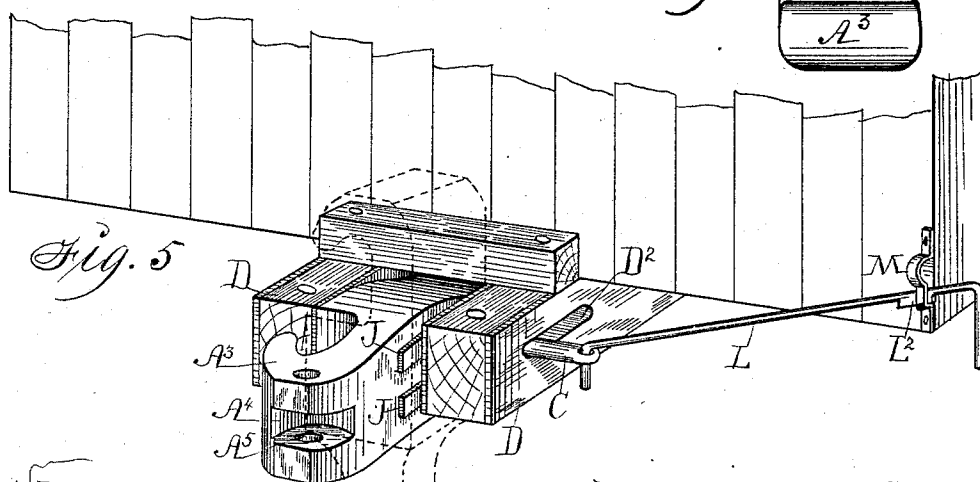
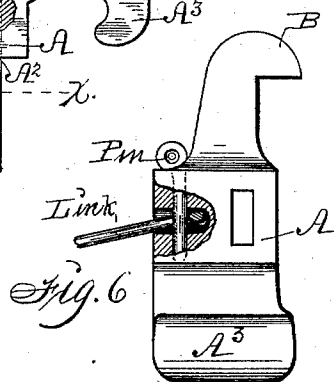
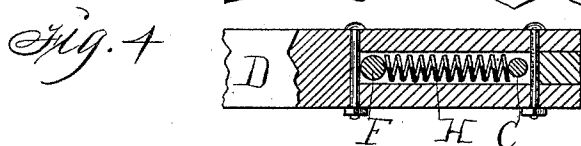
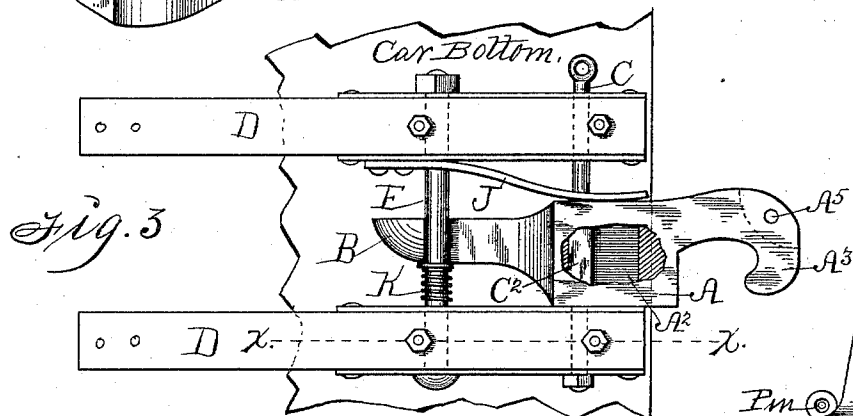
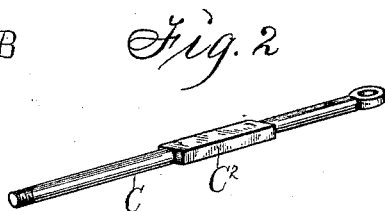
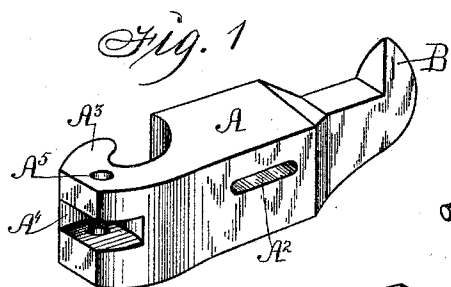


(No Model.)

F. DE FORD.
CAR COUPLING.

No. 485,736.

Patented Nov. 8, 1892.



Witnesses:
M. P. Smith.
R. H. Orwig }

Inventor: Franklin De Ford,
By Thomas G. Orwig, atty.

UNITED STATES PATENT OFFICE.

FRANKLIN DE FORD, OF STUART, ASSIGNOR OF ONE-THIRD TO L. H. DE FORD, OF VALLEY JUNCTION, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 485,736, dated November 8, 1892.

Application filed March 11, 1892. Serial No. 424,488. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN DE FORD, a citizen of the United States of America, residing at Stuart, in the county of Guthrie and State of Iowa, have invented a new and useful Car-Coupling, of which the following is a specification.

My invention consists, primarily, in pivoting a draw-head beneath the end of a car in such a manner that it may be swung vertically as required to uncouple, and connected with springs in such a manner that it will serve as a buffer both when in a horizontal and a vertical position, in the construction of the means provided for swinging the draw-head in a vertical position, and in certain other features of construction and combination of the complete device, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows the draw-head in perspective. Fig. 2 is a perspective view of the bolt which supports the draw-head, showing the angular formation on its central portion. Fig. 3 is a plan view of the complete coupling with parts of the draw-head broken away, showing the bolt in the slot. Fig. 4 is a longitudinal sectional view through the line *x x* of Fig. 3. Fig. 5 is a perspective view of the coupling device attached to a car as required in practical use. The dotted lines therein illustrate the draw-head in a vertical position. Fig. 6 shows the draw-head in a perpendicular position and a common link connected therewith by means of a pin.

Referring to the accompanying drawings, the reference-letter A designates the draw-head.

A² is an elongated transverse slot slightly in the rear of the gravity center of the draw-head.

A³ represents a vertical jaw formed on the forward end of the draw-head.

A⁴ represents a cavity in the forward side portion of the draw-head, provided with a vertical intersecting bore A⁵ to provide means whereby a car having a link-and-pin coupling may be connected therewith, and B is an upwardly-extending hook on the rear end of

the draw-head, for purposes hereinafter more fully specified.

C represents a bolt or pin having a flattened angular formation C² near its central portion and extended through the slot A².

D D are parallel beams on the under side of a car. They are provided with transverse elongated slots D² near their forward ends. Through the forward end of these slots the bolt C is extended, and in the rear ends thereof the bolt F is placed, they both being capable of movement in the plane of the car.

H H represent a coil-spring in the slots D² between the bolts C and F and in engagement with them. This bolt F is placed in such a position relative to the bolt C as to be engaged by the hook B when the draw-head is in a vertical position, so that the draft will be equally divided between the said bolts.

To provide means whereby the draw-head may normally be held toward the side of the car to which the jaw extends and yet yield laterally sufficiently to engage a like coupler, I attach the leaf-springs J J to one of the beams D and extend them forwardly and inwardly to engage the side of the draw-head. To relieve the pressure of the rear end of the draw-head against the opposed side of the beams D, I interpose the coil-spring K.

L represents a crank-shaft extended through the end of the bolt C and outwardly to the side of the car to provide means for swinging the draw-head.

L² is an angular formation on the under side of the crank-shaft in juxtaposition to the side of the car, the function of which will hereinafter appear. I also provide means for locking the draw-head in a horizontal position, as follows: M represents a clip secured to the end of a car near the side thereof. Its central forward portion is convex in shape and its lower portion angular. Through this clip the crank-shaft L is extended, and when it is desired to operate the draw-head I elevate the crank-shaft to the aforesaid convex portion of the clip, which is large enough to allow the part L² to rotate therein, and when it is desired to secure it in a horizontal position I place the

part L² in the angular portion of the clip M. When shifting cars, the draw-head is preferably swung in a vertical position and its front face used as a buffer and as a means of coupling with a common link, as shown in Fig. 6.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car-coupler comprising a draw-head having means at its forward end for coupling a car thereto, pivoted in its approximate center to a car as required to uncouple by swinging vertically, and adapted to serve as a buffer both when in a horizontal and vertical position, to operate substantially as set forth.

2. A car-coupler comprising a draw-head having a vertical jaw at the forward end, pivoted in its approximate center to a car as required to uncouple by swinging vertically, and adapted to serve as a buffer both when in a horizontal and vertical position, to operate substantially as set forth.

3. A car-coupler comprising a draw-head having a vertical jaw at its forward end, pivoted slightly in the rear of its gravity center to a car as required to uncouple by swinging vertically and to normally remain in a horizontal position, and adapted to serve as a buffer

both when in a horizontal and vertical position, and means for operating the draw-head from the side of a car, to operate substantially as set forth.

4. A car-coupling comprising a draw-head having a vertical jaw and a link-and-pin cavity at its forward end, an elongated transverse slot in the rear of its gravity center and a hook formed on its rear end, two parallel beams secured to the under side of a car, elongated transverse slots formed in the approximate forward ends thereof, a bolt having a flattened surface in its approximate central portion through the said slots in the beams and the slots in the draw-head, a bolt extended through the slots in the beams in the rear of the aforesaid bolt, yielding pressure devices interposed between the said bolts, yielding pressure devices impinging the side of the draw-head opposite to the jaw thereof, and means for operating the draw-head from the side of a car, substantially as shown and described, to operate in the manner set forth.

FRANKLIN DE FORD.

Witnesses:

H. B. KIRKENDALL,
J. H. KERSEY.