A. E. ROWLEY.

Car-Coupling.

No. 162,103. Patented April 13, 1875.

Fig 1

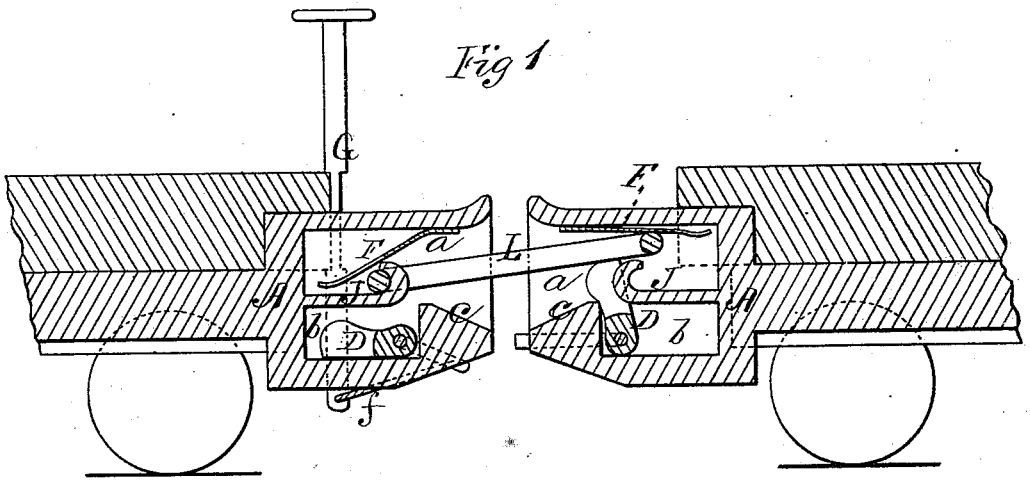
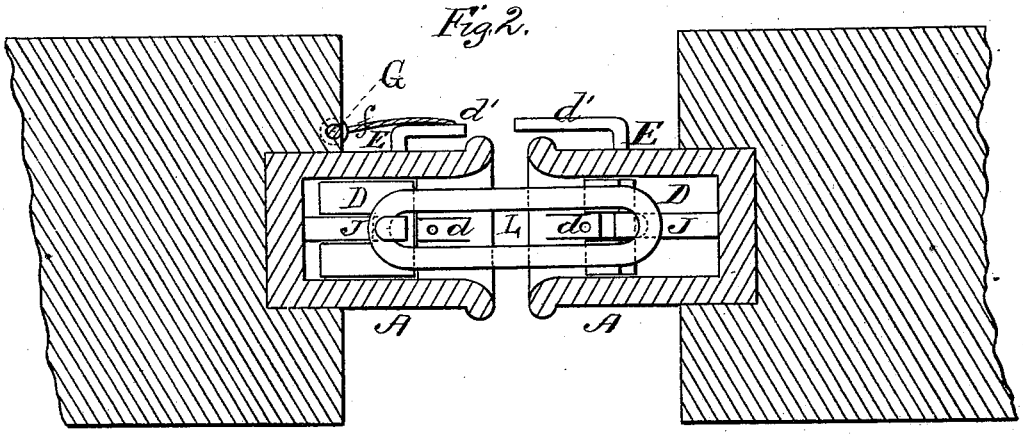


Fig 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

AMOS E. ROWLEY, OF CORNING, NEW YORK.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **162,103**, dated April 13, 1875; application filed February 13, 1875.

To all whom it may concern:

Be it known that I, AMOS E. ROWLEY, of Corning, in the county of Steuben and State of New York, have invented a new and valuable Improvement in Car-Couplers; 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 drawing is a representation of a longitudinal section of my car-coupler, and Fig. 2 is a horizontal sectional view of the same.

This invention has relation to improvements in automatic car-couplings.

The object of the invention is to devise a coupling which, while being in its action automatic, will at the same time be of such a nature that, in the event of a car falling through a bridge or upsetting, it will automatically disconnect itself from the preceding and succeeding cars, thus avoiding in great measure the disastrous results attendant upon the dragging of a car upon its side by the engine and the preceding cars, and preventing a car which will have passed safely over a gap from being drawn back into the same. To this end the nature of the invention consists in combining, with a hook rigidly secured in a horizontal position to the rear end of the chamber of a draw-bar, a retaining spring-plate, rigidly secured, as to its front edge, to the front of the draw-head, which plate will, under ordinary circumstances, hold a slotted coupling-link to its engagement with the said hook, but which will yield in the event of a car falling through a bridge or culvert, or upsetting on leaving the track, thus allowing those cars which have passed over the gap, or those which precede the upset car, to escape safely, and allowing the cars in rear of the upset car, or that falling through the gap, to be disconnected from those in rear, whereby the timely application of the brakes will save those in rear from falling in upon the car which will have fallen through. It also consists in combining, with a hook rigidly secured in a horizontal position to the rear end of a chamber in the draw-bar, a vertically-vibrating cam, adapted to be lowered below the said hook, or to be raised above the horizontal upper edge thereof, whereby the usual well-known slotted link is adapted to be disengaged from the said hook in effecting an uncoupling by hand, as will be hereinafter more fully explained.

In the annexed drawings, A designates a preferably rectangular draw-bar, in connection with which I propose to exemplify my improvements. This draw-bar is provided with a chamber, *a*, common to this class, and a recess, *b*, preferably of rectangular form, is formed in rear of the lower flaring lip *c* of the same, as shown in Fig. 1. The upper edge of the lower flaring lip of this draw-bar has a raised ridge, *d*, the rear edge of which, as well as that of the front wall of the recess, is vertical to the horizontal plane. Within this recess is arranged a bifurcated uncoupling device, D, vertically vibrating upon a horizontal rod, E, passing through registering perforations in the lateral walls of the draw-bar, the said rod being operated by means of a handle, *d'*, as shown in Fig. 2.

When two cars to be coupled are brought together a slotted link arranged in the draw-bar of the one is received in the draw-bar of the other, and is directed by ridge *d* upward and backward into the draw-bar, when coming into a suitable position, it will engage over a hook, J, rigidly secured in a horizontal position to the rear wall of chamber A, and, engaging therewith, a coupling will be effectively made.

With a view to maintaining a coupling thus effected, a strong bifurcated metallic plate, F, is rigidly secured to the front edge of the draw-head, extending rearwardly into the same in a downwardly-inclined position, as shown in Fig. 1, the said plate projecting inwardly beyond the said hook, in close contact with the end of the link. By this means the link is held to its engagement with hook E so long as the cars remain in a horizontal position, or nearly so; but as soon as a car shall fall through a bridge the link, acting upon the upper edge of lip *c* as a fulcrum, will raise plate F, thus allowing an uncoupling to be effected, when the cars preceding that which shall have fallen into the gap will be allowed to pass on in safety, instead of being drawn back into the

same. At the same time that the front end of the car falling into the gap is disconnected from those in its front, its rear end will likewise be uncoupled from those in rear, and the latter may, by a timely and prompt application of the brakes, be held from falling into the gap, at least as regards those at the rear end of the train; and in the event of a car in the middle of a train leaving the track, it will be disconnected in the same manner from those in front and in rear, and consequently, instead of being dragged by the engine, it will be left *in situ*, and the cars in rear will fail, also, to be thrown from the track, as is the case in ordinary couplers, and will proceed upon their course as long as their momentum lasts, instead of piling one upon the other in a mass of undistinguishable ruin, as is usually the case.

Uncoupler D, above mentioned, is bifurcated, for the purpose of allowing hook J to pass between its prongs when the same is operated to uncouple cars.

Rod E may either be operated by hand or by being connected with a vertically-arranged horizontally-vibrating rod, G, in the nature of a brake-rod, which may extend upward in any position within convenient reach of a train hand standing upon the platform or roof of a car. This connection *f* will be either a rope or chain, and will be wound around the lower end of rod G when the latter is rotated, drawing handle *d'* downward, causing rod E to rotate in its bearing, and throwing uncoupler D into the position shown in Fig. 2, when link L will be disengaged from hook J, and, by separating the cars, an uncoupling will be effected.

I am aware that a buffer having a coupling-hook projecting upward from the rounded lower part of the buffer-mouth, and a spring-plate arranged in the chamber of the draw-bar, are not new, as shown in the patent granted to D. P. Dow, dated March 24, 1874, No. 148,813, and I therefore do not claim such invention, broadly; but

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

1. The vertically-vibrating bifurcated uncoupler D, recessed into the floor of a draw-bar, in combination with hook J, link L, and spring-plate F, substantially as specified.

2. The vertically-vibrating bifurcated uncoupler D, to be operated by rod E *d'*, in combination with connection *f* and brake-rod G, substantially as specified.

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

AMOS E. ROWLEY.

Witnesses:

E. D. MILLS,

E. C. ENGLISH.