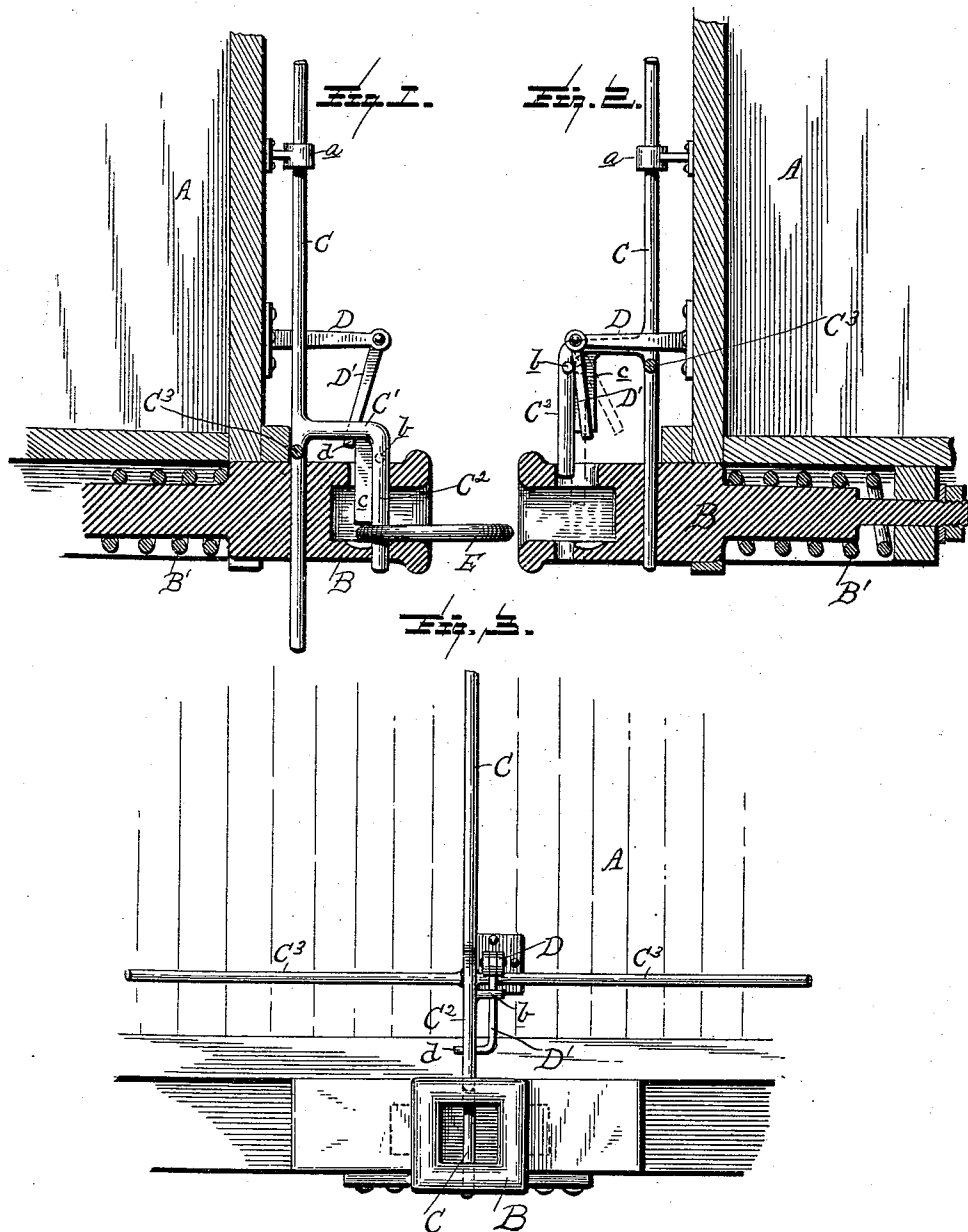


(No Model.)

J. T. FRIEND.
CAR COUPLING.

No. 437,488.

Patented Sept. 30, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN T. FRIEND, OF IRVINE, KENTUCKY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 437,488, dated September 30, 1890.

Application filed July 2, 1890. Serial No. 357,507. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. FRIEND, a citizen of the United States, residing at Irvine, in the county of Estill, State of Kentucky, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in car-couplings; and it has for its object to provide a simple, cheap, and durable coupling which shall be automatic in its action and which may be set or uncoupled without the necessity of going between the cars.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a vertical longitudinal section through a portion of the car with my improvements applied thereto, with the parts in their coupled position. Fig. 2 is a like view with the parts set for coupling. Fig. 3 is an end view.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a portion of an end of a car, and B the draw-head, the inner end of which is surrounded by a spring B', confined between suitable bearings beneath the car, and arranged to normally project the draw-head, as shown.

C is a vertical rod guided in suitable guide or bearings *a*, secured to the end of the car, the lower end of the rod being guided by and designed to move vertically in or through an opening in the draw-head. Near its lower end above the draw-head this rod C is provided with a lateral portion C', which terminates in a vertical portion C², the rear face of which is provided with a lug *c*, which extends for about two-thirds the length of said vertical portion C² and at its lower end terminates in a square shoulder, as seen in Figs. 1 and 2. The vertical portion C² is also pro-

vided with a lateral arm or pin *b*, for a purpose hereinafter described.

The vertical rod C is designed to be extended upward within convenient reach of the brakeman upon the top of the car when employed for freight-cars, and is also provided with lateral extensions C³, designed to extend upon each side of the car, whereby the same may be operated without going between the cars.

D is an arm extending in the direction of the length of the car and suitably secured to the end thereof. To the outer end of this arm, which should be arranged out of line with the rod C, so as not to interfere with the movement thereof, is pivoted a swinging arm D', which at its lower end is provided with right-angled portion *d*, extending beneath the horizontal portion C' of the vertical rod.

The operation is simple, and will be readily understood.

In Fig. 2 the parts are ready for coupling with an adjacent car, such as is shown in Fig. 1, wherein the parts are in their coupled position and the link E held in a horizontal position. In Fig. 2 the rod C is raised, and the swinging arm D' by its own gravity swings forward until its horizontal portion *d* swings beneath the square shoulder of the lug *c* and holds the parts in their elevated position. As the approaching car advances the draw-heads come in contact with each other and the same are compressed. As the draw-head in Fig. 2 is pressed inward the pin *b* presses against the upper end of the swinging arm D' and forces its horizontal portion *d* away from the lug *c*, as shown by dotted lines in Fig. 2, when the rod C falls by its own weight and the vertical portion C² passes through the link, with its lower end entering the hole in the lower part of the draw-head, and the parts are thus coupled. When the parts are coupled, the lug *c* bears upon the top of the link and serves to hold it in its horizontal position, as shown clearly in Fig. 1.

The arm D serves the additional function of preventing vertical displacement of the rod C.

What I claim as new is—

1. The combination, with the draw-head, of the vertical rod having a vertical portion pro-

vided with a lug, and a swinging arm supported from the car and adapted to engage the lug to hold the rod in its elevated position, substantially as described.

5 2. The combination, with the draw-head, of the vertical rod having a lateral portion terminating in a vertical portion provided with a lug, and a swinging arm having a horizontal portion to engage said lug, substantially as described.

10 3. The combination, with the draw-head, of the vertical rod having a lateral portion terminating in a vertical portion provided with a lug and a lateral pin, and a swinging arm supported from the car and having a horizontal portion, substantially as and for the purpose specified.

15 4. The combination, with the draw-head and the vertical rod provided with lateral portions terminating in a vertical portion provided with a lug upon its inner face of less

length than the vertical portion, and a lateral pin, of the swinging arm supported from the car and having a horizontal portion at its free end, and the extensions C^3 to the vertical rod, substantially as and for the purpose specified. 25

5. The combination, with the spring-actuated draw-head, of the vertical rod moving in guides on the ends of the cars and formed with integral lateral portion C' , vertical portion C^2 , lug c , pin b , and lateral extension C^3 , the arm D , supported on the end of the car, and the swinging arm D' , pivoted to the arm D and formed with a lateral portion d at its free end, substantially as and for the purpose specified. 30 35

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

JOHN T. FRIEND.

Witnesses:

WILL H. LILLY,
W. W. PARK.