

(No Model.)

F. H. KAYE, S. L. KANE & W. A. YATES.  
CAR COUPLING.

No. 418,894.

Patented Jan. 7, 1890.

Fig. 1.

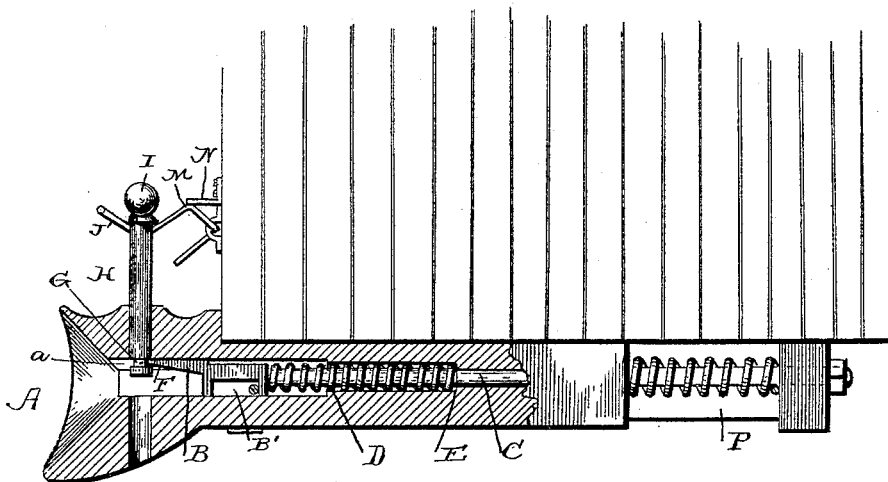


Fig. 2.

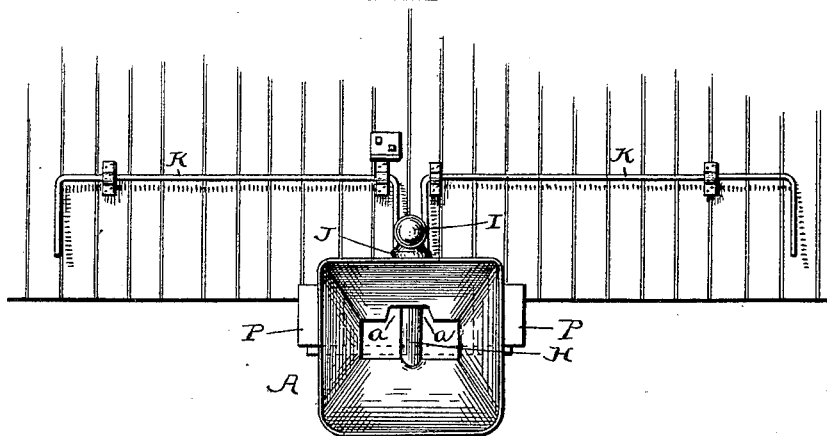


Fig. 3.

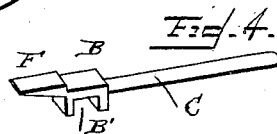


Fig. 4.

Witnesses

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By his Attorney,

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# UNITED STATES PATENT OFFICE.

FREDERICK H. KAYE, SIMON L. KANE, AND WILLIAM A. YATES, OF VINE GROVE, KENTUCKY.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 418,894, dated January 7, 1890.

Application filed November 4, 1889. Serial No. 329,112. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERICK H. KAYE, SIMON L. KANE, and WILLIAM A. YATES, citizens of the United States, residing at Vine Grove, in the county of Hardin and State of Kentucky, have invented certain new and useful Improvements in Car-Couplers; and we 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 improvements in self-coupling car-couplings.

It consists of contrivances so arranged and combined with relation to each other, as will be hereinafter more particularly described and pointed out in the claims, and has for its object the production of an automatic coupling which shall possess all the characteristics of those now in use, and at the same time is simple in construction, easily and readily repaired and manipulated, and of sufficient strength and durability for practical purposes.

In the accompanying drawings, Figure 1 is a longitudinal central section of a car-coupler made in accordance with my invention. Fig. 2 is an end view of the same, showing the rock-shaft. Figs. 3 and 4 are detail views of the coupling-link and tripper-slide, respectively.

In the accompanying drawings, A is a recessed draw-bar. In it is placed the tripper-slide B, which is cut away or slotted at B' for the reception of pin 1. It has formed at its rear end a stem C, surrounded by a spring D, which abuts against an annular shoulder E in the interior of the recessed draw-bar. Its front end terminates in a lip or finger F, the edge of which is made flat and somewhat sharp, so that it may at all times positively enter the circumferential groove G in the lower end of the link-pin H when in its proper elevated or raised position. The upper end of the link-pin H terminates in an enlargement or knob I, and is intended to be encircled by the loop J, formed in the center of the rock-shaft K, which is attached to the end of the car by staples or otherwise and adapted to be operated from the side of the car. In this way all danger to the operator is avoided

and the coupling and uncoupling of the car rendered safe and of comparatively little trouble.

In order to assure the true and accurate working of the tripper-slide, we have formed in the interior upper part of the recessed draw-bar a groove *a*, which runs directly across the path of the link-pin and acts as a guide for the tripper-slide to move in. The said groove *a* is open at the front, bottom, and rear, so that the tripper-slide can be easily and readily inserted in it either from the front, bottom, or rear. By this construction the tripper-slide can be quickly and properly positioned with but little care and trouble. The tripper-slide is pressed at all times by the spring against the pin in such manner that when the pin is raised by the rock-shaft the lip or finger of the tripper-slide is sure to enter its circumferential groove and hold it secure, and thereby prevent it from becoming accidentally lowered or dropping from the draw-bar.

The loop J formed in the center of the rock-shaft does not extend in a direct line to the coupling-pin; but it is curved or bent so as to lie flat or substantially flat about the head of the pin, and when operated the pin moves backward and forward in the loop smoothly and without the slightest jerking movement, thereby rendering accidental raising of the pin out of the draw-bar almost an impossibility. In order, however, to positively guard against any danger of raising the pin too high with the rock-shaft, I have formed upon the loop at J a shoulder M, which, when the rock-shaft is raised by the operator, strikes against a stop N, which projects from the end of the car directly in the path of the shoulder N.

The coupling-link O is of the usual shape and configuration, excepting that the ends are raised or elevated—that is to say, the link is bent or curved slightly. This will raise the ends of the link, and will do away with the link-raising devices sometimes found necessary in car-couplings.

The draw-bar at the entrance is flaring and the walls are inclined, so that, the coupling-link being bent as described and illustrated,

its end will freely slide upon the flaring wall of the draw-bar, and, being pressed against the tripper-slide, will push it back, withdrawing its lip from the circumferential groove, so that the coupling-pin can freely drop and couple the car without the operator going between the cars. This is assuming that the pin is raised and the lip of tripper-slide is in the groove in the link-pin.

The draw-bars being identical in all respects, a description of one will answer for both.

The operation will be fully understood from the description and drawings.

It will be noted that a coupling made in accordance with our invention is very simple, easily got at to be repaired, and is strong and durable.

By my arrangement it will be perceived that there is no necessity for removing the coupling-pin from the upper hole in the draw-bar to couple or uncouple cars.

The coupling-pin when raised is held firmly in position by the tripper-slide, and by our construction there is no danger of its being drawn out of place even were the stop on the end of the car omitted.

The coupling is secured to the car in any suitable manner—in the present instance by timbers P, arranged longitudinally along the bottom of the car.

Having described our invention and the manner in which the same is or may be carried into effect, what we claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupling, the combination of the recessed draw-bar having a guide-groove formed in its upper interior wall; a tripper-slide adapted to move in said groove, a spring surrounding the stem of said tripper-slide, a link-pin provided with a knob or an enlargement at its upper end, a coupling-link, and a rock-shaft bent at its center to form a U-shaped catch to engage with and raise said pin out of engagement with the coupling-link, substantially as and for the purposes set forth.

2. In a car-coupling, the combination of the

recessed draw-bar, a tripper-slide having a spring surrounding its stem, a link-pin provided at its lower end with a circumferential groove, the end of said tripper-slide being adapted to enter said groove on the interior of the draw-bar and hold the said pin in elevated position, a coupling-link, and a rock-shaft bent downwardly at its center at an incline, then outwardly to lie substantially flat upon the draw-head, substantially as and for the purposes hereinbefore set forth.

3. In a car coupling, the combination of the recessed draw-bar, a tripper-slide having a spring surrounding its stem, a link-pin provided at its upper end with an enlargement, a coupling-link, a rock-shaft bent to connect with and raise the link-pin, and a stop placed upon the end of the car and projecting into the path of the said bent portion of the rock-shaft to prevent the raising of the pin out of the draw-bar by the rock-shaft, substantially as described.

4. In a car-coupler, the combination of the recessed draw-bar having a guide-groove open at the front, bottom, and rear formed in its upper interior wall, a tripper-slide adapted to move back and forth in said groove, a spring surrounding the stem of said tripper-slide, a link-pin provided at one end with a head or enlargement and a circumferential groove at its opposite end to receive the front end of the tripper-slide, a rock-shaft bent to connect with the enlarged end of the link-pin, a shoulder formed on the bent portion of the rock-shaft, and a stop placed upon the end of the car and located in the path of the shoulder formed on the rock-shaft for preventing the raising of the link-pin out of the draw-bar by the rock-shaft, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

FREDERICK H. KAYE.  
SIMON L. KANE.  
WILLIAM A. YATES.

Witnesses:

EWELL A. DICK,  
WILLIAM H. SHIPLEY.