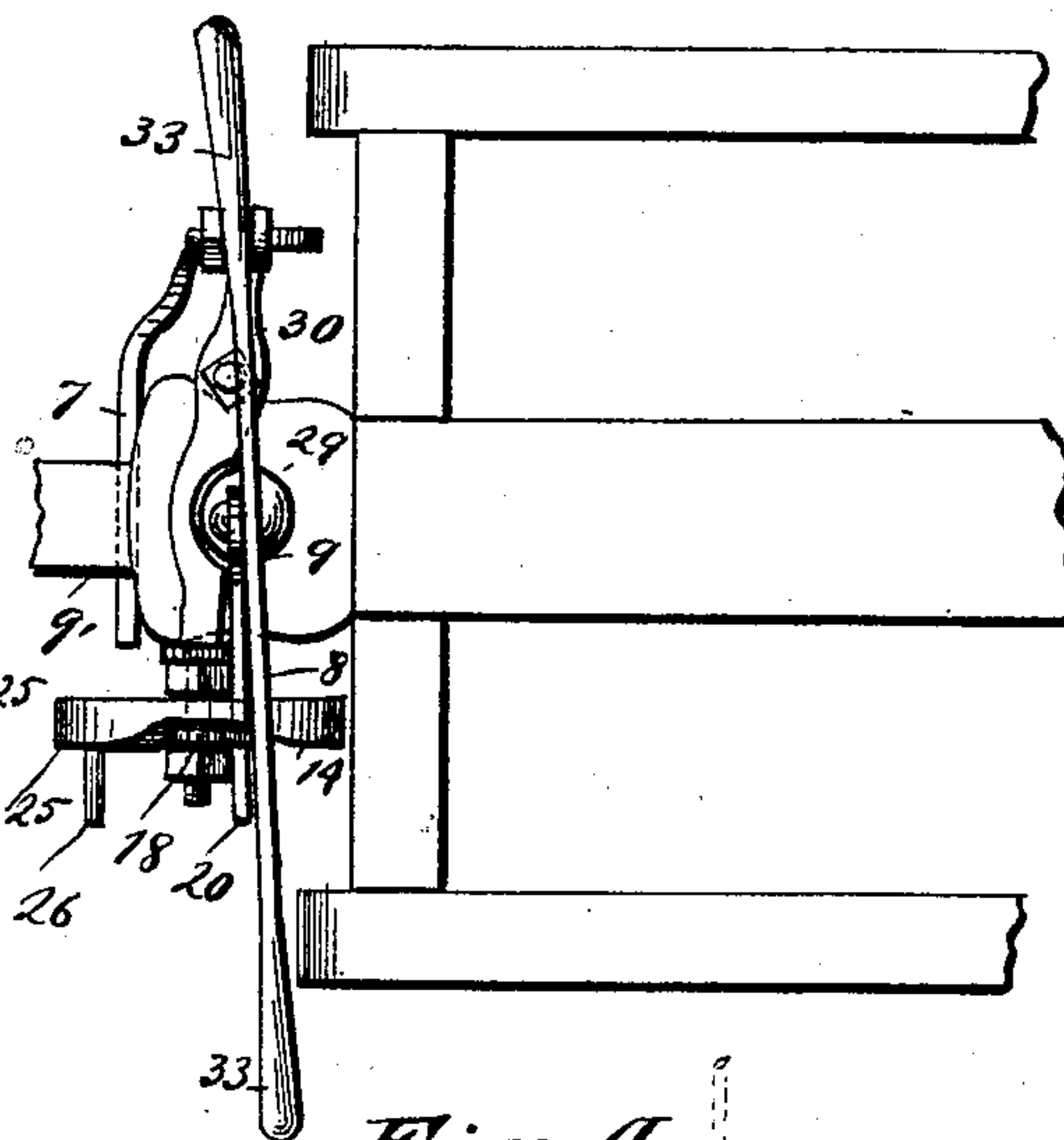


Fig. 3.

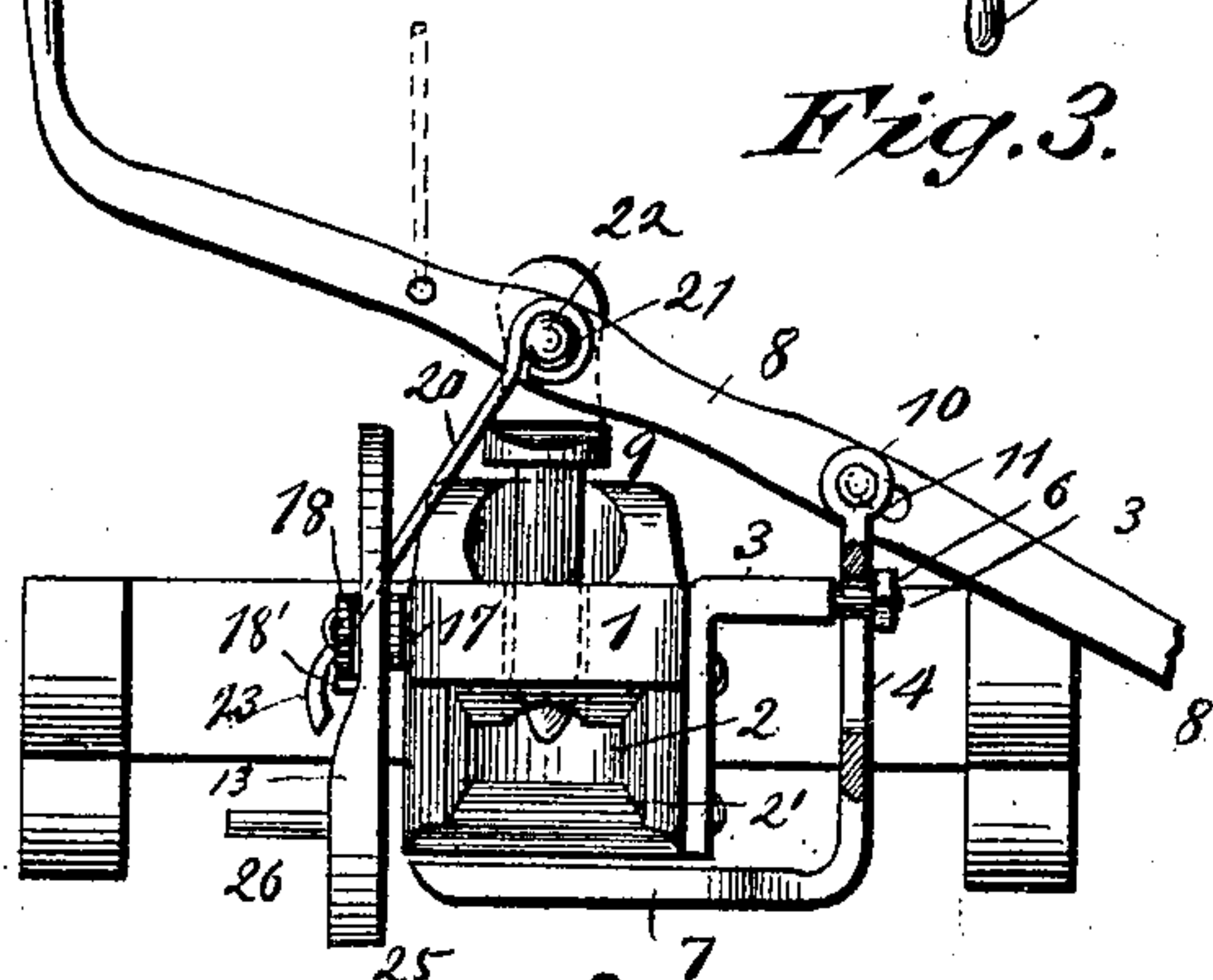


Fig. 4.

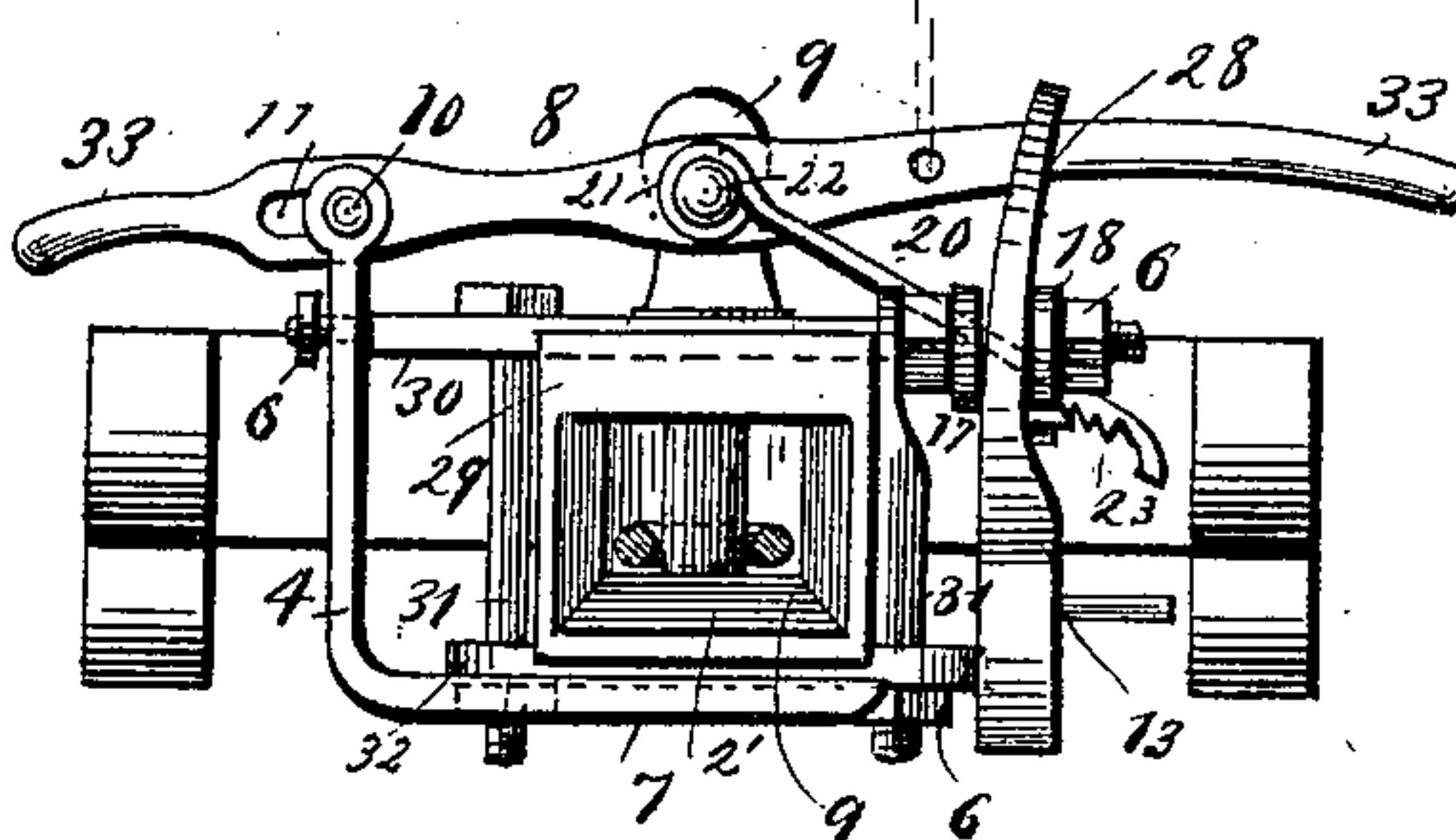


Fig. 5.

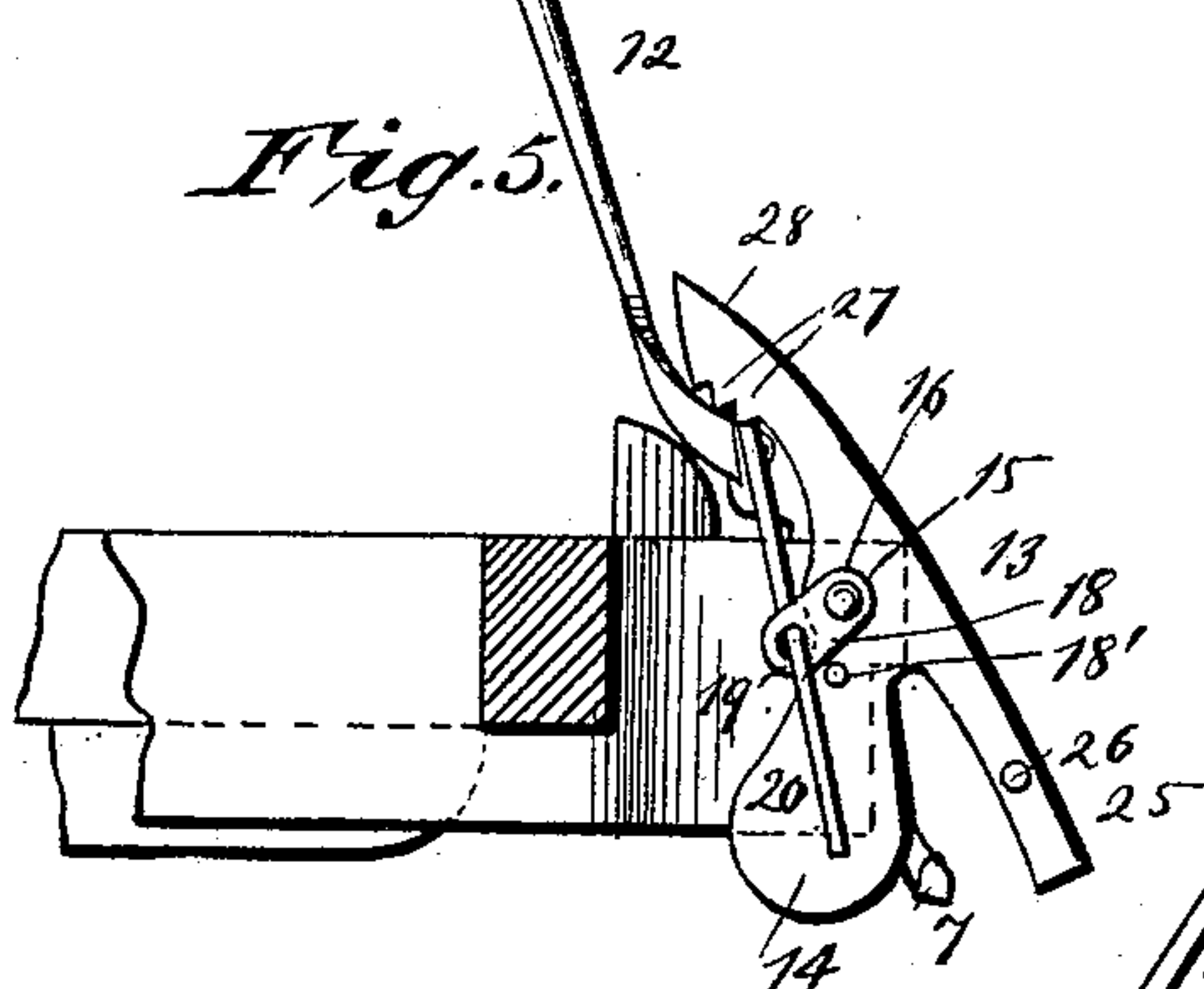
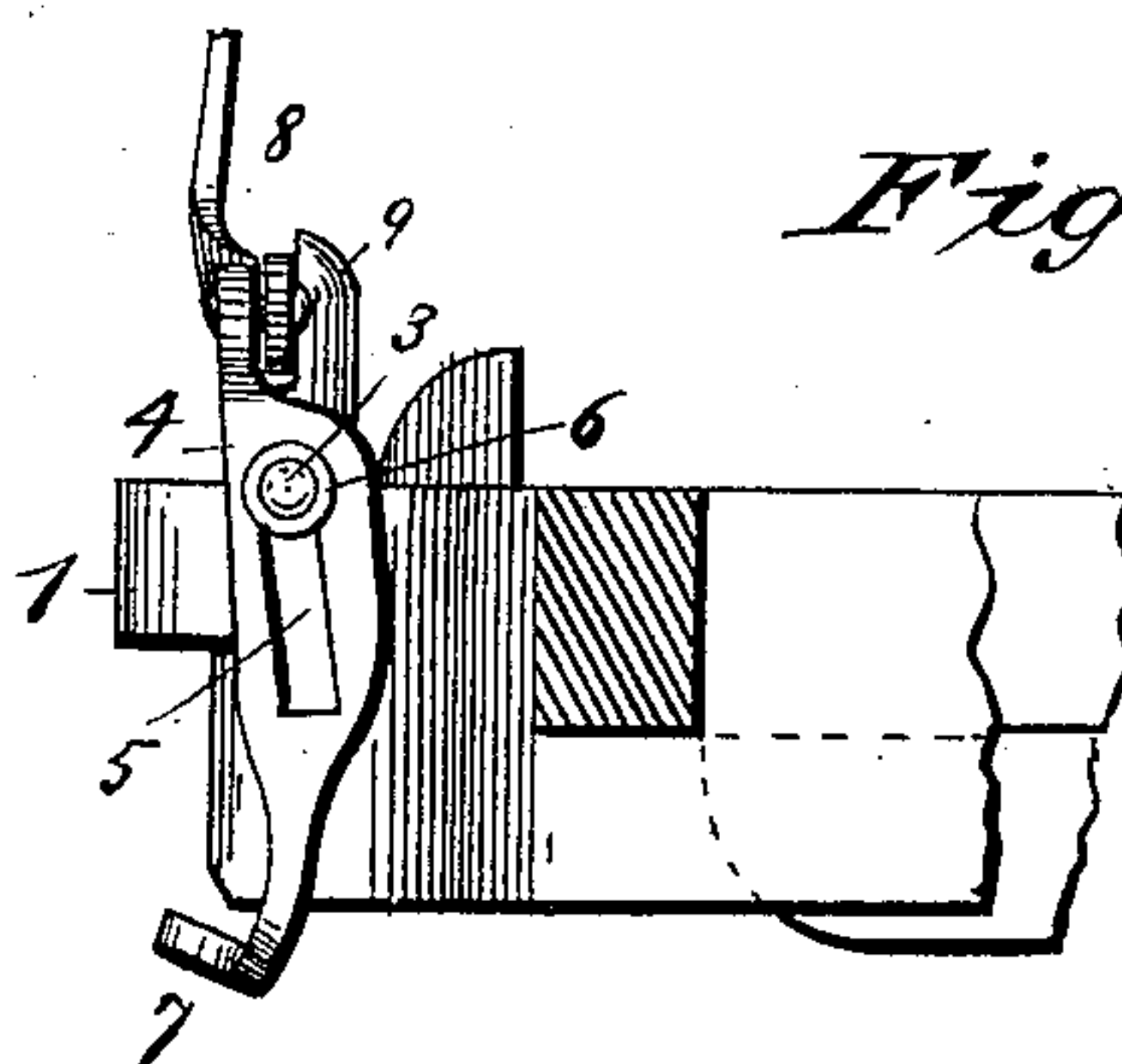


Fig. 6.

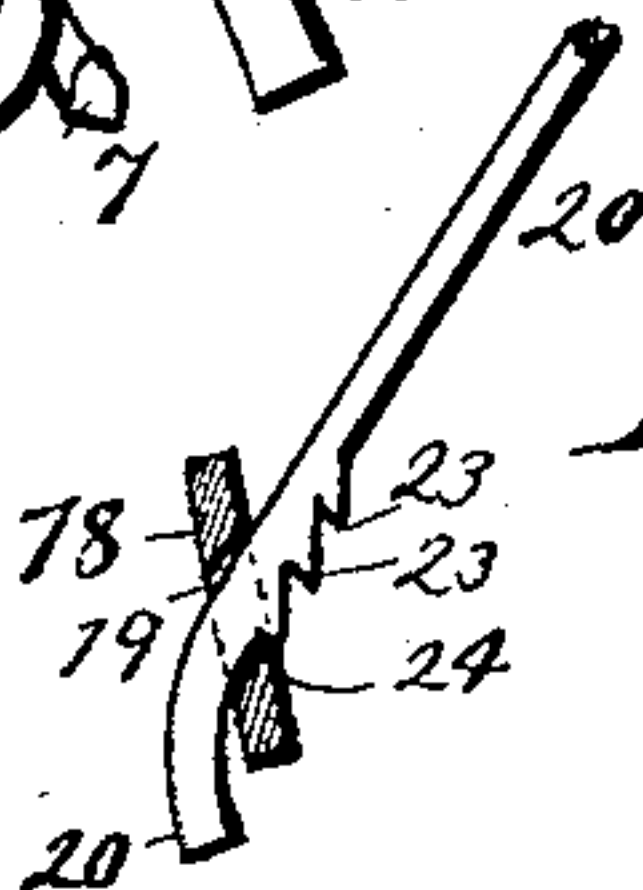


WITNESSES:

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Fig. 7.



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ABRAHAM G. W. FOSTER, OF WHITESBURG, GEORGIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 390,766, dated October 9, 1888.

Application filed June 5, 1888. Serial No. 276,113. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM G. W. FOSTER, of Whitesburg, in the county of Carroll and State of Georgia, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

This invention relates to car couplings, and has for its object to provide a car-coupling in which the coupling-pin may be set to be automatically thrown into coupled position with a coupling-link and the latter at the same time guided into place in the draw-head, and by means of which also the uncoupling may be effected without going between the cars.

The invention consists in a car-coupler, and in details of construction connected therewith, constructed and arranged as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the invention in set position for coupling. Fig. 2 is a plan view thereof arranged with old form of draw-head and provided with operating-levers projecting at each side of the car. Fig. 3 is an end view, with parts broken away, of the device in Fig. 1. Fig. 4 is an end view of the device in Fig. 2 after the coupling has been effected. Fig. 5 is a side view, partly in section, showing the position of coupling in Fig. 3 after the coupling has been effected. Fig. 6 is a view on the opposite side from that in Fig. 5; and Fig. 7 is a detail, partly in section and broken away, of locking-rod for holding coupling-pin in position to be coupled.

In carrying out this invention I preferably use it in connection with a special form of draw-head, (shown in Figs. 1 and 3;) but it may be employed with the old form of draw-head, as shown in Figs. 2, 4, 5, and 6.

Referring to Figs. 1 and 3, the draw-head 1 is formed with an opening, 2, for a link, located below its center and having its lower side, 2', inclined downward toward its mouth. The height of the opening 2 is such as to cause the end of a solid link to fit snugly therein, but is of sufficient width to permit of lateral movement when the ends of the cars move over a curve. By having the opening 2 below the

center of draw-head it will be in position to receive the link, and the link, fitting snugly therein, as just stated, will be prevented from sagging. In order to set the coupling-pin to automatically couple with the link and also to guide the link into the draw-head, the following mechanism is employed:

To one side of draw-head 1 is bolted a bracket-arm, 3, having mounted thereon a vertical bar, 4, provided with an inclined slot, 5, through which the end of bracket-arm 3 projects, having a nut, 6, for retaining bar 4 in place. The bar 4 is formed with a horizontal arm, 7, extending across the draw-head 1 beneath its opening 2, and is operated by means of a lever, 8, pivoted to the coupling-pin 9 and connected at its inner end to bar 4 by means of a bolt, 10, on the latter, located in a slot, 11, in the end of lever 8 and adapted to move therein. The outer end of lever 8 is located at the side of a car, and in the case of passenger-cars is formed with the upturned handle 12, as shown. On the opposite side of draw-head 1 from the bracket-arm 3 is pivoted a tripping device consisting of an arm, 13, having a counter-weight, 14, depending from its pivotal portion 15, and a stop, 18', near the pivotal point.

Upon the bolt 16, on which the arm 13 is mounted, is a washer, 17, located between the arm 13 and draw-head 1, and on the outer end of bolt 16 is a loosely-pivoted plate, 18, having an inclined perforation, 19, through which passes a rod, 20, having an eye, 21, at one end engaging bolt 22, on which lever 8 is pivoted, and at its other end formed with teeth 23, adapted to engage the edge 24 of perforation 19. When the coupling-pin 9 is raised by means of the lever 8, the rod 20 is drawn up through perforation 19 until one of the teeth 23 engages the edge 24 of perforation 19, thereby holding the coupling-pin 9 in position for coupling, as shown in Fig. 3. In this position the lower portion, 25, of arm 13 is held out by counter-weight 14, and upon the approach of a car to be coupled is forced back by a corresponding portion, 25, on the meeting coupler, thereby releasing the coupling-pin 8 and allowing the same to drop into coupled position with the link 9'. As the arm 25 is forced back, the pin 18', coming in contact with the plate 18, raises the said plate, and at the

same time the rear face of the arm 25 engages the rod 20 and raises the same, disengaging its tooth from the edge of the perforation 19 of the plate 18, when the rod will slide through the said perforation and the pin 8 drop into a coupled position. As the latter approaches the opening 2 of draw-head 1, it is raised and guided into the opening by moving down the outer end of lever 8, the fulcrum thereof in this movement being on the bolt 22 in coupling-pin 9, which action raises the bar 4 and by reason of the inclined slot 5 causes the bar 4 to ride up on the arm 3, thereby moving the lower end of bar 4 forward and upward and raising its horizontal arm 7 in front of opening 2, and with it the coupling-link 9' into position to enter the opening.

The lower portion, 25, of arm 13 is provided with a laterally-extending pin, 26, which, in case the parts of a meeting coupler should be reversed, would be acted upon by the bar 4 to effect the automatic coupling. The coupling-pin 9 may be secured in coupled position by means of teeth 27 on the upper portion, 28, of arm 13, with which the lever 8 is thrown into engagement, as shown in Fig. 5.

Where the invention is applied to the old form of draw-head 29, as shown in Figs. 2 and 4, the vertical bar 4 and counterweighted arm 13 are pivoted to the ends of a bar, 30, lying across the top of draw-head 29, and are held in place by nuts 6. The bar 30 is secured to draw-head 29 by vertical bolts 31, projecting through a bar, 32, extending across the under side of draw-head 29, and held by nuts 6.

The operation of the parts is similar to that already described in connection with Figs. 1, 3, 5, and 6.

The lever 8 is provided with horizontal handles 33, extending to the sides of the car, which is the preferable form in connection with freight-cars, but may be formed with vertical handles 12, as in Fig. 1, for passenger-cars.

It will thus be seen that by means of this invention the coupling-pin may be set in position to be coupled from either side of a car, the link may be raised and guided into the draw-head in the act of coupling, and the coupling will be effected automatically.

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

1. In a car-coupling, the combination, with a coupling-pin, of a lever for raising the coupling-pin, a rod for holding the coupling-pin in raised position, and an automatically-releasing tripping-catch for holding the rod in raised position and releasing the same, substantially as shown and described.

2. In a car-coupling, the combination, with a coupling-pin, of a lever for raising the coupling-pin, a rod for holding the coupling-pin in raised position, and a counterweighted arm

detachably engaging and holding the rod in raised position and automatically releasing the rod from engagement therewith by contact of an approaching coupling, substantially as shown and described.

3. In a car-coupling, the combination, with a coupling-pin, of a lever for raising the coupling-pin, a link guide and lifter operated by the coupling-pin lever, a rod for holding the coupling-pin in raised position, and a tripping-catch for automatically releasing the rod and coupling-pin from raised position, substantially as shown and described.

4. In a car-coupling, the combination, with a coupling-pin, of a lever pivoted thereto, a link guide and lifter consisting of a vertical bar with a horizontal portion extending beneath the opening of draw-head, the vertical bar having a pivotal connection with the coupling-pin lever, and an inclined slot with which a bracket arm on the draw-head engages, a rod pivoted to the coupling-pin and having a toothed end, and a counterweighted arm pivoted to draw-head and having a perforated projection with which a rod pivoted to coupling-pin has a sliding connection and is held in raised position by its toothed end, substantially as shown and described.

5. In a car-coupling, the combination, with a draw-head having bracket arm 3 on one side thereof and arm 13 pivoted on the opposite side, with counter-weight 14, pivoted plate 18, with inclined perforation 19, and stop 18', of coupling-pin 9, lever 8, pivoted thereto, rod 20, pivoted to coupling-pin 9, extending through plate 18, and having teeth 23 at its end, and link lifter and guide consisting of vertical bar 4, with horizontal arm 7 beneath the front of draw-head, and inclined slot 5, engaging bracket arm 3, the upper end of bar 4 having bolt 10, engaging slot 11 of lever 8, substantially as shown and described.

6. In a car-coupling, the combination, with a draw-head having on one side bracket-arm 3 and on the other counterweighted pivoted arm 13, with toothed upper end, 28, lateral pin 26 at its lower end, pivoted plate 18, with inclined perforation 19, and stop 18', of coupling-pin 9, lever 8, pivoted thereto, with handles projecting at each side of a car, rod 20, pivoted to coupling-pin 9, projecting through plate 18, and having a toothed end, and link guide and lifter consisting of horizontal portion 7 and vertical portion 4, with inclined slot 5, engaging arm 3, the vertical portion 4 being connected with lever 8 by bolt 10 engaging slot 11, substantially as shown and described.

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Witnesses:

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