

(No Model.)

G. J. FORREY.
CAR COUPLING.

No. 538,444.

Patented Apr. 30, 1895.

FIG. 1.

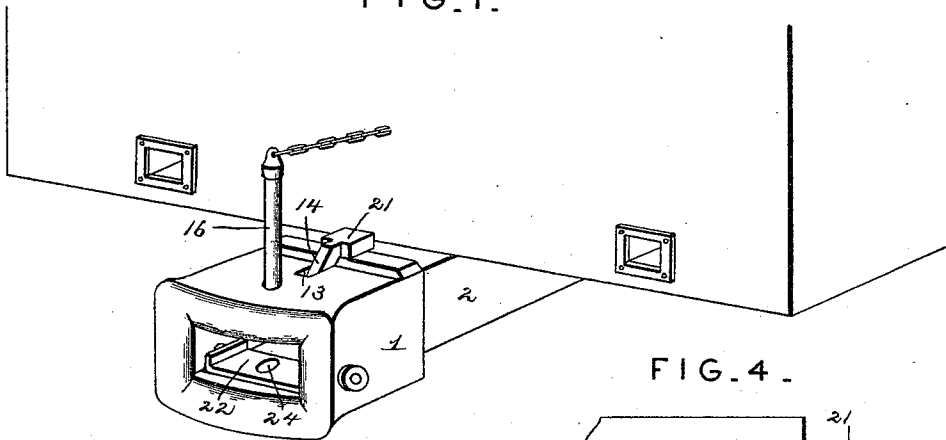


FIG. 4.

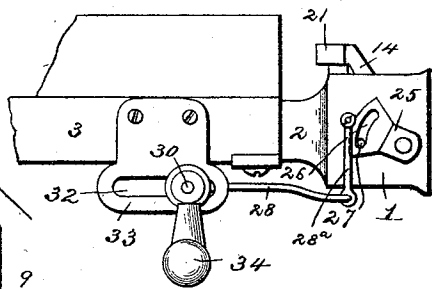


FIG. 2.

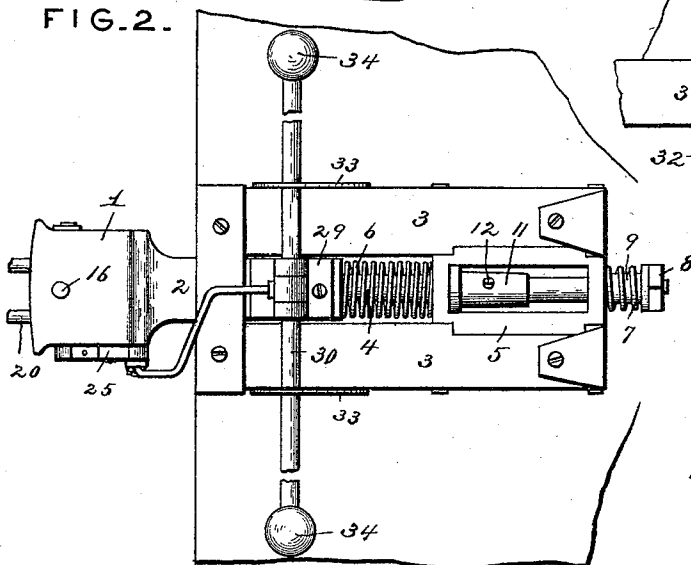


FIG. 5.

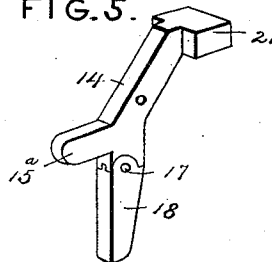


FIG. 3.

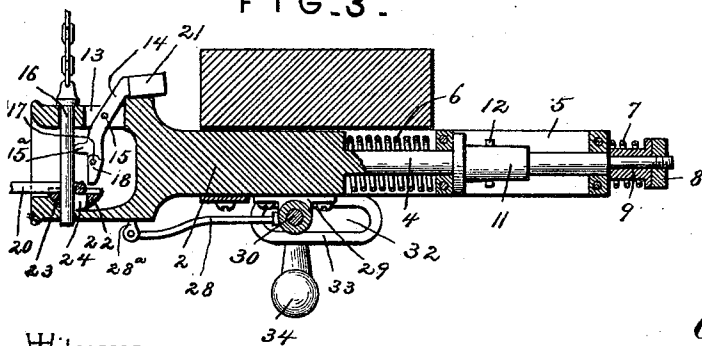
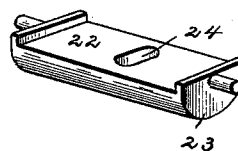


FIG. 6.



Inventor

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Witnesses

Harry L. Ames,
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By His Attorneys.

Cash & Co.

UNITED STATES PATENT OFFICE.

GEORGE JONNATHAN FORREY, OF CARLISLE, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO JACOB A. KARPER, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 538,444, dated April 30, 1895.

Application filed July 10, 1894. Serial No. 517,140. (No model.)

To all whom it may concern:

Be it known that I, GEORGE JONNATHAN FORREY, a citizen of the United States, residing at Carlisle, in the county of Cumberland and State of Pennsylvania, 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 car couplings, and to provide a simple and efficient one, capable of coupling automatically and of ready uncoupling without necessitating going between cars.

A further object of the invention is to enable the link to be readily raised and lowered for guiding it into the mouth of the draw-head, without going between the cars and performing such guiding by hand.

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 and shown applied to a car. Fig. 2 is a reverse plan view. Fig. 3 is a longitudinal sectional view. Fig. 4 is a side elevation. Fig. 5 is a detail perspective view of the pin-support. Fig. 6 is a similar view of the link-guider.

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

1 designates a draw-head, having its draw-bar 2 slidably mounted between draft timbers 3, and connected with a longitudinal rod 4, which is slidably mounted in a rectangular bearing box 5. The bearing box 5 is secured between the parallel draw timbers. It is provided at its ends with openings receiving the rod 4; and spiral springs 6 and 7 are disposed on the rod and located respectively in advance and in rear of the bearing box or frame 5, whereby the draw-head is cushioned. The rear or inner end of the draft rod 4 is threaded to receive a nut 8, which secures a sleeve 9 on the rear end of the draft rod; and disposed

on the sleeve 9 is the spiral spring 7, which bears against the inner or rear end of the bearing box or frame and an annular flange of the sleeve 9. The longitudinal movement of the draw rod 4 is limited by a sleeve 11, secured to the rod 4 by a transverse fastening device 12, and arranged within the rectangular bearing box or frame, and adapted to engage either end thereof.

The draw-head is provided with the usual link opening, and has at its top a slot 13, communicating with the same and receiving a swinging pin support 14, pivotally mounted in the draw-head by means of a transverse pin 15, and consisting of an L-shaped upper portion having an approximately horizontal arm, located above the draw-head, and operating as a weight to hold a forwardly projecting supporting arm 15^a in an approximately horizontal position for holding a coupling pin 16 elevated preparatory to coupling. The coupling pin 16 is arranged in a coupling pin perforation; and the link support is located in rear of the coupling pin, the transverse pivot pin being located adjacent to the angle of the L-shaped portion of the pin support. The lower portion of the pin support has hinged to it by a knuckle joint 17 a swinging bar 18, shoulders being formed at the back of the knuckle joint to prevent the bar 18 swinging inward beyond an alignment with the lower portion of the pin support. The bar 18 is adapted to be engaged by a link 20, when the latter enters the draw-head for coupling, and to be forced rearward by the link to carry the supporting arm 15 from beneath the coupling pin to cause the latter to fall and engage the link to effect the operation of coupling; but, when the coupling pin is raised to release the link, the arm 18 is adapted to swing forward to permit the link to be withdrawn from the draw-head. The weighted upper portion 21 of the pin support is located adjacent to the front of the car, and when the draw-head is moved inward in the operation of coupling incident to the cars contacting with each other, the weighted arm 21 of the pin support comes in contact with the car whereby it is thrown forward to withdraw the supporting arm 15 from beneath the coupling pin, to cause the

same to fall and engage the link. By this construction the operation of coupling is rendered absolutely positive.

The link 20 is adapted to be raised and lowered to guide it into the mouth of a draw-head; and for this purpose a link guider is journaled in the draw-head at the bottom thereof. The link guider 22 is provided at opposite sides with laterally disposed journals, which are arranged in suitable bearing perforations of the sides of the draw-head. Its bottom 23 is curved; and the draw-head is provided in its bottom with a recess conforming to the configuration of the curved bottom of the link guider, in order to permit the latter to turn readily to raise and lower the outer end of the link. The link guider is provided with a longitudinal opening 24 to receive the coupling pin, and by means of which opening, the link guider may be readily manipulated and operated to raise and lower the link as desired, without the coupling pin interfering.

One of the journals of the link guider is extended through the draw-head, and has secured to it an arm 25, extending rearward from the journal and provided with an approximately vertically disposed curved slot 26, receiving a stop pin or projection 27 to limit the swinging movement of the link guider. The slotted arm 25 is connected by a rod 28^a with a forwardly or outwardly extending laterally offset arm 28 of a rock-shaft 30, which is journaled in a bearing plate 29 depending from the draw-bar. The transverse rock-shaft extends through longitudinal slots 32 of depending plates or hangers 33, and are provided with weighted handles 34 adjustably secured to the ends of the shaft, and adapted to enable the link to be guided from either side of the car without going between the same. The depending plates or hangers 33 are bolted to the outer faces of the draw timbers, and the rectangular bearing frame 5 is rigidly secured between the said timbers by horizontal bolts.

It will be apparent that the car coupling is positive and reliable in operation, that it is capable of automatic coupling, and that the link may be guided at either side of the car without going between cars.

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—

1. In a car coupling, the combination with a car, of a draw-head mounted thereon and provided with a coupling pin perforation, a coupling pin arranged in the perforation, and a pin support located in rear of the coupling pin, and pivotally mounted on the draw-head and having a supporting arm arranged to project forward beneath the coupling pin, when the latter is raised to hold the same elevated, said pin support being provided with a weighted arm located above the draw-head

and extending rearward and arranged to be engaged by the car, substantially as and for the purpose described.

2. In a car coupling, the combination with a car, of a draw-head mounted on the car and having a longitudinal movement, and a pin support pivotally mounted on the draw-head and provided with an exteriorly arranged weighted arm, adapted to be engaged by the car when the draw-head is forced inward incident to coupling, substantially as described.

3. In a car coupling, the combination of a draw-head, a coupling pin, a pin support pivotally mounted in the draw-head and located in rear of the coupling pin and provided with a forward extending supporting arm for holding the coupling pin elevated, and a depending link engaged bar hingedly connected to the pin support and arranged to swing forward to permit a link to be withdrawn, stop shoulders being provided for limiting the rearward swinging of said bar, whereby the latter is held rigid with the pin support when engaged by a link, substantially as and for the purpose described.

4. In a car coupling, the combination of a draw-head, and a link guider journaled in the draw-head and provided with a coupling pin opening and having a lower curved face seated in a recess in the bottom of the draw-head, substantially as described.

5. In a car coupling, the combination of a draw-head, a link guider journaled in the draw-head at the bottom thereof and arranged to receive and support the link, an arm arranged on one side of the draw-head and connected with the adjacent journal of the link guider and provided with a slot, a projection extending from the draw-head and arranged in the slot of said arm, and limiting the movement of the link guider, and means for operating the latter, substantially as described.

6. In a car coupling, the combination with a car, of a draw-head having a draw-bar arranged between the draw-timbers, a rectangular bearing frame rigidly secured to the draw-timbers and located between the same and provided at its ends with openings, a draft rod slidingly mounted in the bearing frame, springs mounted on the draft rod and located in advance and in rear of the bearing frame, and a sleeve secured to the draft rod and located within the bearing frame, substantially as and for the purpose described.

7. In a car coupling, the combination of a draw-head, a link guider journaled in the draw-head at the bottom thereof and arranged to receive and support the link, an arm arranged on one side of the draw-head and connected with the adjacent journal of the link guider and provided with a slot, a projection extending from the draw-head and arranged in the slot of said arm, and limiting the movement of the link guider, a transverse rock-shaft journaled on the draw-bar and provided with a forwardly extending arm connected with the slotted arm, depending hangers pro-

vided with longitudinal slots and receiving the shaft, and weighted handles arranged on the ends of the shaft, substantially as described.

- 5 8. In a car coupling, the combination of a draw-head, a pin support pivotally mounted in the draw-head and provided with a supporting arm, and a depending link engaged
10 bar pivoted to the pin support and having a limited movement, whereby it is adapted to swing forward independent of the pin support to permit a link to be removed from the draw-head, and is capable of swinging the
15 pin support rearward to cause a pin to fall, substantially as described.

9. In a car coupling, the combination of a draw-head, a link guider journaled at the bottom of the draw-head, and a rock-shaft mounted beneath the draw-head and connected with the link guider and provided with a depending weighted handle, maintaining the link guider normally in a horizontal position, substantially as described.

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

GEORGE JONNATHAN FORREY,

Witnesses:

F. H. HOFFER,

E. H. GERMAYER.