L. M. FOX.

Car-Coupling.

No. 220,206. Patented Sept. 30, 1879.

Fig. 1.

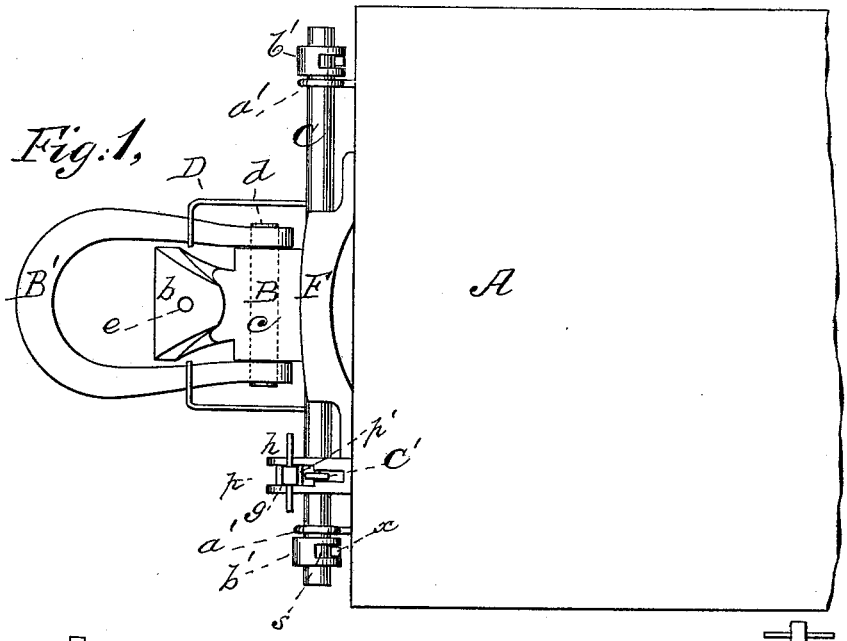


Fig. 2.

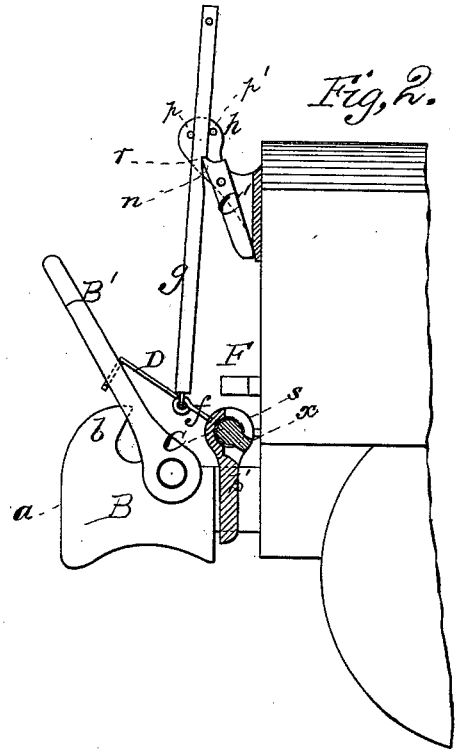
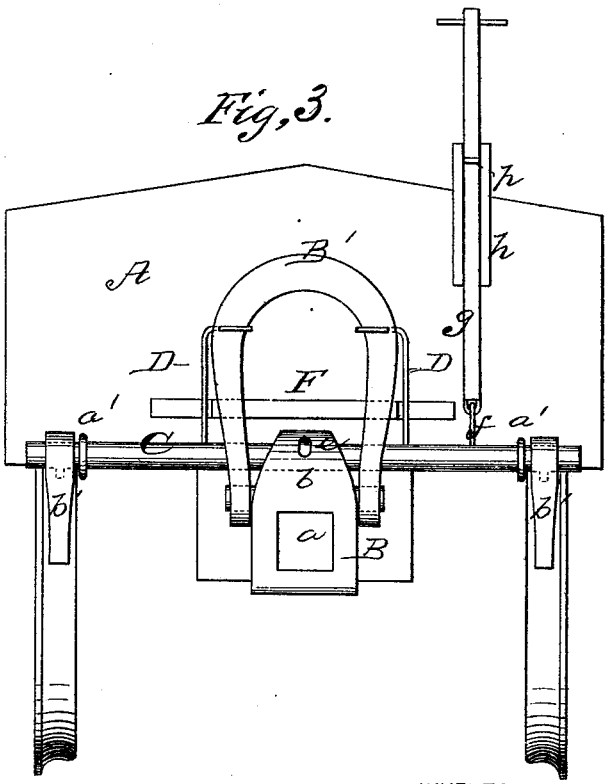


Fig. 3.



WITNESSES

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LEVI M. FOX, OF ALBION, IOWA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **220,206**, dated September 30, 1879; application filed March 8, 1879.

To all whom it may concern:

Be it known that I, LEVI M. FOX, of Albion, in the county of Marshall and State of Iowa, have invented a new and valuable Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of my improved coupling. Fig. 2 is a side view thereof, and Fig. 3 is a front view of the same.

This invention has relation to improvements in car-couplings.

The object of the invention is to devise a coupling for railroad freight-cars that can be operated with facility to couple or uncouple from either side of the car, or from its roof, by hand, or be set to act automatically, thus rendering it unnecessary to pass between the cars to effect these purposes, and which may be used in connection with the ordinary pin-and-link coupler, if desired.

The nature of the invention will be fully set forth hereinafter.

In the annexed drawings, the letter A designates an ordinary box-car, mounted in the usual way on transporting-wheels, and having secured to its ends the draw-bar B. This is provided with the usual buffer-spring, and is supported at its front end by a stirrup. This draw-bar has formed in its front a flaring chamber, *a*, and is provided on its top and front with a backwardly-curved hook or horn, *b*. In rear of this horn is a transverse re-enforce or rib, *c*, through which a bolt, *d*, extends, the ends of which pass through eyes on the ends of a strong U-shaped bail, B′, and are permanently secured thereto. The bolt *d* rotates freely on its bearings in the said re-enforce, and the bail is sufficiently large to vibrate past the end of the draw-bar and be engaged over a hook of a similar draw-bar.

In the front of the hook, and extending completely through the draw-bars vertically, is a perforation, *e*, that allows the usual pin-and-link coupling to be used in case of accident to my improved coupling.

C indicates a horizontal rock-shaft, arranged in suitable bearings *a′* on the end of the car, and provided at each end with a clutch-lever, *b′*. These take hold upon the said shaft when they are thrust upward, but readily swing into the position shown in Fig. 2 when they are released. These are usually of the following description: They have each a sleeve upon their ends, through which the ends of the rock-shaft readily pass, and the said sleeves are slotted, as shown at *s*. A bolt, *x*, is then passed through this slot into the shaft.

D indicates metallic lifters, one end of which is rigidly secured to the rock-shaft and the other looped loosely around the side bar of the bail. These lifters are two in number, one being at each side of the draw-bar, and they are sufficiently rigid to support the weight of the bail. When the lever at either side of the car is thrown up, the rock-shaft is rotated, the lifters vibrated upward, and the bail raised to any desired height, so that it may be dropped over the hook of the adjoining coupler, or back against a tripper above the draw-bar.

The tripper F is a bridge-like device secured to the end of the car, and possessed of a slight springiness preferably. When the cars come together the shock, acting on the tripper, causes it to throw the bail over the hook of the adjoining coupler.

To uncouple a car from another, the cars being jammed close up together, throw the clutch-lever up.

f indicates a finger or arm, rigidly secured at one end to the rock-shaft, and flexibly connected at the other to a rod, *g*, extending upward through a guide, *h*, above the top of the car, its upper end being provided with a cross or other handle. By drawing up upon this rod the rock-shaft is rotated and the results above set forth effectually reproduced.

The guide *h* is of bracket form usually, and the draw-rod extends through its forked upper end between two pins, *p p′*, one in front and the other in rear of the said rod.

C′ represents a gravitating dog, suspended by means of a pin in the fork of the guide, and having upon its upper end a nose, *n*.

It being desired to cut a standing train, raise rod *g* until the bail is lifted sufficiently to clear the hook of the adjacent draw-bar,

and introduce with the foot the nose of the dog into a notch, *r*, of the said rod.

If it be desired to prevent casual or malicious uncoupling of the cars, push the rod *g* down and introduce a pin through the bar under the pins of the bracket.

When not in use the bail hangs vertically from its bolt.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the draw-bar B, having a recurved hook, *b*, upon its top, and a vibrating bail, B′, of a horizontal rock-shaft, C, the end clutch-levers, *b′*, and the lifting-rods D, secured to said shaft and looped loosely around the side arms of the bail, substantially as specified.

2. The combination, with the draw-bar B, having a hook, *b*, and vibrating bail B′, the rock-shaft C, and lifting-fingers D, of a crank-arm, *f*, on said shaft, a vertical draw-rod, *g*, the guide *h*, and a gravitating dog, C′, adapted to be engaged with said rod, substantially as specified.

3. The combination of a draw-bar having a link-chamber and pin-holes, and provided with a hook and vibrating bail, a rock-shaft having lifting-fingers engaging the bail, clutch-levers on the end of the shaft, a tripper on the end of the car, a draw-rod connected to an arm of said shaft, a guide, and a gravitating dog suspended therefrom and adapted to engage the said rod, all arranged and operating substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

LEVI MEAD FOX.

Witnesses:
CLAY MEAD WHEELER,
WILBER SETH TOZIER.