

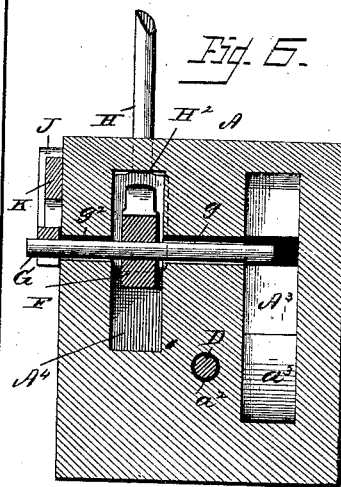
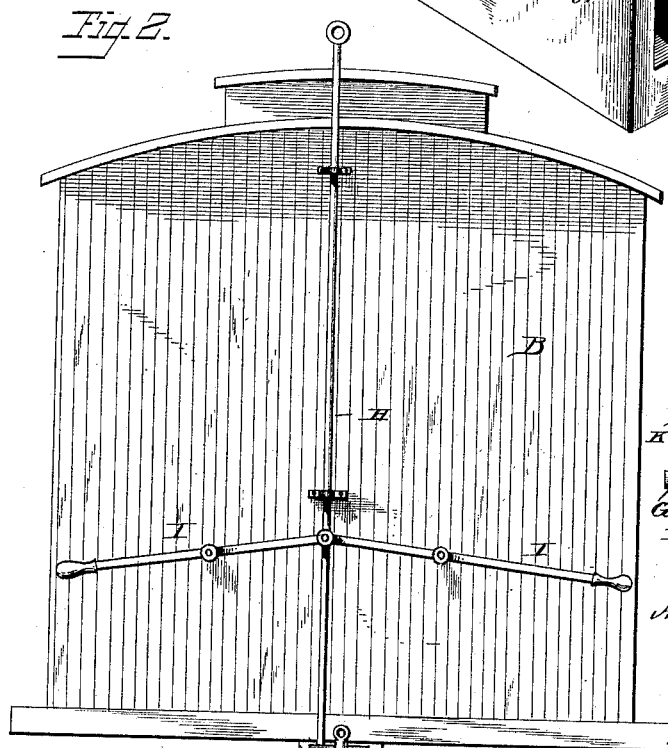
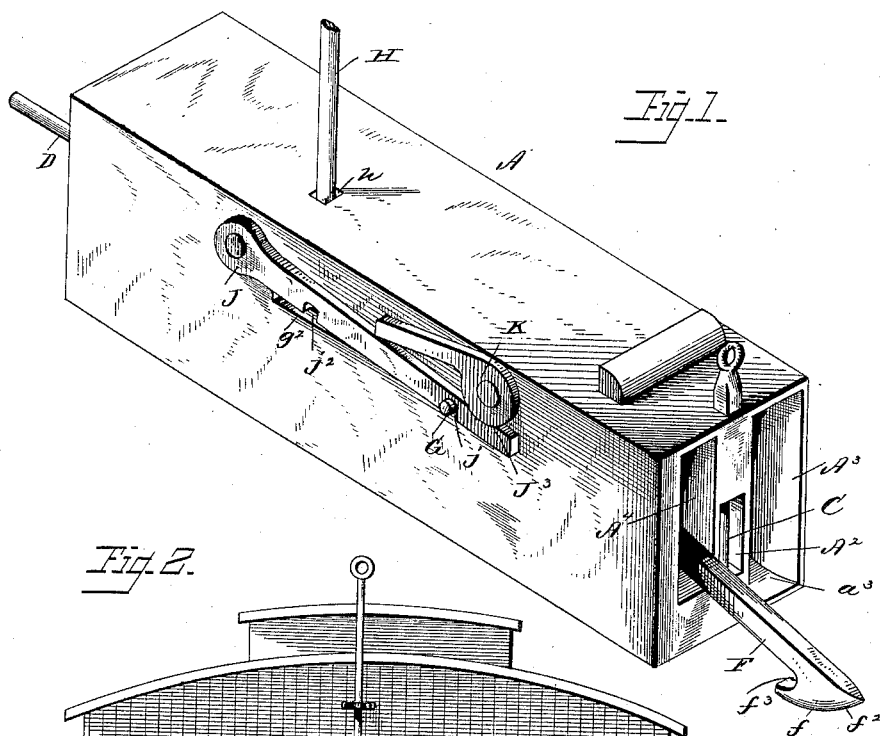
(No Model.)

J. B. MOTTER. .  
CAR COUPLING.

2 Sheets—Sheet 1.

No. 302,689.

Patented July 29, 1884.



WITNESSES  
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INVENTOR

By

*J. R. Little*  
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(No Model.)

2 Sheets—Sheet 2.

J. B. MOTTER.

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Fig. 3.

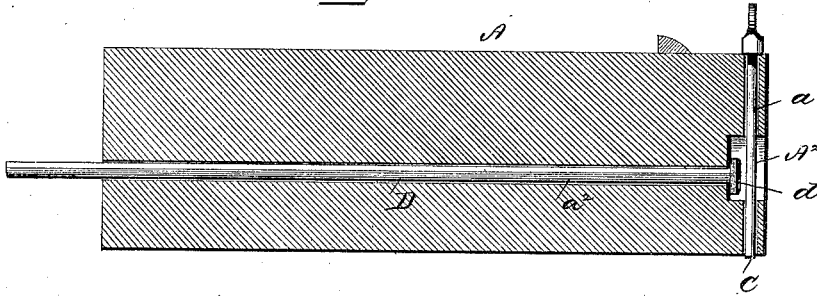


Fig. 4.

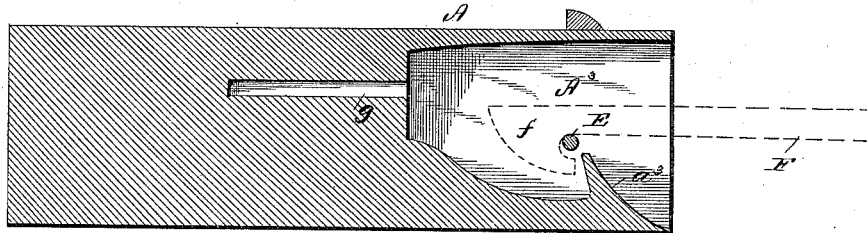


Fig. 5.

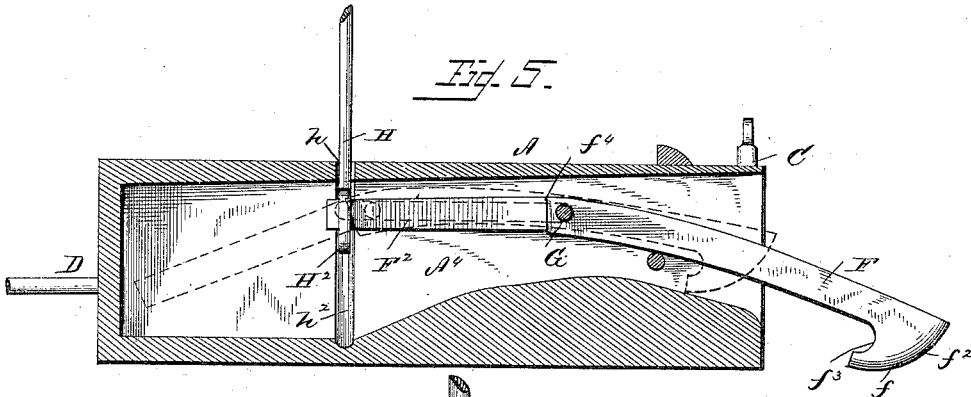
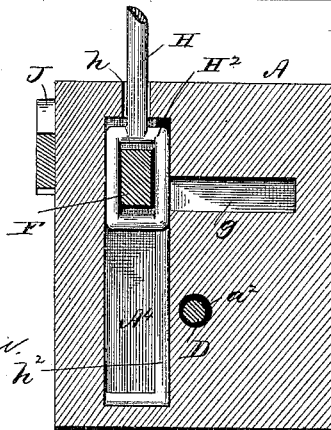


Fig. 7.



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# UNITED STATES PATENT OFFICE.

JEROME B. MOTTER, OF MANNINGTON, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO E. B. TODD AND JAMES H. TAGGART, BOTH OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 302,689, dated July 29, 1884.

Application filed May 29, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JEROME B. MOTTER, a citizen of the United States, residing at Mannington, in the county of Marion and State of West Virginia, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of car-couplings which are designed to effect an automatic coupling, as the cars come together, by means of gravity-hooks, and which are adapted to be uncoupled from the sides or top of the car without the necessity of going between the same.

The object of my improvements is to provide a simple and improved automatic coupling of this class which will possess advantages in point of inexpensiveness and durability of construction and convenience and efficiency in operation.

In the drawings, Figure 1 is a perspective view of a draw-head embodying my improvements. Fig. 2 is a front view of the same, showing it in position upon the end of a car. Fig. 3 is a vertical longitudinal sectional view taken centrally through the draw-head. Fig. 4 is a corresponding view taken through the chamber which receives the coupling-hook of an adjoining draw-head. Fig. 5 is a side elevation, the side of the draw-head being removed or broken away. Fig. 6 is a vertical transverse sectional view taken through the fulcrum of the coupling-hook. Fig. 7 is a corresponding view taken on the plane of the bar or rod by which the hook is operated to uncouple.

Corresponding parts in the figures are denoted by the same letters of reference.

Referring to the drawings, A designates the draw-head, which may be secured to the end of the car B in any suitable manner, by which it is adapted to perform the office of a bumper. In the front of the draw-head is provided a central chamber or recess, A<sup>2</sup>, and a vertical perforation, a, adapted to receive a vertical coupling-pin, C, by which a coupling may be effected with a draw-head of the ordinary pin-

and-link construction, and from this recess extends a longitudinal central perforation, a<sup>2</sup>, which receives the bar D, by which the draw-head is connected to the car, the head d of the bar being accommodated in the said recess. In one side of the draw-head is formed a vertical chamber or recess, A<sup>3</sup>, having the open mouth provided with an inclined bottom, a<sup>3</sup>, the bottom of the recess in rear of the said inclined mouth being also preferably inclined downwardly and rearwardly, as shown.

E designates a transverse horizontal coupling-pin, which is disposed in rear of and just above the inclined bottom a<sup>3</sup>, and is adapted to be engaged by the coupling-hook of an adjoining draw-head as the cars come together. This pin is also preferably disposed so as to support the front end of the gravity-hook at the other side of the draw-head and retain it at a proper elevation to effect an automatic coupling.

F designates the gravity-hook, which works in a longitudinal vertical chamber or recess, A<sup>4</sup>, provided in the side of the draw-head opposite from the chamber A<sup>3</sup>, and projects from the mouth of the same. The hook comprises a main portion, having the hook-shaped front end, f, provided with the beveled front f<sup>2</sup>, and with a curved recess, f<sup>3</sup>, adapted to receive the transverse pin E, and a rear arm or portion, F<sup>2</sup>, which is at an angle to the main portion, and is preferably formed smaller than the latter to form a shoulder, f<sup>4</sup>, near which is provided a cross-pin, G, forming the fulcrum of the hook. This pin has its bearing at one side in a horizontal longitudinally-extending slot, g, formed in the central wall of the draw-head and in rear of the chamber A<sup>3</sup>, while its other side bears in a corresponding slot, g<sup>2</sup>, in the side of the draw-head. It is obvious that by this arrangement, when the fulcrum of the hook is at the front end of its bearing-slot the hook will automatically enter the chamber A<sup>3</sup> of an adjoining draw-head as the draw-heads come together, and thus effect the coupling. It is also obvious that this arrangement enables the hook to be slid back in the chamber A<sup>4</sup> the limit of the said bearing-slot, so that it will be out of the way when it is desired to effect a coupling by

means of the ordinary pin-and-link mechanism, this position being illustrated in dotted lines, Fig. 5.

The operation of uncoupling is effected by means of a vertical bar or rod, H, arranged to slide through a perforation, h, in the top of the draw-head, and extending preferably to the top of the car, so that it may be readily operated from that point. At the lower end of the bar is provided an eye, H<sup>2</sup>, which receives the rear arm, F<sup>2</sup>, of the hook, and slides in a vertical groove, h<sup>2</sup>, formed in the inner wall of the chamber A<sup>4</sup>, and preferably at the bottom of the same, from which it is apparent that by depressing the said bar the front end of the hook is elevated from its engagement with the pin E of the adjoining draw-head, and the mechanism is uncoupled. The bar H may be conveniently operated from the sides of the car by means of levers I I, fulcrumed upon the end of the car and pivotally connected to the bar. The hook is locked in position by means of a locking-plate, J, pivoted upon the side of the draw-head, and having recesses or notches j<sup>2</sup> in its under edge, respectively adapted to engage the projecting end of the fulcrum-pin G when it is at the front or rear end of its bearing-slot. This plate may be elevated to disengage it from the fulcrum-pin and permit of the adjustment of the latter in the slot. A cam-plate, K, is preferably fulcrumed upon the side of the draw-head and acts upon the curved end j<sup>3</sup> of the plate J to lock the same into engagement with the fulcrum-pin.

I claim as my invention—

1. The combination, as an improvement in car-couplings, with a draw-head embodying coupling mechanism and provided with the link chamber or recess at its front and the vertical pin-perforation, and having the longitudinal central perforation extending from this recess, of the connecting-bar extending longitudinally through the corresponding perforation and having its head accommodated in the recess, substantially as set forth.

2. As an improvement in car-couplings, the draw-head comprising side chambers and provided with the central front recess having the vertical perforation adapted to receive a coupling-pin, the coupling-hook arranged in one of the side recesses and having a longitudinally-movable fulcrum, whereby the hook may be set back in its chamber, and means for locking the fulcrum of the hook in the position to which it has been adjusted, substantially as set forth.

3. As an improvement in car-couplings, the combination, with a draw-head having a ver-

tical recess or chamber at each side, in one of which is fulcrumed a gravity-hook, of the horizontal transverse coupling-pin extending through both chambers and under the hook and supporting the front end of the latter to retain it at the proper elevation to effect an automatic coupling, substantially as set forth.

4. The combination, with the draw-head having the vertical longitudinal chamber or recess and the horizontal longitudinally-disposed bearing-slot, of the gravity-hook normally projecting from the mouth of the chamber and having its fulcrum-pin adjustable in the slot, substantially as and for the purpose set forth.

5. The combination, with the draw-head, having the vertical longitudinal chamber having the longitudinally-extending slot in the inner wall of the same and the corresponding slot in the side of the draw-head, of the gravity-hook having the transverse fulcrum-pin bearing in these slots and projecting from the side of the draw-head, and the pivoted locking-plate having the notches for engaging the projecting end of the pin, substantially as and for the purpose set forth.

6. The combination of the draw-head having the vertical longitudinal chamber, the perforation in the top thereof, and the longitudinally-disposed bearing-slot, the coupling-hook having its fulcrum-pin adjustable in the said slot, the vertical operating-bar working through the said perforation and having an eye at its lower end to receive the rear end of the hook, and means for locking the fulcrum-pin in the position to which it is adjusted, substantially as and for the purpose set forth.

7. An improved car-coupling comprising the draw-head having the side chambers, the perforation in the top, the longitudinally-extending inner bearing-slot, the corresponding slot in its side, and provided with the horizontal transverse coupling-pin, the coupling-hook fulcrumed in one of said chambers and having its fulcrum-pin in the slots and projecting from the side of the draw-head, the vertical operating-bar having the eye at its lower end to receive the rear arm of the hook, the locking-plate pivoted upon the side of the draw-head and having the notches, and the cam acting upon the said plate, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JEROME B. MOTTER.

Witnesses:

S. S. SIMKINS,

R. W. CHARLTON.