

(No Model.)

W. CRANE.  
CAR COUPLING.

No. 324,814.

Patented Aug. 25, 1885.

Fig. 1.

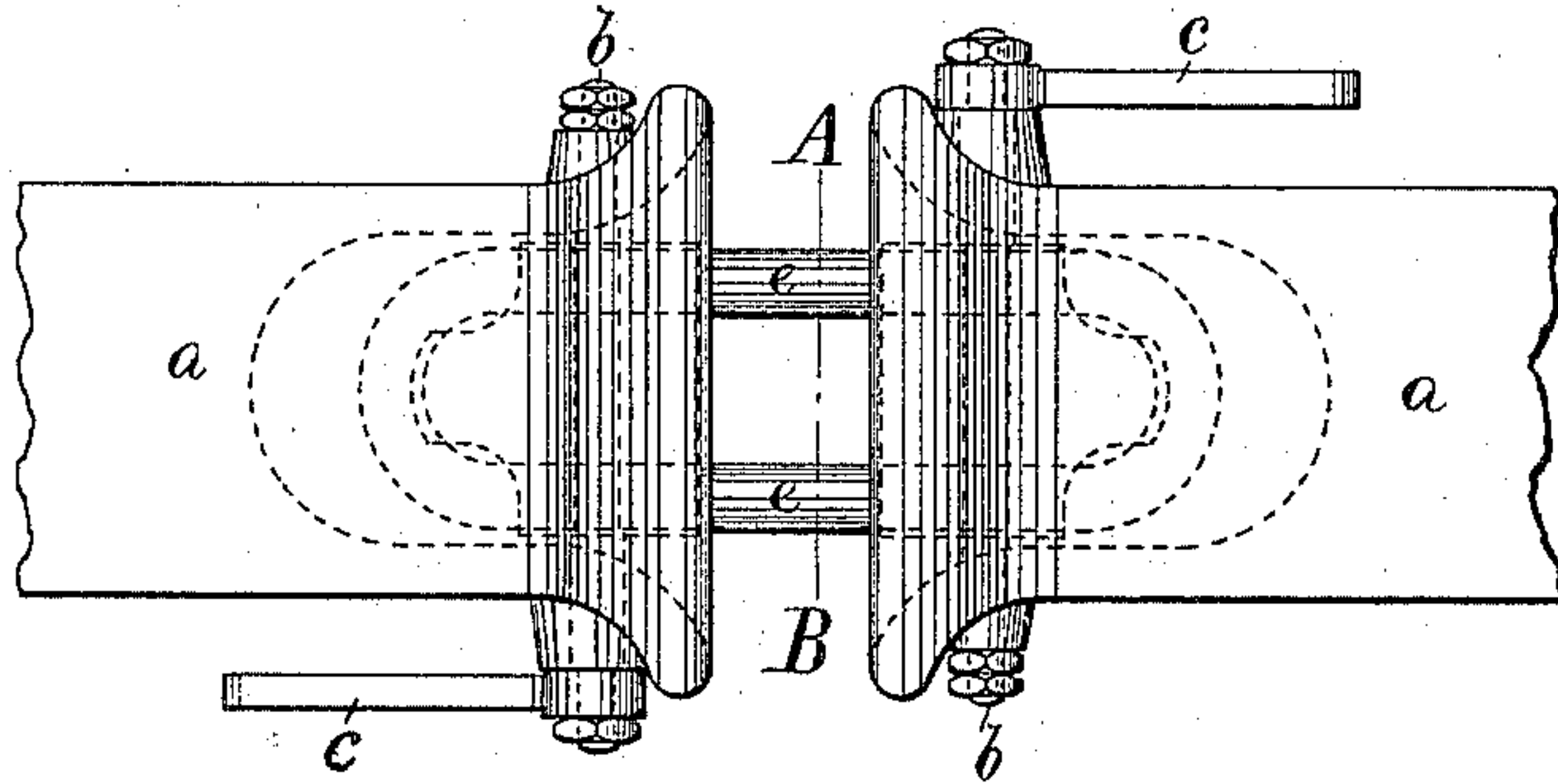


Fig. 2.

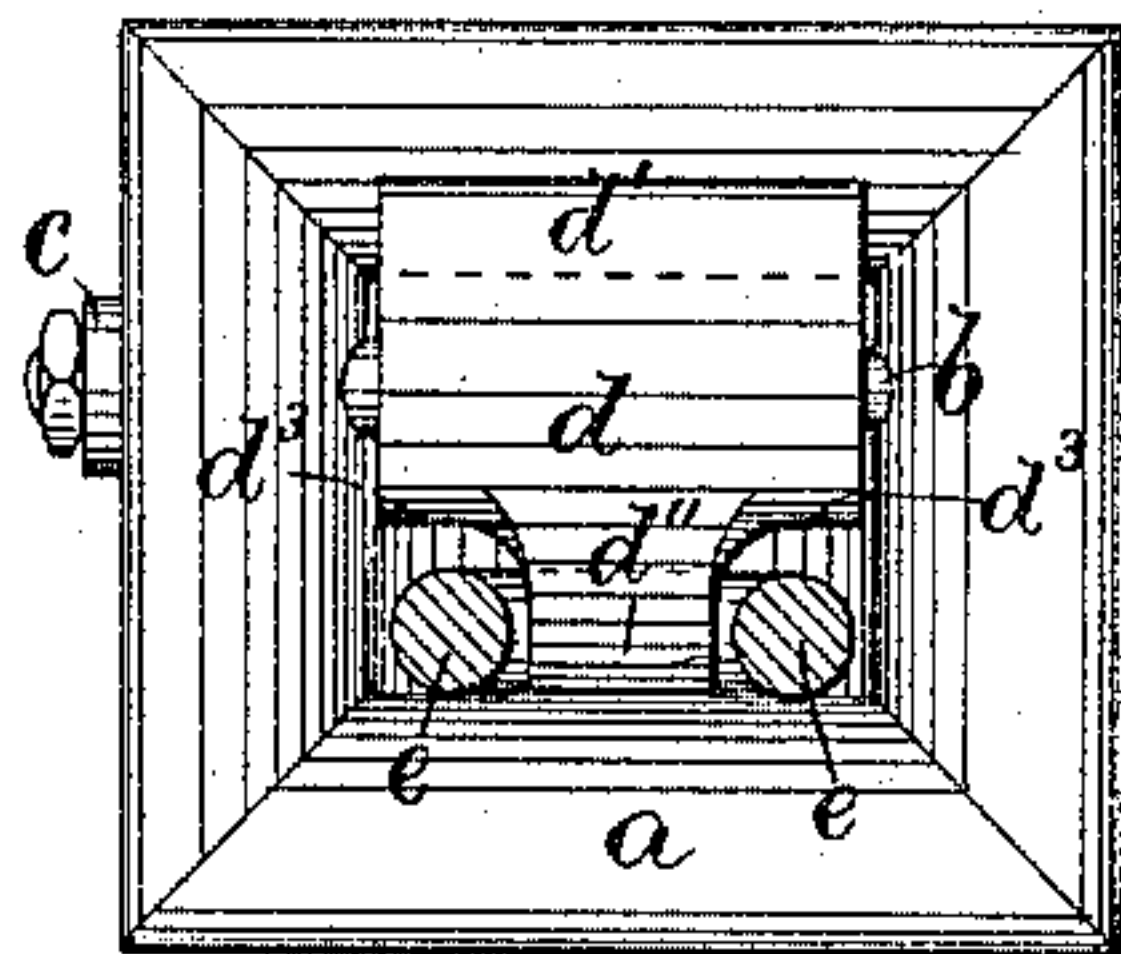
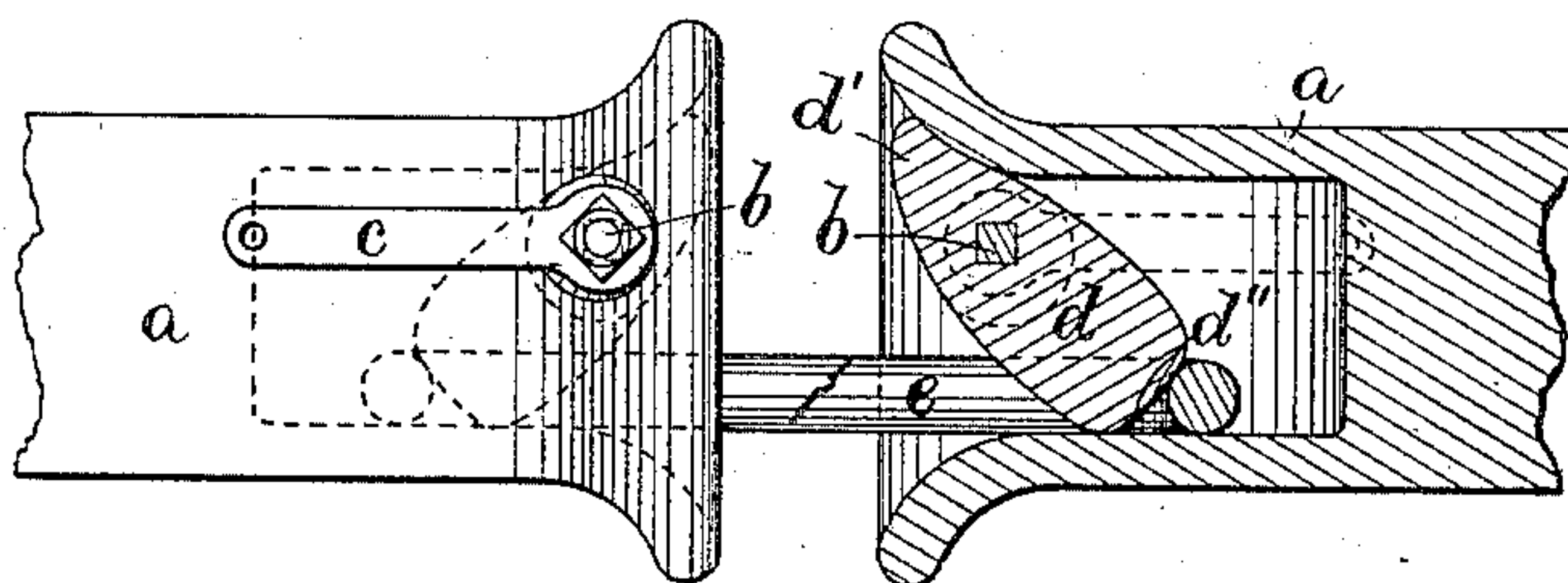


Fig. 3.



Witnesses

Henry Chadbourne.  
William Robinson.

Inventor

William Crane  
by *Alban Kudren*  
his atty.



# UNITED STATES PATENT OFFICE.

WILLIAM CRANE, OF BOSTON, MASSACHUSETTS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 324,814, dated August 25, 1885.

Application filed December 19, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM CRANE, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

10 This invention relates to improvements in car-couplings for railroad-cars, and it is particularly designed and constructed for use on freight-cars, although it may also be used on passenger-cars, if so desired.

15 The invention is carried out as follows, reference being had to the accompanying drawings, where Figure 1 represents a plan view of the improved car-coupling. Fig. 2 represents a cross-section on the line A B shown in Fig. 1; and Fig. 3 represents a side elevation and longitudinal section of the invention.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

25 *a* represents the hollow metallic draw-bar, as usual, secured to the end of the car in the ordinary way. Horizontally through the tubular draw-bar *a* is inserted the metal pin *b*, preferably made square, polygonal, or oval in section on such part of it as is located between the interior of the hollow draw-bar *a*. One end of the pin *b* has secured to it, outside of the draw-bar *a*, the lever or handle *c*, as shown, and to the other end of said pin *b* is secured a nut, *b'*, or any other equivalent or well-known device to prevent the pin *b* from getting detached from the draw-bar *a*. Such parts of pin *b* as pass through the perforations in the draw-bar *a* are made cylindrical to permit said pin to turn loosely in bearings in the sides of the said draw-bar *a*.

40 Within the hollow draw-bar *a* is located upon the pin *b* the locking-lever *d*, having a square, polygonal, or oval perforation, through which the pin *b* is inserted, as shown. The locking-lever *d* is extended above the fulcrum-pin *b* as a stop-projection, *d'*, adapted to rest against the upper inside of the hollow draw-bar *a*, as shown in Fig. 2. The lower end of the locking-lever *d* is made to rest against lower inside of the hollow draw-bar *a*, as shown in said Fig. 2.

*e* is the wrought-iron link, as usual.

The operation of the invention is as follows: The link *e* being secured to one draw-bar (of my improved construction, or any of the ordinary kind, provided with a locking-pin now in use) and backed up toward a car provided with my improved car-coupling, as it strikes against the outside of the lower portion of the locking-lever *d* it will cause the latter to swing inward on its fulcrum-pin *b* until the end of the link *e* has passed by the inner end of the locking-lever *d*, when the latter will drop or swing on its fulcrum by its own weight until its lower end rests against the inside of the hollow draw-bar *a*, as shown in Fig. 2, which is the normal position of the said locking-lever *d*, and in such condition its upper end, *d'*, will bear against the upper inside of the hollow draw-bar *a*, as shown in Fig. 2, by which arrangement I obtain two stops for said locking-lever—namely, one above and one below its fulcrum or point of suspension—by which construction the strain on the fulcrum-pin *b* is very much relieved, and consequently all danger of breaking the said fulcrum-pin *b* is avoided.

The lower end, *d''*, of the locking-lever *d* is curved, as shown in Fig. 2, with a curvature or incline about equal to a radius from such end to the center of the fulcrum-pin *b*, by which construction I am able to swing the lever *d* on its fulcrum by manipulating the handle *c* without the need of backing the cars together for the purpose of disconnecting the link *e* from said locking-lever *d*, and this is very advantageous over other devices heretofore used, in which it is necessary to back one car up toward another before the locking device can be released from the link. At the junction of the main part of locking-lever *d* and its locking end *d''* are made side projections, *d<sup>3</sup>* *d<sup>3</sup>*, as shown in Fig. 2, to prevent the link *e* from dropping while it is held in one draw-bar and before it is coupled to the other.

This, my device, is applicable to any kind of cars, and it may be used to couple with any of the ordinary car-couplers now in use, equally well on curves as on a straight track. It is automatic in its action, and can be uncoupled at any time simply by manipulating the lever or handle *c*, as described.

If so desired, the lever *c* may be connected



by means of links or chains, or other equivalent devices, to a handle on the sides or top of the car, so as to permit the said lever to be manipulated without the need of the brakeman going between the cars while in the act of uncoupling them from each other.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—  
10 1. In a car-coupling device, the combination of the hollow draw-bar *a*, a locking-lever, *d*, pivoted therein and resting at one end upon the bottom of the interior of the draw-bar and at its other end against the flaring mouth of  
15 the draw-bar and adapted to receive the strain of the link against its lower end, the hinge-pin *b*, and lever or handle *c*, substantially as described.

2. In a car-coupling device, the combination of a hollow draw-bar, *a*, a locking-lever, *d*, 20 pivoted therein and formed with a downwardly-projecting tongue, *d'*, and side flanges, *d''*, the tongue being adapted to drop into the cavity of the link and receive the strain thereof against its end, while the side flanges rest 25 upon the link and prevent its dropping while uncoupled but in position for coupling, the hinge-pin *b*, and lever or handle *c*, substantially as described.

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

WILLIAM CRANE.

Witnesses:

ALBAN ANDRÉN,  
EDW. R. BARNES.