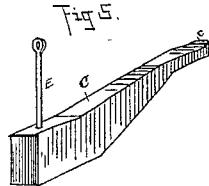
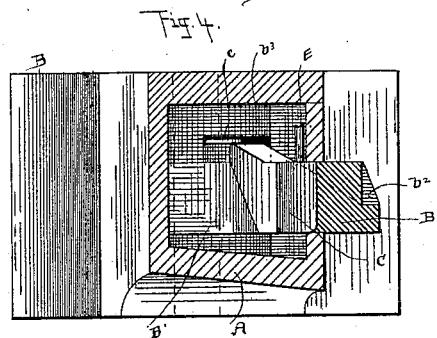
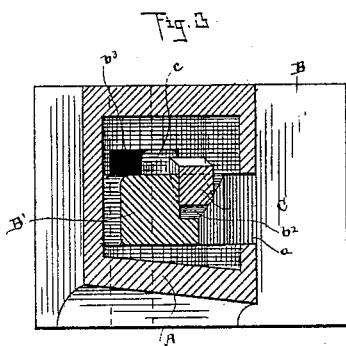
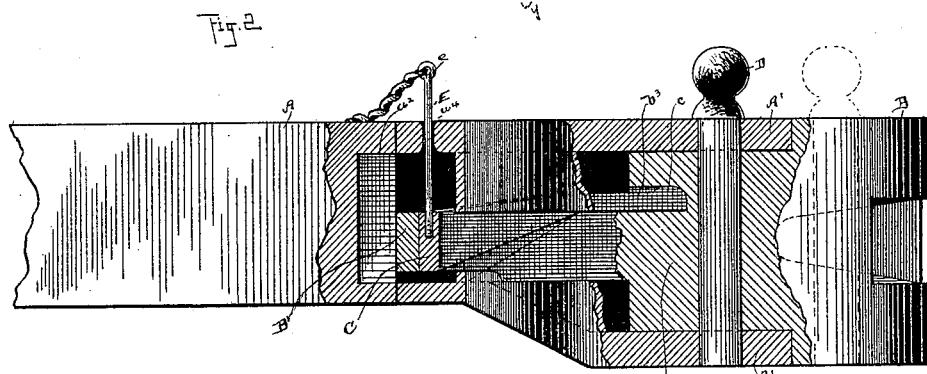
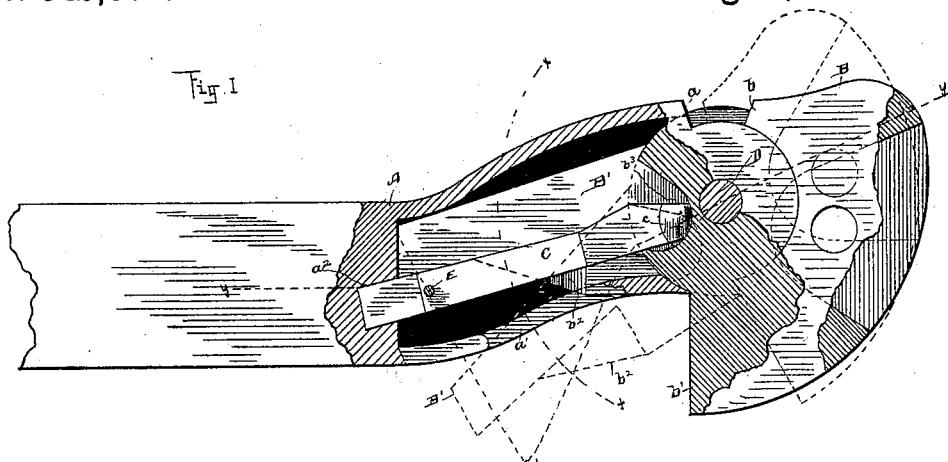


(Model.)

W. J. RHODES.  
CAR COUPLING.

No. 346,684.

Patented Aug. 3, 1886.



Witnesses,  
W. S. Amory  
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*John Crowell Attorney*

# UNITED STATES PATENT OFFICE.

WILLIAM J. RHODES, OF CLEVELAND, OHIO.

## CAR-COUPING.

SPECIFICATION forming part of Letters Patent No. 346,684, dated August 3, 1886.

Application filed November 21, 1885. Serial No. 183,468. (Model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. RHODES, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

10 My invention relates to improvements in that class of hook car-couplers that have pivoted draw-heads, in which the draw-head has a rearwardly-projecting arm that in its closed position is secured by a gravity locking-bar, the object being to provide an automatic coupler of the class aforesaid that is simple in construction, durable in use, and can be made at a reduced initial cost.

With these objects in view my invention consists in certain features of construction and in combination of parts, hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view, partly in horizontal section, of my improved car-coupler, showing in solid lines the draw-head closed, and in dotted lines the draw-head open. Fig. 2 is a side elevation, the forward part being in vertical section on the bent line  $y$   $y$  of Fig. 1. Figs. 3 and 4 are elevations in section on the curved line  $x$   $x$ , Fig. 1, the former showing the position of parts with the draw-head closed and locked, and the latter showing the position of parts with the head open. Fig. 5 is a view in perspective of the locking-bar. Fig. 6 is a side elevation of the draw-head and forward portion of the draw-bar. Fig. 7 is a modification, hereinafter described.

A represents the draw-bar, having jaws A', between which and on the pin D is pivoted the draw-head B.

In Fig. 1 the draw-head in solid lines is shown in the closed position, in which it engages in the usual manner an opposing hook-coupler in coupling cars. The open position of the draw-head is shown in dotted lines, in which latter position the shoulder b of the draw-head engages the shoulder a of the draw-bar and limits the forward and outward movement of the hook b' in uncoupling. The head B has an arm, B', extending rearward and operating in the slot a' of the draw-bar. The

rear upper right-hand corner of the arm B', as shown in Fig. 4, is cut away, leaving a vertical shoulder, b<sup>2</sup>.

C is the locking-bar. (Shown more clearly in Fig. 5.) The forward end, c, of the bar is fulcrumed in the recess b<sup>3</sup> of the draw-head, while the rear and heavier end of the bar operates vertically in the recess a<sup>2</sup> of the draw-bar. The side walls of the recess b<sup>3</sup> diverge as they extend rearward, so that the bar C is not cramped by the swinging movement of the draw-head. The point c is of suitable thickness to fit easily in the forward end of the recess b<sup>3</sup>; but just back of the point c the bar is made thinner, as shown in Fig. 5, and the reduction being made on top of the bar, so that the rear or free end of the bar may be raised a short distance without the reduced portion of the bar colliding with the upper wall of the recess b<sup>3</sup>. By this arrangement of parts the rear end of the bar is held from moving laterally, but, fitting loosely in the recess a<sup>2</sup>, is free to move a short distance in a vertical direction. A rod, E, is attached to the rearward portion of the bar C, and extends up through an opening, a<sup>4</sup>, made in the top wall of the draw-bar. The rod may have a loop, e, or other device for attaching a chain, cord, or other mechanism, the latter leading to any desired point from which it is desired to uncouple the cars.

The operation of the coupler is as follows: The locking-bar C at all times rides upon the arm B'; but in the closed position of the latter the locking-bar falls by gravity outside of the shoulder b<sup>2</sup>, thus securing the draw-head in its closed position. By raising the rear end of the locking-bar (by means of the rod E) until the bar is above the shoulder b<sup>2</sup> the draw-head is released, and may turn on the pin D in uncoupling. In the open position of the draw-head the rear end of the arm B' extends more or less outside of the line of the draw-bar, and consequently extends obliquely under the forward part of the locking-bar. As the draw-head again returns to its closed position in the act of coupling cars, the arm B' swings back under and substantially in line with the locking-bar until the latter falls by gravity outside the shoulder b<sup>2</sup> and locks the coupler, as aforesaid.

It will be seen that the locking of the draw-

head is automatic, and that no concussion of the cars can have any tendency to raise the bar C and unlock the draw-head; also, when the shoulder  $b^2$  passes inward and from under 5 the locking-bar there is no friction of parts or anything to prevent the rear end of the locking-bar from falling, so that the locking is instantaneous. The recess  $b^3$  might extend to and around the pin D, and the locking-bar 10 made to embrace the pin D, as shown in Fig. 7, if such construction is preferred.

The device is extremely simple, and there seems to be little liability of any of the parts getting out of order, and, owing to the few 15 parts and small amount of fitting required, the device can be made at a small initial cost.

What I claim is—

1. In a hook car-coupler, the combination, with a pivoted draw-head having a rearward- 20 ly-projecting arm, of a locking-bar arranged to ride on the arm and to fall by gravity outside of the arm or a portion thereof when the draw-head is in its closed position, said locking-bar having a light end fulcrumed in a recess of the draw-head, and a weighted free end 25 operating vertically in a recess of the draw-bar, substantially as set forth.

2. In a hook-car-coupler having a pivoted draw-head, the combination, with an arm or 30 projection of the draw-head extending rearward, of a locking-bar fulcrumed in the draw-head and riding on the said arm or projection of the draw-head, the arrangement of parts being substantially as described, whereby in 35 the closed position of the draw-head the locking-bar falls by gravity outside of the said arm

or a shoulder or projection thereof and locks the parts.

3. In a hook car-coupler having a pivoted draw-head, the combination, with an arm extending rearward from the draw-head, said arm operating in a lateral slot of the draw-bar, of a locking-bar, said bar having its forward end fulcrumed in the draw-head, with the rear end of the bar operating vertically in the recess of the draw-bar, said locking-bar being arranged to ride on the arm of the draw-head and fall by gravity outside of the arm or a portion thereof, locking the same when the draw-head is in its closed position, substantially as described. 40 45

4. In a hook car-coupler having a pivoted draw-head, the combination, with a laterally- 50 swinging arm integral with the draw-head, extending rearward and operating in the slot of the draw-bar, of a gravity locking-bar arranged over said arm, said locking-bar having its forward end fulcrumed in the draw-head and the rear end operating vertically in a recess of the draw-bar, and a rod or suitable attachment connected with the locking-bar for operating the same, said arm or attachment extending outside of the draw-bar, the parts being arranged substantially as set forth. 55 60

In testimony whereof I sign this specification, in the presence of two witnesses, this 17th day of November, 1885. 65

WILLIAM J. RHODES.

Witnesses:

N. S. AMSTUTZ,  
HARRY M. WYMAN.