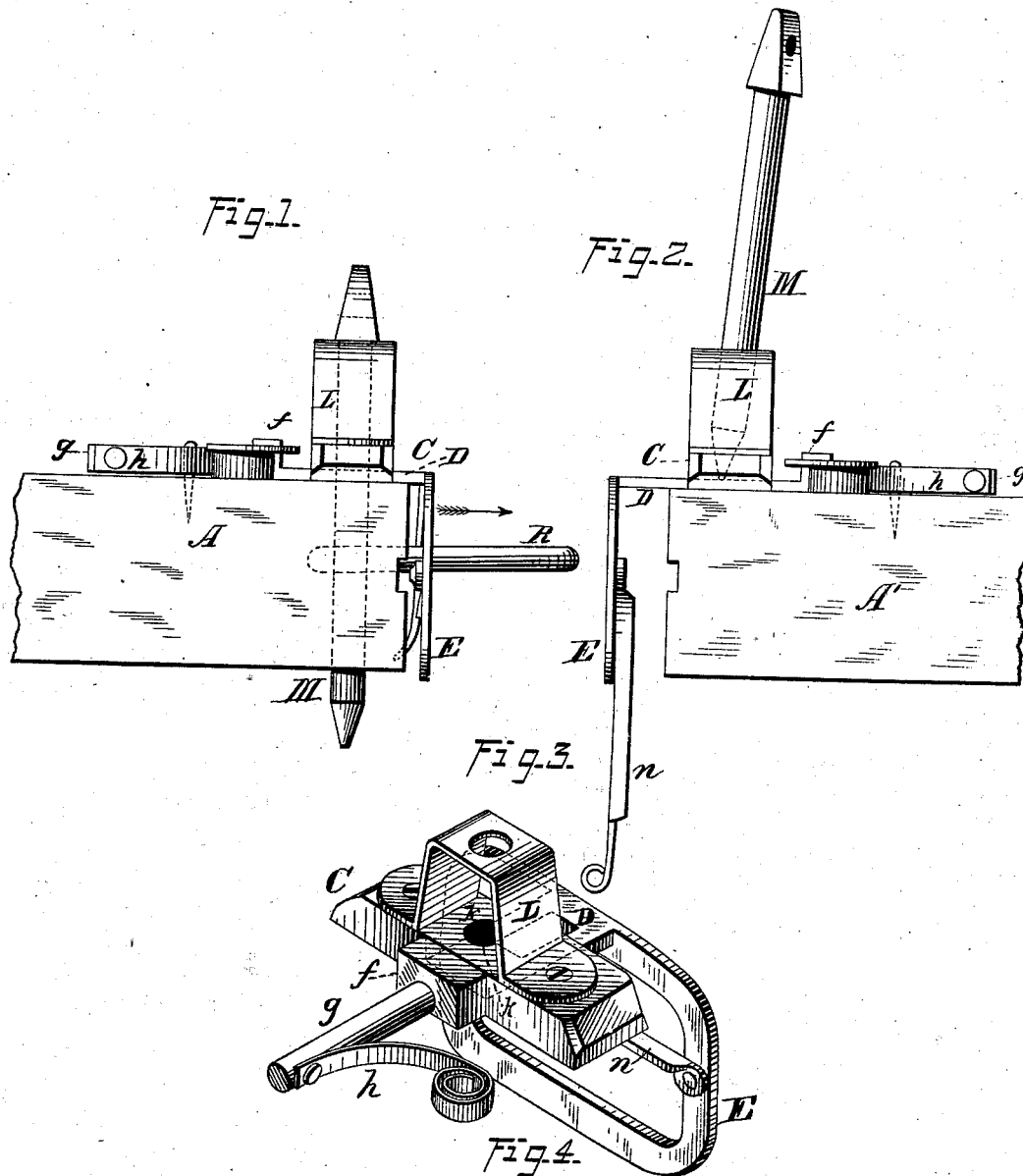


O. RETAN.  
Car-Coupling.

No. 216,891.

Patented June 24, 1879.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **216,891**, dated June 24, 1879; application filed May 19, 1879.

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

Be it known that I, OLNA RETAN, of Pultney, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Automatic Car-Couplings, of which the following is a specification.

This invention relates to that class of car-couplings in which a coupling-pin of one draw-head is dropped automatically through a link carried by another when the two draw-heads strike together.

Its object is to provide an automatic coupling, simple in construction, easily adjusted, sure in its operation, and capable of use in connection with any of the ordinary link-couplings.

It consists mainly in the combination, with a draw-head having a recess in its end and provided with vertical coupling-pin passages, of a spring-actuated slotted sliding plate arranged upon the top of the draw-head and adapted to support the pin, a yielding buffer connected to said plate and standing in front of the draw-head, a link-supporting device attached to said buffer, whereby the coupling-link carried by one draw-head may be supported so as to properly enter an opposite draw-head, and a device for supporting the pin in an approximately vertical position, with its tip resting upon the unslotted portion of said sliding plate, so that when the buffer is struck by the buffer of another car and a coupling-pin enters the recess in the draw-head the sliding plate will be forced rearward and the coupling-pin permitted to drop through the slot thereof and the pin-passages of the draw-head, and engage the link, and when said pin is withdrawn the sliding plate and buffer will be caused to automatically resume their positions, the former to support the coupling-pin, and the latter to receive and yield before the stroke of another draw-head.

In the accompanying drawings, Figure 1 is a side elevation of a draw-head provided with my improved coupling devices and carrying a coupling-link; Fig. 2, a similar view of another draw-head, having its coupling devices arranged to receive and automatically engage the link. Fig. 3 is a detached perspective view of the devices for supporting the coup-

ling-pin in position, as shown in Fig. 2, and automatically dropping it to the position shown in dotted lines in Fig. 1. Fig. 4 is a detached side view, partly in section, of the yielding buffer and slide.

The letters A and A', respectively, in Figs. 1 and 2 indicate draw-heads, which may be secured to railway-cars in any ordinary and suitable manner. Each of the draw-heads has in its front end a recess to receive a coupling-link, said recess having inclined walls converging inwardly, so as to guide an entering link to a proper position, in which the coupling-pin may pass through it.

Upon the top front portion of each draw-head is a bridge or elevation, C, having formed through it a guide-passage for a sliding plate, D, slotted through a portion of its length, and carrying at its front end a buffer-frame, E, which extends downward in front of the draw-head.

The rear end of the plate D carries a tip or abutment, *f*, which limits the forward movement of the plate; and rearwardly from this abutment extends a stem, *g*, near the end of which is secured one end of a spring, *h*, which is secured to and coiled around a pin projecting from the upper surface of the draw-head. The tension of the spring is so adjusted that normally it forces the stem and plate D forward, causing the stop or abutment *f* to strike the bridge C, and the solid or unslotted portion *d* of the plate to lie under an aperture or passage, *k*, in the bridge.

Upon top of the bridge C is arranged a bracket, L, in the top wall of which is a hole for the passage of the coupling-pin. This hole is in a vertical line with the passage *k* in the bridge and with apertures in the upper and lower walls of the recess in the draw-head, through which the coupling-pin passes when it engages the link. The bracket L is of such height as to hold the pin M in an approximately vertical position, when said pin is passed through the hole in its top wall and rests upon the unslotted portion *d* of plate D lying under the aperture *k* of the bridge.

Upon one of the vertical or end bars of the buffer-frame E is pivoted a bar, *n*, and upon the other end bar of said frame is secured a

spring-catch, *o*, having a series of shoulders, *p*, by which the pin end of bar *n* may be supported at different heights. The function of this bar *n* is to support the coupling-link in position to properly enter the recess of an opposite draw-head, as shown in Fig. 1; and by providing the spring-catch *o* with more than one shoulder I provide for supporting the link to engage with the coupling devices of cars of different heights.

The manner of using my invention is as follows, when both cars to be coupled are provided with the same:

The coupling-link *R* is inserted in the recess of one of the draw-heads, as shown in Fig. 1. The plate *D* is moved rearward, to permit the coupling-pin to pass downward through its slot and engage the link, and the bar *n* is placed upon one of the shoulders *p* of the catch *o*, to hold the link in proper position to enter the recess of the draw-head of another car. In this other draw-head the plate *D* is allowed to be forced forward by the spring *h*, so that its solid or unslotted portion lies under the aperture *k* in the bridge *C*. The coupling-pin is then passed through the hole in the top wall of the bracket *L*, and its tip rested upon the plate *D*, when said pin will stand in the position shown in Fig. 2. The bar *n* of this draw-head is then disengaged from the catch *o* and swung downward, as shown, out of the way of the coupling-link carried by the draw-head of the opposite car. Now, when the two cars come together the buffer-frames *E* will strike together, and the one upon the draw-head *A'* will be forced rearward, and the plate *D* will be moved, of course, in the same direction, so that its unslotted portion will pass from under the coupling-pin, so that said pin will drop through the slot of the same,

through the apertures in the draw-head, and also through the link, which will then have entered a proper distance into the recess of said draw-head. As the plate *D* is forced rearward against the tension of spring *h*, whenever the pin is withdrawn said plate will be automatically shifted into proper position to support the pin again.

I do not limit myself to the form of spring shown in the drawings, as various other forms will answer the purpose as well. For instance, the stem *g* may be surrounded by a helical spring, arranged according to the well-known modes, to be either compressed or extended when the plate moves rearwardly and to return said plate; or a leaf-spring may be arranged in the path of the stem *g* for the same purpose.

A draw-head provided with my improved devices may be used in connection with any of the ordinary link-bearing draw-heads, so that, while it is preferable, it is not necessary that all the cars to be coupled in a train should be provided with my couplings.

Having now described the construction and operation of my invention, I claim—

1. The combination, with the draw-head, of the yielding buffer, having pivoted link-supporting bar *n*, the slotted sliding spring-actuated plate *D*, the bridge *C*, bracket *L*, pin *M*, and link *R*, substantially as described.

2. The combination, with the yielding buffer, of the pivoted bar *n* and the spring-catch *o*, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

OLNA RETAN.

Witnesses:

JAMES L. NORRIS,

JAS. A. RUTHERFORD.