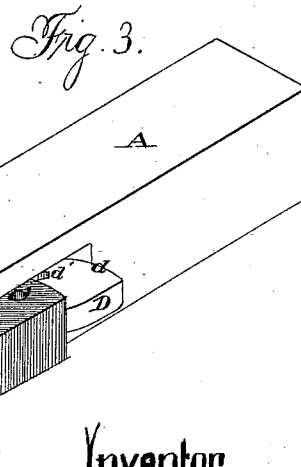
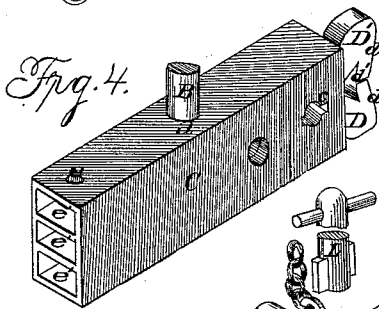
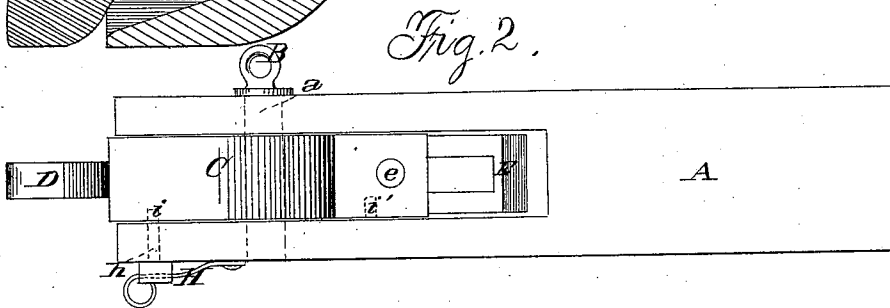
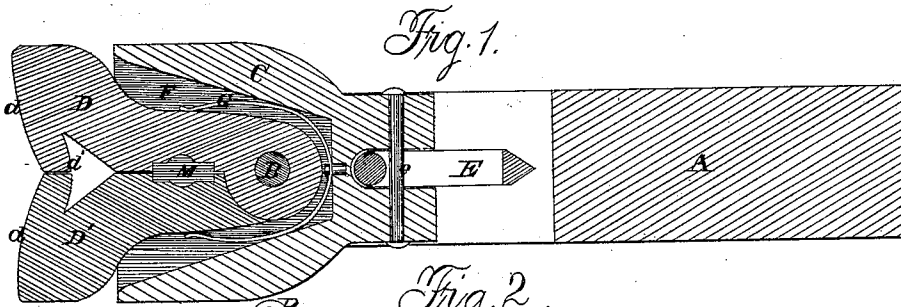


F. B. LORD.

Car-Coupling.

No. 96,932

Patented Nov. 16. 1869.



Attest.
Charles Dickie
G. Moser.

Inventor.
Frank B. Lord
By F. Millward
attorney

United States Patent Office.

FRANK B. LORD, OF CINCINNATI, OHIO.

Letters Patent No. 96,932, dated November 16, 1869.

IMPROVED RAILWAY-CAR COUPLING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, FRANK B. LORD, of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Railroad-Car Couplings; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof to enable one skilled in the art to which my invention appertains, to make and use the same, reference being had to the accompanying drawings, making part of this specification.

My invention consists—

First, in the provision and attachment to an ordinary "draw-bar" of a railroad-car, of a swinging reversible coupling-bar, provided at one end with an ordinary coupling-link, and at the opposite end with expansion jaws, for the reception of the link on the car to which it is coupled.

Second, of a device for securing the swinging coupling-bar in either of the two positions designed for it.

Third, of a certain device for enabling the brakeman or other attendant to open the expansion jaws, in order to uncouple the cars, while standing on the platform or at the side of the car.

In the accompanying drawings—

Figure 1 is a longitudinal section of a draw-bar and coupling embodying my invention.

Figure 2 is a side elevation of the same.

Figure 3 is an isometric perspective view, with the swinging coupling-bar reversed, showing, also, a modification of the device for securing the said coupling-bar.

Figure 4 illustrates modifications in the construction of the swinging bar.

A is a draw-bar, as ordinarily constructed, with the simple addition of a few holes for the attachment of my devices.

An aperture, *a*, is provided in the bar, which is fitted with a pin, B, on which the swinging reversible coupling-bar C turns, and on which, as I prefer, the expansion jaws D D' are hinged.

The coupling-bar C fits easily between the jaws of the draw-bar A, as shown, and is provided at one end with a link, E, secured by pin *e*, and at the opposite end with a socket, F, for the reception of the expansion jaws D D'.

The jaws D D' are both hinged to the pin B in the manner shown, but may, if desirable or necessary, as in the modification, fig. 4, be hinged independently of pin B.

The socket F is constructed of a sufficient width, as shown, to permit of the lateral movement of the jaws D D', to allow for irregularities in the road or cars.

Though the jaws D D' are permitted to oscillate sideways, they are forced back to the central position, when not under side strain, by the horseshoe-spring G, which simple device also serves to keep the jaws D

D' closed, in such a manner as to only permit forcible opening by the brakeman, or by the forcible entry of the link of the car to which it is to be coupled.

It will be seen that the V-shaped opening between the jaws D D' provides for the entry and retention of the link on the next car, and that the said link will force an entry itself by the provision of the inclined faces *d*, thus rendering the cars self-coupling.

I prefer to make the inside face of the jaws of a convex form, *d*, and the inside of the link E concave, as shown, in order to avoid the risk of the opening of the jaws by the pressure of the link inside. The exterior of the link E, at the outer end, may be made V-shaped, as shown, or round.

The coupling-bar C is reversible, as shown, so that either the link E or jaws D D' may be used to couple with the next car, and is retained in either position by the spring catch H *h* and apertures *i* *i'*, or by the device exhibited as a modification in fig. 3, which latter consists of sliding pins K, linked together, and apertures *i'*, in one end of bar C only, the opposite end fitting between the pins K.

It will be readily perceived that the provision of the reversible bar C permits of one end of a car being attached to either end of the next car, and also provides for the coupling of cars embodying my improvements to "foreign cars," or those carrying the old couplings.

In order to enable the brakeman to open the jaws D D' while standing on the platform, I provide the winged key L, which is adapted to enter the aperture *a'*, in the draw-bar A, and aperture *c* in the socket F, and also into notches M, between the jaws D D'.

By the simple quarter turn of the key L, the jaws D D' may be expanded equally, and to the fullest extent, and the link of the next car can be then withdrawn, and the cars separated; but this operation can only be performed by a person in possession of a key, which fact will render it impossible for mischievous persons to uncouple or disconnect trains of cars when standing upon any of the tracks, and thereby causing much inconvenience, as is frequently the case with the present form of couplings.

In both figs. 1 and 3, the jaws D D' are designed to open in a horizontal direction, but, if preferred, they may be made to open in a vertical direction, as seen in fig. 4. In this case, it will be necessary, as shown, to have the pin on which the jaws swivel independent of that on which the bar C swivels, and at right angles to each other.

Fig. 4 also shows a modification in the end of the bar C, to which the link E is secured, viz, the provision of a series of apertures, *e'*, for the insertion of the link, to compensate for irregularities in the position of the draw-bars in the coupling of the cars.

It will be observed that the link E (see fig. 1) is of

such a length that its outer end will touch the socket F of the next car, at about the same time the face of this end of the bar C strikes the faces of the jaws D D'. This construction is designed to prevent damage to the jaws by the shock in coupling.

The horseshoe-shaped spring G is prevented from twisting out of place by means of the projecting pin g of the spring entering a cavity in the bottom of the socket F.

When found necessary, projections can be formed upon the socket F, to guide the link E into place in the jaws, and also keep the link in the central position, so that it can be withdrawn from the jaws without risk of catching.

In the modification, fig. 4, the jaws are opened by the brakeman, from the side of the cars. This modification is adapted for freight-cars particularly.

It will be seen that there is no necessity, with either of the modifications, for the brakeman to go between

the cars to couple or uncouple. Thus risk of accident is avoided.

I claim herein as new, and of my invention—

1. The swivelling reversible coupling-bar C, provided with link E and expansion jaws D D', operating substantially in the manner and for the purpose specified.

2. The pins h, spring H, and apertures i i', for the purpose specified, in the described connection with the reversible bar C.

3. In connection with the jaws D D', the winged key L, apertures a' c, and notches M, operating as described, and for the purpose explained.

In testimony of which invention, I hereunto set my hand.

FRANK B. LORD.

Witnesses:

FRANK MILLWARD,
JESSE L. WARTMANN.