

(No Model.)

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CAR COUPLING.

No. 409,431.

Patented Aug. 20, 1889.

Fig. 1.

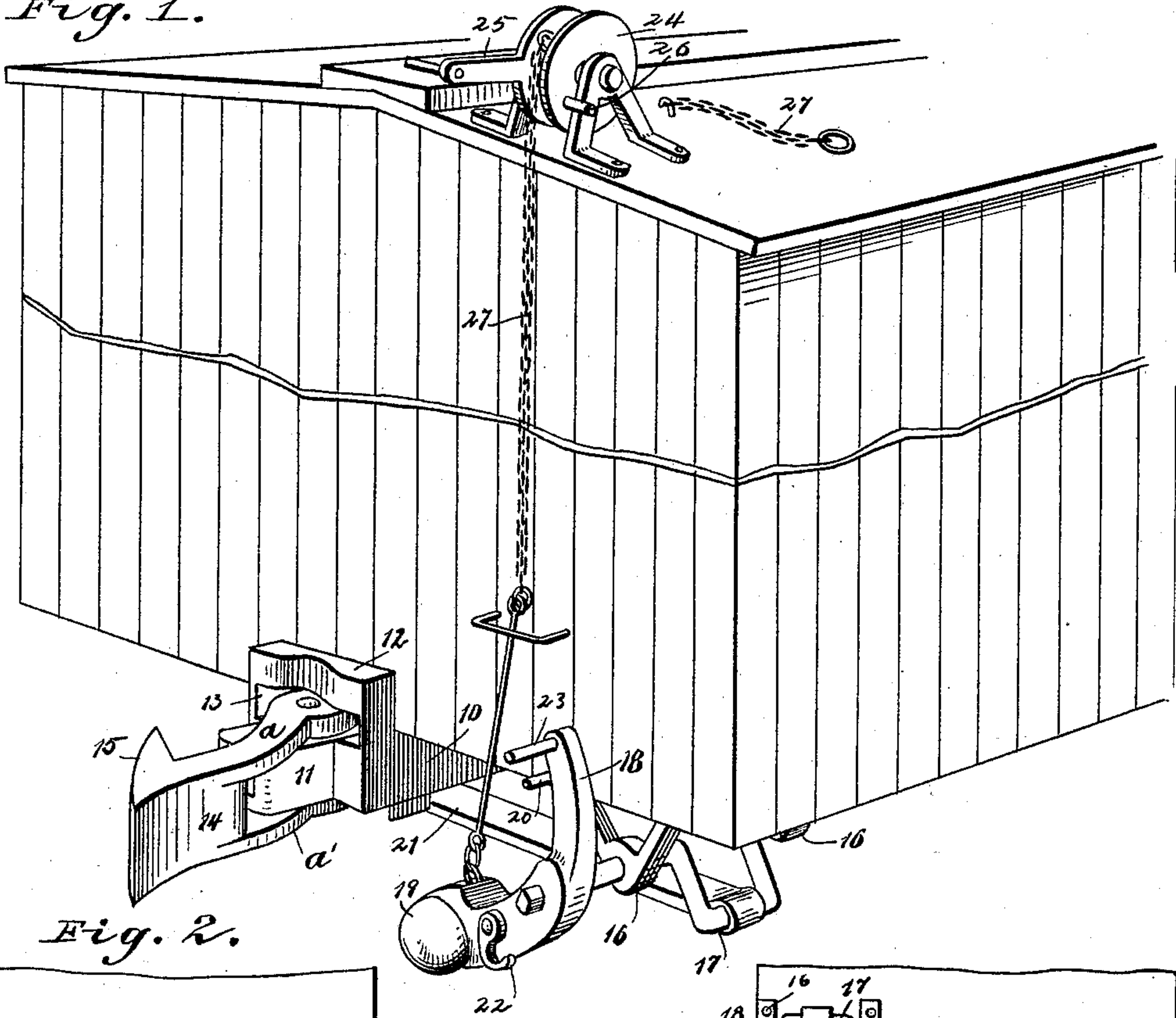
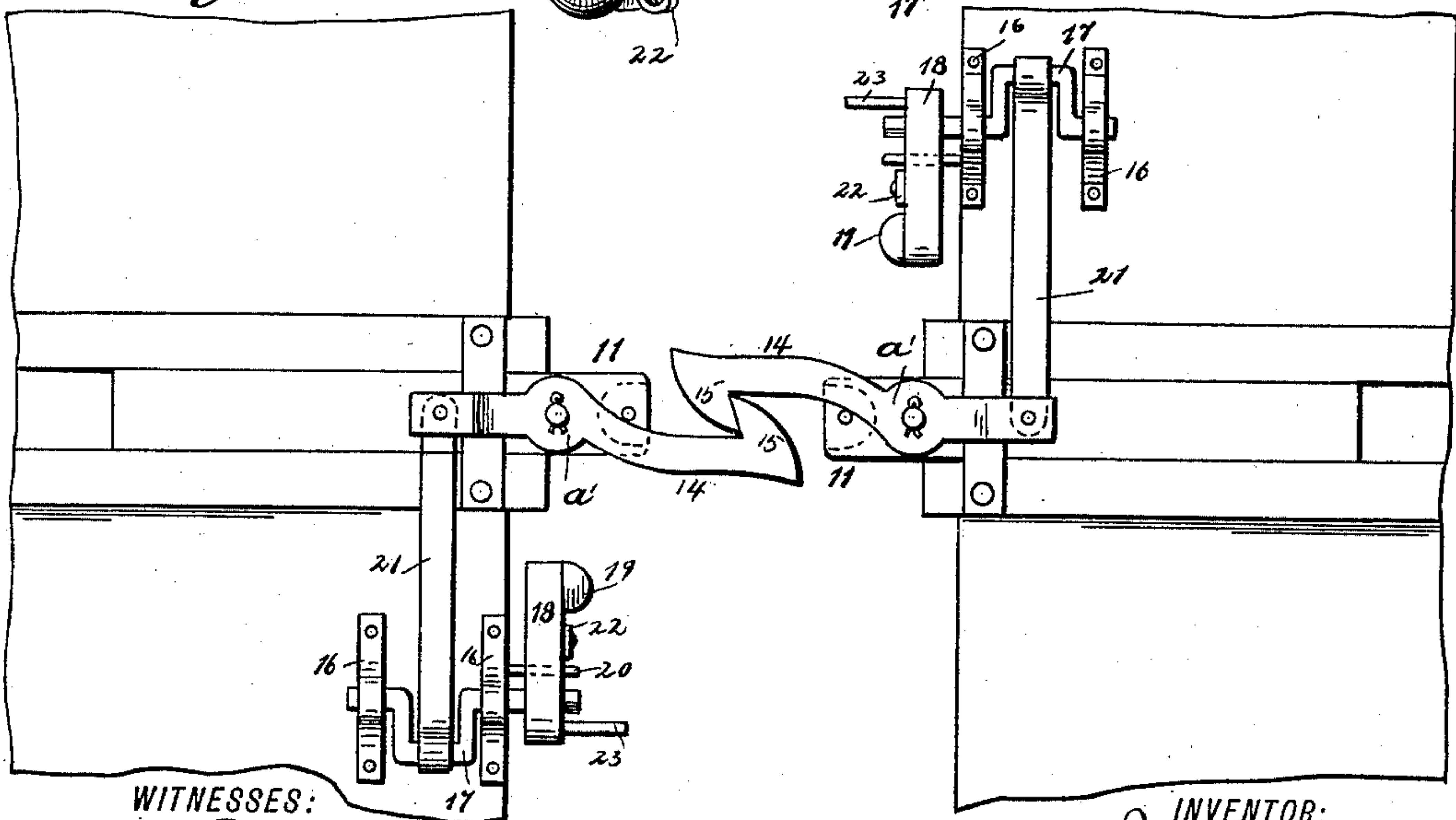


Fig. 2.



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 409,431, dated August 20, 1889.

Application filed June 14, 1889. Serial No. 314,244. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. SMITH, JULIUS F. KNUTH, GEORGE THOMPSON, and JULIUS EWALD, all of Fairchild, in the county
5 of Eau Claire and State of Wisconsin, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description.

Our invention relates to an improvement
10 in car-couplers, and has for its object to provide a coupling of simple and durable construction, capable of being manipulated from the sides or ends of the car and also from the top.

15 A further object of the invention is to provide a coupler which may be coupled and uncoupled upon a curved section as well as upon a straight section of the road, and which may be readily coupled with opposed draw-
20 heads of differing heights.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

30 Figure 1 is a perspective view of a portion of a car having the coupling applied; and Fig. 2 is a bottom plan view of a portion of two opposed cars, illustrating the attached couplers in a coupled position.

35 In carrying out the invention the draw-head 10 is provided with a central forward projection 11, having produced in the front end the usual form of link-opening. That portion of the draw-head 10 to the rear of
40 the projection 11 is provided preferably with a vertical extension 12, which extension contacts with the end of the car, as illustrated in Fig. 1.

45 In the front face of the extension 12 a horizontal recess 13 is produced, the base-wall of which recess is ordinarily in a plane with the upper surface of the front draw-head extension or projection 11. The coupling-link 14 partakes of the nature of a knuckle, and to
50 that end is provided at the outer extremity with a latch-head 15. The body of the

knuckle is curved, as illustrated, and the inner end is bifurcated, forming two members *a* and *a'*, of which the lower member *a'* is the longer. The upper shorter member *a* of the
55 knuckle is pivoted upon the draw-head within the recess 13, and the lower member is pivoted upon the bottom of the recess. The rear end of this latter member is made to extend rearward beyond the pivotal point, as illustrated
60 in Fig. 2. By reason of the bifurcated end of the knuckle 14, said knuckle, when pivoted upon the draw-head, is free to swing laterally over the front projection 11 of the draw-head.
65

At one side of the car, near the end, two brackets or hangers 16 are secured to the under surface of the car, in which brackets or hangers a crank-shaft 17 is journaled, the
70 crank-arm of the shaft being located between the hangers. The outer end of the crank-shaft is made to extend outward beyond the end of the car, and upon this outer extended end of the crank-shaft a curved trip-lever 18 is rigidly secured, the inner end of which
75 lever is weighted, as illustrated at 19 in Fig. 1, whereby the upper end is held normally in an essentially vertical position in contact with a stop-pin 20. The crank-arm of the shaft 17 is connected by a link 21 with the inner
80 end of the lower member *a'* of the knuckle.

Upon the trip-lever 18, near the weighted extremity of the same, a hook 22 or equivalent device is pivoted. When the lever 18 is in its normal position, the knuckle 14 is held
85 in position to couple with an opposed draw-head. The upper end of the trip-lever 18 is provided, preferably, with an outwardly-extending arm 23, and when the coupler is to be manipulated from the top of the car, as
90 well as from the sides and ends, a grooved wheel 24 is mounted in suitable bearings upon the roof, which wheel is provided with an integral arm 25 and a pin 26 projecting from one side. Upon the periphery of the wheel
95 one end of a chain 27 is attached, the other end of which chain is connected in any suitable manner with the weighted end of the trip-lever 18.

It will be readily observed that the weighted
100 end of the lever may be elevated by turning the grooved wheel 24, for instance, toward the

opposite end of the car, and the lever may be held in this elevated position by engaging one link of a chain 27^a, attached to the roof, with the pin 26 of the wheel. When the weighted end of the trip-lever is elevated, the knuckle is carried laterally to the uncoupling position, as when the weighted end of the trip-lever is carried upward the crank-arm of the shaft 17 is carried inward in direction of the draw-head, and the link 21 forces the inner end of the knuckle in direction of the side of the car opposed to that near which the lever is pivoted, whereby the latch end of the knuckle is carried away from the projection 11 of the draw-head. In uncoupling from the side the lever may be manipulated by the foot or by the hand, as desired. When the trip-lever is manipulated from the side of the car and it is desired to hold the knuckle in an uncoupled position to permit of buffing, or to use the draw-head in connection with an opposed link draw-head, the hook 22 is made to engage with the stop-pin 20, whereby the weighted end of the trip-lever is held in an elevated position.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a car-coupler, the combination, with a draw-head of a knuckle having a bifurcated inner end pivoted upon the draw-head to have lateral movement thereon, and a counterpoise trip-lever connected with the said knuckle, substantially as shown and described.

2. In a car-coupler, the combination, with a draw-head and a knuckle pivoted thereon capable of lateral movement, of a crank-

shaft, a link-connection between the crank-shaft and the inner end of the knuckle, and a counterpoise trip-lever secured upon one end of the crank-shaft, all combined for operation substantially as shown and described.

3. In a car-coupler, the combination, with a draw-head provided with a link-opening, and a knuckle having a bifurcated inner end pivoted upon the draw-head and capable of lateral movement, of a crank-shaft journaled beneath the car, a link connecting the crank-shaft and inner end of the knuckle, a trip-lever weighted at its lower end secured to one end of the crank-shaft, and means, substantially as shown and described, for elevating the weighted end of the lever from the top of the car, as set forth.

4. In a car-coupler, the combination, with a draw-head and a knuckle having a bifurcated inner end, the lower member whereof is longer than the upper, both of said members being pivoted to the draw-head, one above and the other beneath, of a crank-shaft, a link connecting the crank-arm of the shaft with the lower member of the knuckle, a trip-lever secured to the outer end of the crank-shaft having a weighted lower extremity, and means, substantially as shown and described, for manipulating the said lever from the sides or top of the car, as set forth.

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