

(No Model.)

E. D. BOND.
CAR COUPLING.

No. 511,399.

Patented Dec. 26, 1893.

Fig. 1.

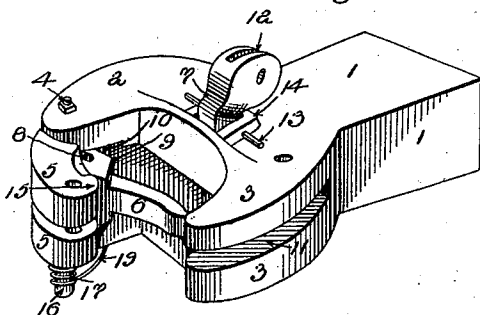


Fig. 2.

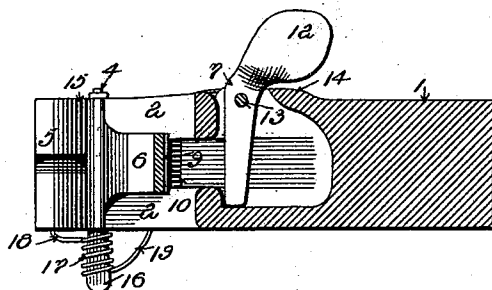


Fig. 3.

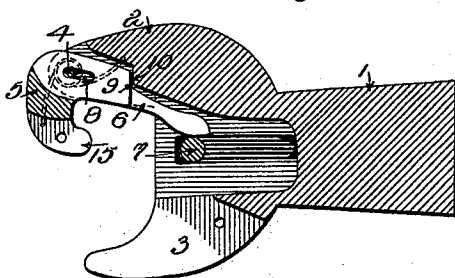
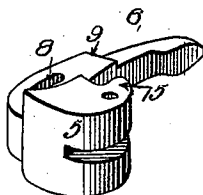


Fig. 4.



Inventor

Witnesses

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UNITED STATES PATENT OFFICE.

EATON DAWSON BOND, OF MERCER, TENNESSEE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 511,399, dated December 26, 1893.

Application filed May 31, 1893. Serial No. 476,111. (No model.)

To all whom it may concern:

Be it known that I, EATON DAWSON BOND, a citizen of the United States, residing at Mercer, in the county of Madison and State of Tennessee, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car couplings.

The object of the present invention is to improve the construction of twin-jaw car couplings to prevent the knuckle-pin from receiving the blows and jars incident to coupling, to permit the knuckle to have a limited longitudinal movement to enable the cars of a train to be successively started alike with the ordinary pin and link coupling to prevent effectually a separation of the draw-heads on a sharp short curve, and to cause the knuckle to open automatically as soon as its arm is released by the catch to facilitate uncoupling, and to have the knuckle always in proper position for coupling.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a perspective view of a car coupling constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view, the knuckle being open. Fig. 3 is a horizontal sectional view, the knuckle being closed. Fig. 4 is a detail perspective view of the knuckle.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a draw-head provided at opposite sides with outward extensions 2 and 3, and having pivoted to it between its extensions 2 by a knuckle pin 4 a knuckle 5, which is provided with an arm 6 adapted to be engaged by a pivoted catch 7, whereby the knuckle is locked for coupling. The knuckle is provided with an elongated knuckle pin opening 8, which permits the knuckle to have a limited movement longitudinally of the draw-head to enable the cars of a train to be successively started to avoid the strain of the entire train of cars being directly communicated to an engine. The arm 6 of the knuc-

kle is provided at its upper, lower and inner faces with shoulders 9, which, when the arm is engaged by the catch 7 and the knuckle is closed, fit against corresponding shoulders 10 of the adjacent side of the draw-head, whereby the blows and jars incident to coupling are not borne by the knuckle pin, but are communicated directly to the draw-head. Owing to the elongated slot or knuckle pin opening of the knuckle, an arm 6 thereof is extended or elongated to permit the knuckle to have its longitudinal movement, without becoming disengaged from the catch; and the draw-head is provided with a horizontal slot 11 to afford a passageway for the arm of the knuckle to enable the latter to open without the arm coming in contact with the draw-head.

The catch 7 extends downward through an opening in the draw-head, and has its lower end arranged in the recess in the bottom thereof, and it is provided at its upper end with a weighted head 12 extending rearward and disposed at an angle, and throwing the lower portion of the catch forward in engagement with the arm of the knuckle forming a gravity catch or latch. The weighted head 12 is bifurcated, and any suitable means may be connected with it for enabling the operation of uncoupling to be performed from the top and sides of a car. The horizontal pivot 13 of the catch 7 extends through and is arranged in openings of flanges or bosses 14 formed integral with the draw-head and extending upward from the upper face thereof.

The knuckle is provided with the usual coupling pin perforation and link slot to enable it to be coupled with cars having the ordinary pin and link coupling; and it is provided at its inner side with inwardly extending vertically aligned lugs 15, adapted to prevent draw-heads from becoming accidentally uncoupled on short sharp curves. The lugs 15 form partial hooks of the engaging portions of the knuckles.

The knuckle pin is provided with depending enlarged extensions 16, and disposed thereon is a spiral spring 17, which is provided with oppositely disposed arms 18 and 19. The arms 18 and 19 of the spiral springs extend upward and have their ends arranged in sockets of the draw-head and knuckle; and the spring is adapted to open the knuckle as soon as the

latter is released by the pivoted catch, and hold the knuckle in position for coupling.

5 It will be apparent that the car coupling is simple and inexpensive in construction, positive and reliable in operation and capable of automatic coupling, that it does not necessitate going between cars, that the knuckle pin is relieved of the jars and blows incident to coupling to prevent it from being broken, and
10 that cars may be successively started.

Other advantages of the construction shown and described will be readily apparent to those skilled in the art.

15 Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

20 1. In a car coupling, the combination of a draw-head provided at one side with shoulders, a knuckle having an elongated knuckle pin opening and provided with an arm having on its upper, lower and inner faces should-

25 ders to fit against those of the draw-head, and a knuckle pin pivoting the knuckle to the draw-head and arranged in the elongated knuckle pin opening, substantially as and for the purpose described.

2. In a car coupling, the combination of a 30 draw-head provided with shoulders, a knuckle having an elongated knuckle pin opening and provided with an extended arm having shoulders to fit against those of the draw-head, said knuckle being provided at its engaging end 35 with an inwardly extending lug forming a partial hook, and a knuckle pin pivoting the knuckle to the draw-head and arranged in the elongated knuckle pin opening, substantially as described.

40 In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EATON DAWSON BOND.

Witnesses:

W. S. NUCKOLLS,
L. W. MCGEE.