

(No Model.)

J. W. STEELE.  
CAR COUPLING.

No. 491,862.

Patented Feb. 14, 1893.

FIG. 1.

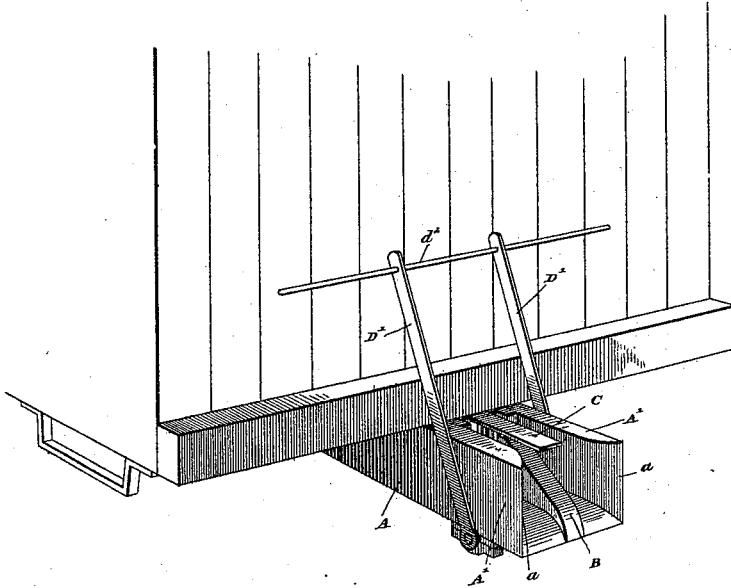


FIG. 2.

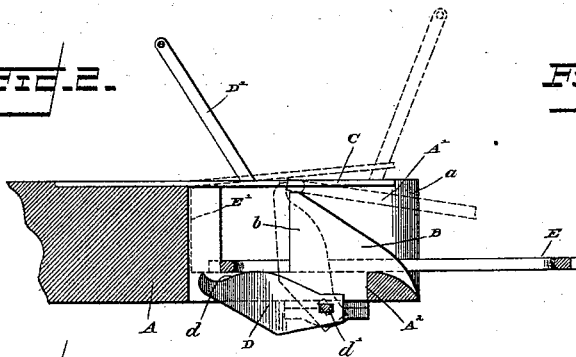


FIG. 3.

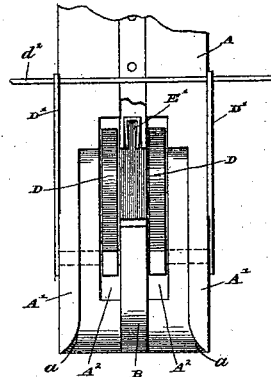


FIG. 4.

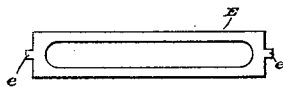
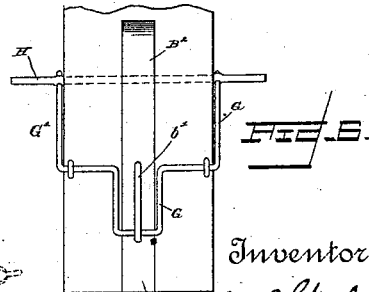
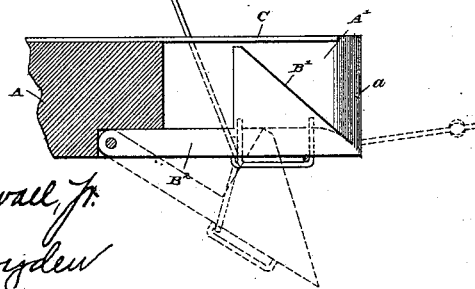


FIG. 5.



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Witnesses  
Edw. L. Powell, Jr.  
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# UNITED STATES PATENT OFFICE.

JAMES W. STEELE, OF ELIZABETHTOWN, NEW YORK.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 491,862, dated February 14, 1893.

Application filed November 5, 1892. Serial No. 451,114. (No model.)

### *To all whom it may concern:*

Be it known that I, JAMES W. STEELE, a citizen of the United States, residing at Elizabethtown, in the county of Essex and State of New York, 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 appertains to make and use the same.

This invention relates to an improvement in car couplers, of the class denominated automatic couplers, and the sub-division of that class comprising devices especially designed for use on freight cars, the object of the invention being to provide a simple, universal, easily-applied and efficient car coupler, and the invention therefore consists in the construction, arrangement and combination of parts, substantially as will be hereinafter described and claimed.

In the accompanying drawings illustrating my invention: Figure 1 is a perspective view of my improved car coupler, shown as practically applied to a car. Fig. 2 is a longitudinal section of the same. Fig. 3 is a top plan view with certain parts broken away. Fig. 4 is a detail plan view of the coupling link. Fig. 5 is a longitudinal section of a modified form of my car coupler. Fig. 6 is a bottom plan view of said modified form.

Similar letters of reference designate corresponding parts throughout all the different figures of the drawings.

A designates the draw-head or buffer, having an open mouth, and comprising the bottom, the vertical sides A' A', having the rounded outer edges *a a* and an open top as shown. The bottom of the drawhead is provided with two parallel longitudinal slots A<sup>2</sup> A<sup>2</sup> within the drawhead, and between the slots A<sup>2</sup> A<sup>2</sup> is a stationary and preferably integral pin B, having an inclined forward face and a vertical rear face *b*.

C denotes a flat horizontal spring secured to the rear part of the drawhead and projecting forwardly over the mouth thereof, said spring lying in contact with or very close to the upper end of the pin B. The free front end of the spring C projects forward over the inclined front edge of the pin B, as shown in

Figs. 1 and 2. In the rear end of the draw-head at a short distance from the rear vertical side *b* of the pin B, is a vertical slot, groove or recess E' having preferably a rectangular form and designed to receive one of the projections on the link.

By referring to Fig. 4, the shape and construction of the link will be observed. E denotes this link having preferably a rectangular form, the ends being right angled, and said ends being provided with oppositely-projecting right angled lugs *e e* which lugs are designed to enter the groove or recess E' in the rear end of the draw head when the link has been placed in coupling position.

It will be manifest that when two cars are brought together for the purpose of coupling, the link which is carried by one drawhead will bring its other end into contact with the inclined pin on the other drawhead and said link will ride up the same into the position shown in dotted lines in Fig. 2, and when it reaches the upper end of the pin it will lift the spring C sufficiently to enable it to drop down over the vertical edge *b*, the spring then resuming its normal position bearing upon the upper end of the pin B, and as the cars come more closely together, this end of the coupling link which has thus been introduced into the drawhead will place its projection *e* into the vertical recess or slot E' at some particular point in the vertical length of said slot and it will be evident that inasmuch as this slot E' has a considerable vertical length, the link will have ample opportunity to adjust itself in any way which may be required in consequence of the different heights of the drawheads of different cars. The link constructed in the way that I have thus described and acting in conjunction with the drawhead which has an elongated vertical recess in the rear portion thereof to receive a rectangular projection on the end of the link is an important feature of the present invention and by the use thereof many advantages are found to accrue in actual service.

In the two slots A<sup>2</sup> A<sup>2</sup> are located two cams D D, having preferably curved edges and formed on their ends with projections *d d*. These cams play up and down within the slots. They are secured rigidly to a horizontal shaft *d'* held in bearings on the underside

of the drawhead. To the opposite ends of the shaft  $d'$  are rigidly secured the upwardly extending rods  $D' D'$  the upper ends of which are connected by the horizontal handle rod  $d^2$ . By actuating the handle rod  $d^2$  therefore, the cams  $D D$  can be manipulated within the slots  $A^2 A^2$  and moved up or down, their function being that of uncoupling by lifting the link out of its position behind the coupling pin and dislodging it from engagement with the coupling pin. It will be observed by referring to Fig. 2, that the link lies in engagement with the coupling pin with one end resting upon the bottom of the drawhead, and directly beneath the link when in this position are the two cams  $D D$ . Now if it be desired to uncouple the two cars and disengage the coupled parts, all that the operator needs to do is to throw the rods  $D' D'$  forward into the position shown in dotted lines in said figure, the result of which will be to lift the cams  $D D$  into the position shown in dotted lines in the same figure, bringing the projections  $d d$  into contact with the end of the link and thrusting the link forward and over the pin  $B$  so that it will be effectually disengaged therefrom.

In Figs. 5 and 6, I have shown a modification in the construction and arrangement of the parts of my improved coupler. The drawhead is made in substantially the same way with the sides  $A' A'$ , but the slots  $A^2$  are dispensed with and in lieu thereof an intermediate slot is cut, and the pin  $B$  instead of being a rigid and immovable pin, is made as a movable pin  $B'$ , carried by a horizontal rod  $B^2$ , which is pivoted at its rear end so that the pin may be capable of an up and down movement, as shown by dotted lines in Fig. 5. This movement is effected by means of a handle  $H$  secured to the rods  $G' G'$  which are made in angular form and are held in bearings on the underside of the drawhead, said rods being connected by the loop  $G$  which engages a loop  $b'$  on the under end of the pin  $B'$ . By manipulating the handle  $H$  therefore,

the pin  $B'$  can be dropped down out of the drawhead and into the position shown in dotted lines in Fig. 5 whenever desired, for the purpose of disengaging the pin from the link. 50

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

1. In a car coupler, the combination of the rectangular link having the rectangular projections at each end with the vertical rectangular slot in the drawhead designed to receive the link projections, substantially as described. 55

2. The combination of the drawhead  $A$  having sides  $A' A'$  and slots  $A^2 A^2$ , the pin  $B$  located centrally in the drawhead and having an inclined forward face and a vertical rear face, the flat horizontal spring  $C$  tensioned in contact with the upper end of the pin  $B$  and the rear slot  $E'$ , together with the link  $E$  having the projections  $e e$ , substantially as described. 60 65

3. The combination of the drawhead  $A$ , the pin  $B$  therein, having an inclined front face and a vertical rear face, the flat spring  $C$  resting adjustably on the upper end of the pin and the cams  $D D$  working in the slots  $A^2 A^2$  and operative by suitable levers for the purpose of disengaging the link from the pin, substantially as described. 70 75

4. The combination of the drawhead  $A$ , pin  $B$  having an inclined front face and a vertical rear face, flat spring  $C$  resting upon the upper end of said pin, rectangular recess  $E'$  in the rear end of the drawhead, a link  $E$  having the rectangular end projections  $e e$  which are designed to enter the recess  $E'$ , and the cams  $D D$  operating within the slots  $A^2$  and having the end projections  $d d$ , substantially as described. 80 85

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

JAMES W. STEELE.

Witnesses:

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THOMAS F. FINNIGAN.