(No Model.)

J. M. COSBY.

CAR COUPLING.

No. 419,752. Patented Jan. 21, 1890.

Fig. 1.

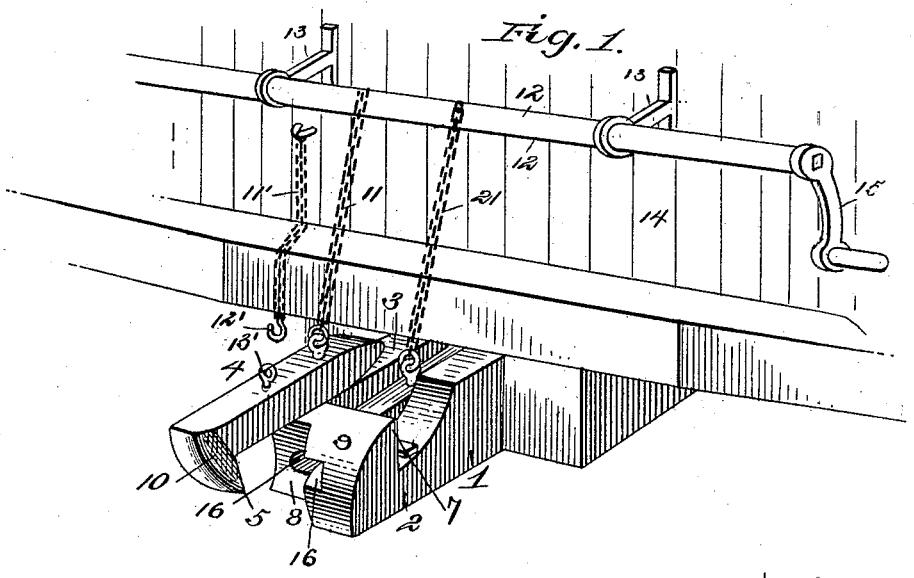


Fig. 2.

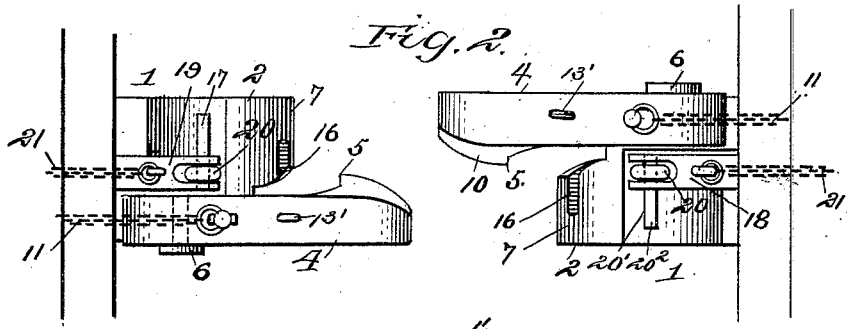
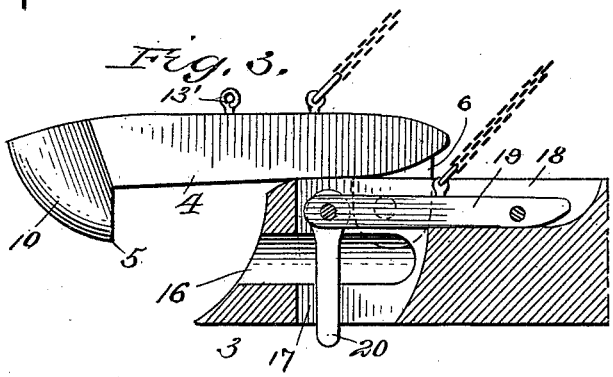


Fig. 3.



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JAMES M. COSBY, OF ELBERTON, GEORGIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 419,752, dated January 21, 1890.

Application filed May 4, 1889. Serial No. 309,598. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. COSBY, of Elberton, in the county of Elbert and State of Georgia, have invented a new and Improved Automatic Car-Coupler and Uncoupler, of which the following is a full, clear, and exact description.

This invention relates to car-couplers which couple automatically and are provided with mechanism for uncoupling.

The invention has for its object to provide a car-coupler and uncoupler of this kind which will be effective in operation and simple in construction.

The invention consists in a car-coupler and uncoupler 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 perspective view of the invention applied to a car. Fig. 2 is a plan view of a pair of meeting-couplers constructed in accordance with this invention; and Fig. 3 is an enlarged side view of the invention, showing a portion of the draw-head in longitudinal section.

In carrying out this invention I provide a draw-head 1, constructed with a projecting fixed hook portion 2, and a parallel abutment portion 3, which, when the coupling is effected, abuts against a hooked portion on the meeting-coupler similar to the hooked portion 2.

Upon the top of the abutment portion 3 is located a coupling-hook 4 with a downwardly-projecting beak 5 the hook 4 projecting beyond the abutment 3 and hinged to the latter at its rear end by means of a depending arm 6, pivoted on one side of the abutment 3. The fixed hooked portion 2 is formed with an upwardly-extending beak 7, and is longer than the abutment portion 3, the beak 7 being located about opposite to the beak 5 of hook 4. The end of abutment 3 is formed with a crescent-shaped or vertically-curved recess 8, and the beak 7 of hooked portion 2 with a vertically-curved or crescent-shaped end surface 9, corresponding in shape with the curved recess 8. When the coupling is effected, the curved end surface 9 on the hooked portion 2 and the curved recess 8 of the abutting portion 3 fit into the corresponding recess 8 and curved surface 9 of the abutting hooked portion 2 and abutment portion 3 of the opposite coupler. By having the hooked portions 2 longer than the abutment portions 3 the coupling is adapted to round curves and there is no lost motion. By means of the curved recesses 8 and curved surfaces 9 the hooked portions 2 are prevented from slipping to either side or out of position. The inside of the beak 5 of hook 4 is beveled or rounded, as at 10, and by this means the opposite hooks 4 are guided by each other into proper position. It will be seen that as the couplings are brought together the ends of hooks 4 will ride over the meeting curved ends of fixed hooks 2 and will automatically engage therewith.

In order to uncouple the hook 4 from the opposite hook 2, I connect the hook 4 by means of a chain or cord 11 with a shaft 12, mounted in brackets 13 on the end of a car 14, and having at its ends operating crank-handles 15. The shaft 12 may be located adjacent to the bottom of the car, as shown, so that the handle 15 may be operated at the side of the car, or the chain 11 may be lengthened and the shaft 12 located adjacent to the top of the car with a handle 15, suitably arranged, so as to be operated at that point.

In addition to the coupling-hook 4, an ordinary coupling-link may be employed. For this purpose an opening 16 is formed in the end of draw-head 1 to receive a coupling-link, through which extends a transverse vertical opening 17.

Within a longitudinal recess 18 in the top of draw-head 1 is pivoted an arm 19, having pivoted to one end a coupling-pin 20, extending in opening 17 across opening 16. The coupling-pin 20 drops automatically into place to engage a coupling-link, and is released therefrom by means of a chain 21, connecting arm 19 to shaft 12. The arm 19 also serves to raise the opposite hook 4 out of engagement with the hook 2. The coupling-pin 20 is pivoted to arm 19 by means of a pin 20′, having a flattened extended portion 20^2, which extends across the notched portion of hook 2 and serves to elevate the opposite hook 4 in

case the arm 19 fails to act thereon. The hook 4 and pin 20 may be simultaneously raised to effect the uncoupling, or either one of them independently by dispensing with the chain 11 or chain 21, and they may also be held up out of the way by winding up chains 11 and 21 and securing shaft 12 from turning.

In case it is desired to couple an ordinary link with the pin 20, a short chain 11′, secured to the car and having a hook 12′, may be employed. The arm 4 being lifted, the hook 12′ is engaged with an eyebolt 13′ on the hook 4, thereby holding the latter up out of the way.

The parts may be made in whole or in part of wrought-iron.

By means of this invention a car-coupler is provided which will be effective and may be readily uncoupled.

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

1. A car-coupler constructed with a draw-head having an abutment portion, a vertically-swinging coupling-hook mounted on the top of and projecting beyond the abutment portion and having a depending beak, and a fixed hook portion projecting beyond the abutment portion and having an upwardly-extending beak located at one side of the beak of the coupling-hook, substantially as shown and described.

2. A car-coupler constructed with a draw-head having an abutment portion with a vertically-curved recessed end, a vertically-swinging coupling-hook mounted on the top of and projecting beyond the abutment portion and having a depending beak, and a fixed hook portion projecting beyond the abutment portion and having an upwardly-extending beak located at one side of the beak of the coupling-hook and formed with a vertically-curved end surface, substantially as shown and described.

3. A car-coupler constructed with a draw-head having an abutment portion, a vertically-swinging coupling-hook mounted on the top of and projecting beyond the abutment portion and having a depending beak with an inner beveled side face, and a fixed hook portion projecting beyond the abutment portion and having an upwardly-extending beak located at one side of the beak of the coupling-hook, substantially as shown and described.

4. A car-coupler constructed with a draw-head having a longitudinal and transverse vertical opening for a link and coupling-pin, a pivoted horizontal arm mounted in the top of the draw-head and having a coupling-pin pivoted to one end, a vertically-swinging coupling-hook with a depending beak mounted on top of the draw-head, and means for raising the coupling-hook, lever, and coupling-pin, substantially as shown and described.

5. In a car-coupler, the combination, with a recessed draw-head provided with the openings 16 and 17 and the stationary hook 2, of the pivoted hook 4, the pivoted arm 19, the coupling-pin 20, pivoted to the end of the arm, the pivot of the pin extending across the notch of the hook 2, the shaft 12, and the chains connected to the shaft and to the said pivoted hook and arm, substantially as herein shown and described.

6. A car-coupler constructed with a draw-head 1, having an abutment portion 3, with vertically-curved recessed end 8, a fixed hook portion 2, projecting beyond the abutment portion 2, and having the upwardly-extending beak 7, with the curved end surface 9, a vertically-swinging automatic coupling-hook 4, mounted on top of and projecting beyond the abutment portion 3, and having a depending beak 5, with beveled inner side surface 10, located at one side of beak 7, the longitudinal and vertical openings 16 and 17 for a link and coupling-pin, the arm 19, pivoted in the top of draw-head 1, and having the coupling-pin 20, pivoted to one end, and a shaft 12, with crank-handles 15, and chains 11 and 21, connected to hook 4 and arm 19, respectively, substantially as shown and described.

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