

J. W. & J. W. BATES & H. D. KNIGHT.

Car-Couplings.

No. 147,888.

Patented Feb. 24, 1874.

Fig. 1.

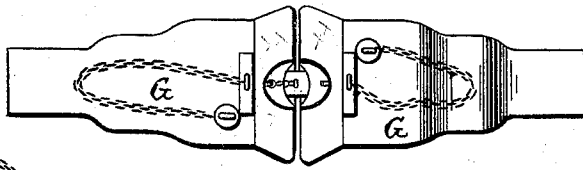


Fig. 2.

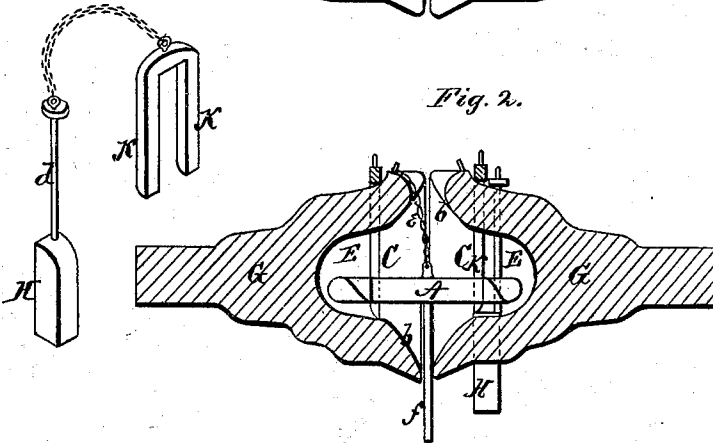


Fig. 3.

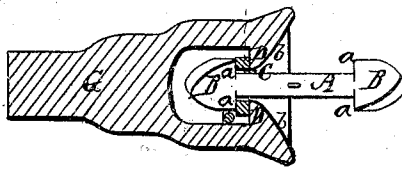
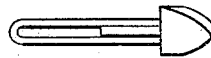


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH W. BATES, OF MINNEAPOLIS, MINNESOTA, AND J. WILLIAM BATES
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IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **147,888**, dated February 24, 1874; application filed
July 2, 1873.

To all whom it may concern:

Be it known that we, JOSEPH W. BATES, of Minneapolis, Minnesota, and J. WILLIAM BATES and HORATIO D. KNIGHT, of Elgin, in the county of Kane and in the State of Illinois, have invented certain new and useful Improvements in Car-Couplers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a car-coupling, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view, and Fig. 2 a longitudinal vertical section, of our car-coupling. Fig. 3 is a horizontal section of one of the draw-heads with coupling-bar. Fig. 4 shows a modification of the coupling-bar.

A represents a bar of suitable length and strength, provided with a head, B, at each end, each head forming shoulders *a a* to draw by. The heads B B are made in the form shown, their width being greater than their thickness, and beveled on the edges, so that when the head strikes the slot in the draw-head, or between the jaws thereof, said slot being of less width than the head will cause the bar A to partially rotate upon its longitudinal axis, the head B and shoulders *a a* passing through the slot, and locking itself at both ends by falling to a horizontal position when the cars come together. We also provide a modified form of coupling-bar, as shown in Fig. 4, one end only having a head, while the other end is the ordinary link. G represents the bumper and draw-head, provided with concave face or inclined approach *b* to the slot C, near the center, forming a jaw, D, on each side of said slot. Beyond the jaws D D, in the bumper G, is a cavity or receptacle, E, for the reception of the head of the coupling-bar, of sufficient extent for all the lateral movements of the cars while running upon the

track. At one side, in the floor of the receptacle E is situated a tripper, H, near and of sufficient thickness to be even with the side of the slot C, and extending back nearly the length of the bar A. This tripper H has a rod, *d*, extending to the top of the draw-head G, where any desired connection may be made for the purpose of raising the tripper H or holding the same when raised. The raising of the tripper H will turn the bar A into proper position to be uncoupled or coupled at will.

For the purpose of taking up the slack between the bumpers, and also to draw by, we place directly back of the jaws D D a movable set of jaws, K K, to be used at will, and may be placed in position before or after the train has started. The movable jaws K K are beveled at their points, so that when they are dropped into the draw-head they will enter between the shoulders *a a* and the stationary jaws D D. A chain, *e*, is fastened on the top, at or near the center of the coupling-bar A, for the purpose of giving direction to the free end of the coupling-bar, the other end of said chain to be attached to the upper part of the bumper, so that it can be lengthened or shortened at will, at the same time holding the coupling-bar in the draw-head, to which the chain *e* is attached. When the coupling-bar head B is passing through the slot C the chain *e* is partially wrapped around the bar A, producing a rolling hitch, which assists to drop the coupling-bar A to its flat or locked position as soon as the shoulders *a a* pass beyond the jaws D D. For the purpose of uncoupling from the ground we fasten at or near the center, on the lower side of the coupling-bar A, a lever, *f*, as shown.

This forms a cheap, safe, and substantial car-coupling, self-acting when the cars come together. It can easily be uncoupled either when the cars are in motion or standing still, from the car or the ground.

In case a car should jump the track on a trestle-work or embankment it will uncouple itself when the car turns upon its side.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The movable jaws K K, located in the

bumper G, to operate in combination with the stationary jaws D D and coupling-bar A, substantially as and for the purposes herein set forth.

2. The combination of the bumper G with concave face *b*, slot C, and stationary jaws D D, the tripper H, movable jaws K K, and coupling-bar A, with chain *e* and lever *f*, substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 24th day of May, 1873.

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Witnesses:

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