

(No Model.)

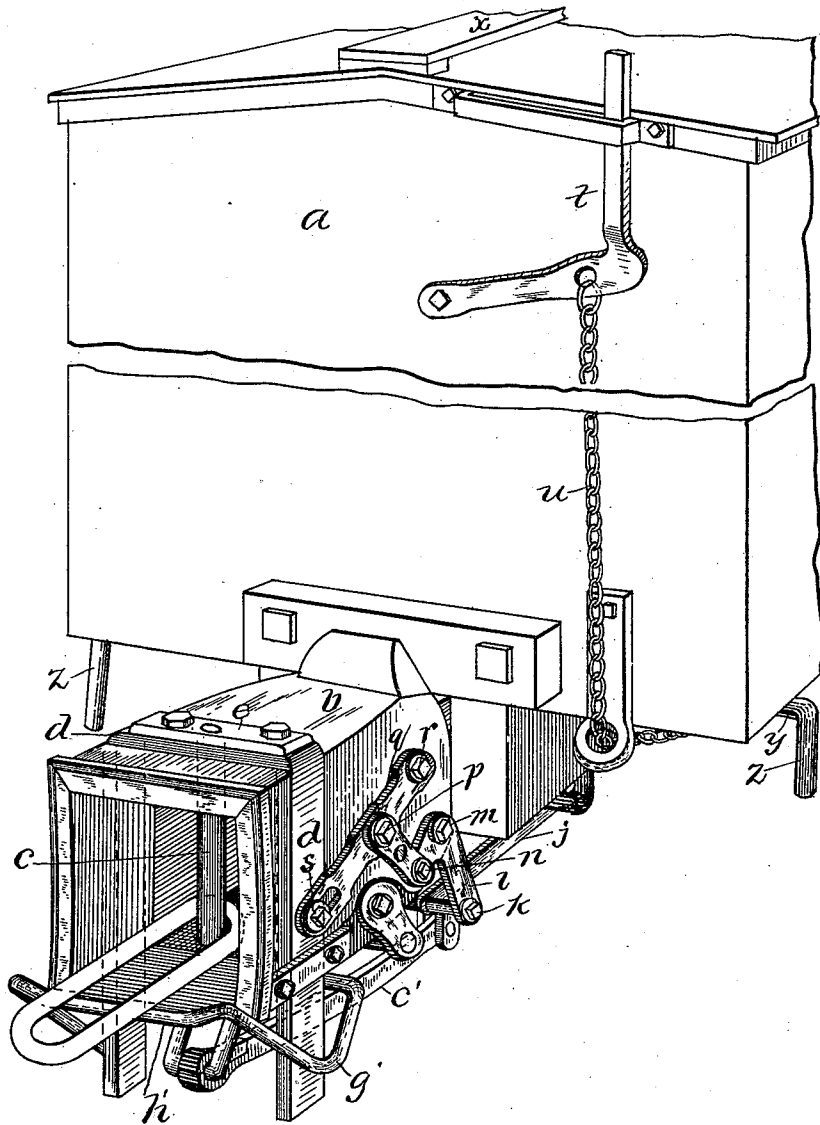
3 Sheets—Sheet 1.

H. R. DORE.
CAR COUPLING.

No. 473,213.

Patented Apr. 19, 1892.

FIG. 1.



WITNESSES:

A. D. Harrison.
Miner and Jackson

INVENTOR:

H. R. Dore,
By *Night, Brown & Hensley,*
Attys.

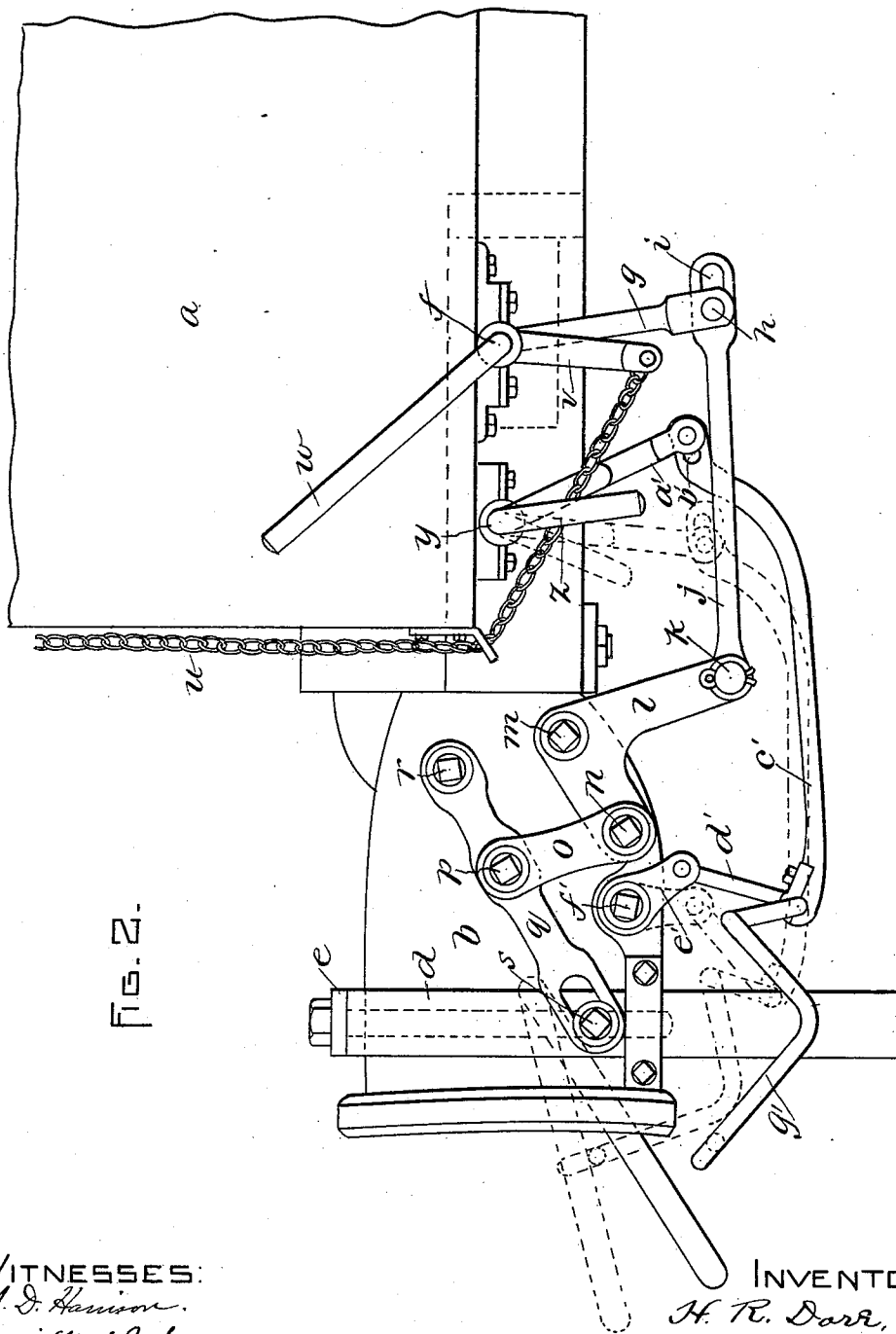
(No Model.)

3 Sheets—Sheet 2.

H. R. DORE.
CAR COUPLING.

No. 473,213.

Patented Apr. 19, 1892.



WITNESSES:

A. J. Harrison.
Minnie Ward Jackson.

INVENTOR:

H. R. Darr,
by
Nigh, Brown & Croasley,
Attys.

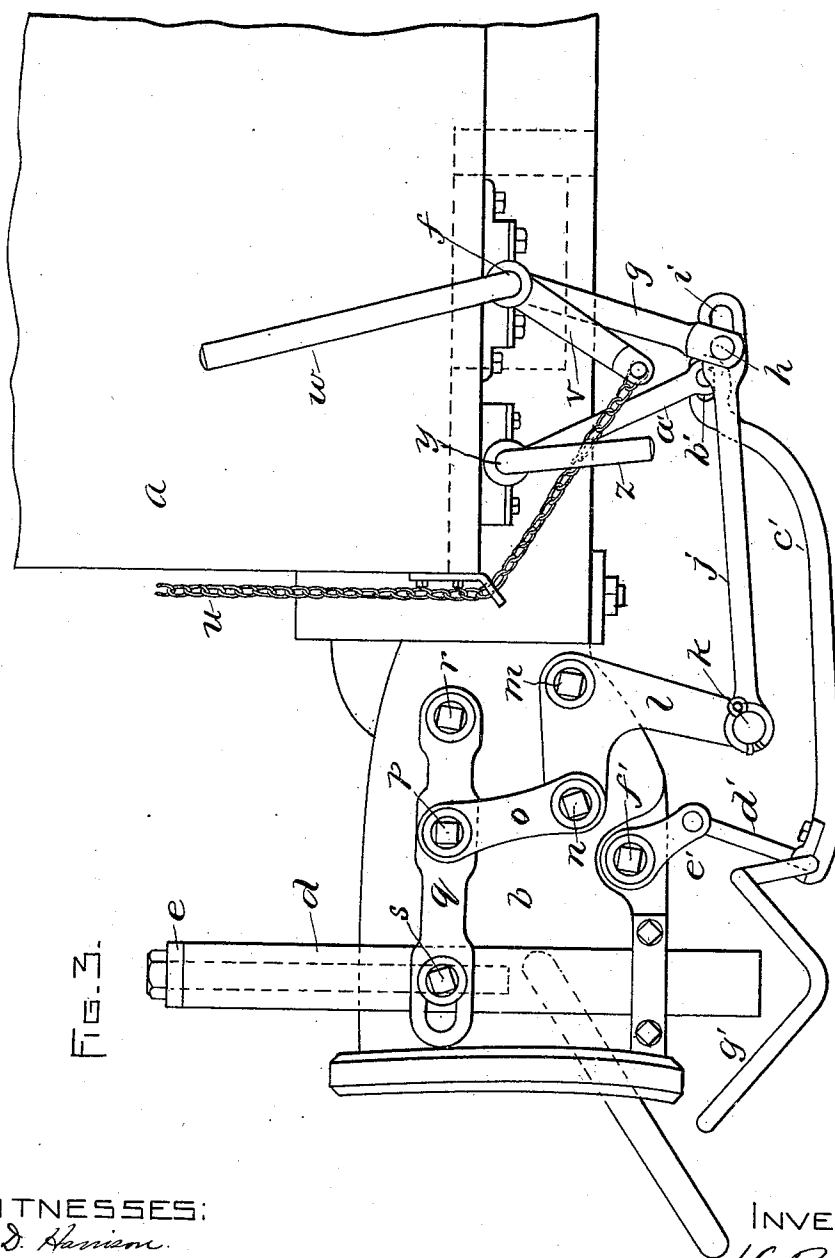
(No Model.)

3 Sheets—Sheet 3.

H. R. DORE.
CAR COUPLING.

No. 473,213.

Patented Apr. 19, 1892.



WITNESSES:
A. D. Harrison.
Minnie Lard Jackson.

INVENTOR:

H. R. Dorr.

by
Might, Brown & Crossley,
2 " Attys.

UNITED STATES PATENT OFFICE.

HERMAN R. DORE, OF OSS�PEE, NEW HAMPSHIRE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 473,213, dated April 19, 1892.

Application filed December 8, 1891. Serial No. 414,391. (No model.)

To all whom it may concern:

Be it known that I, HERMAN R. DORE, of Ossipee, in the county of Carroll and State of New Hampshire, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention has relation to what are commonly known as "link-and-pin" car-couplings; and its object is to provide means whereby the link may be raised in order to be guided into an opposite draw-head in position to receive the pin, and whereby, also, the pin may be raised and lowered to uncouple and couple cars without the necessity of the brakeman going between the cars.

The invention consists in providing a rock-rod arranged in bearings beneath the car-body and connected by means of a link or pitman with levers supported and fulcrumed on the draw-head and arranged to operate a vertically-sliding yoke with which the coupling-pin is connected, in order to raise and lower the same to uncouple and couple cars.

My invention also consists in combining with the above a lever fulcrumed on the front of the car-body and extending to the top of the same, which lever is connected by means of a chain or other suitable appliance with the aforesaid rock-rod, whereby the coupling-pin may be operated by an attendant on the running-board on top of the car.

My invention also consists of a rock rod arranged in bearings under the car and connected by means of a link or pitman with a frame pivoted upon the draw-head, so that the said frame may be swung upward to engage the link in order to raise and guide it into the draw-head of the opposite car.

My invention also consists in so constructing the connections between the rock-rods before mentioned and the means connected with the draw-head for operating the pin and link that the longitudinal movement of the draw-head independent of the car will not injure or in any way affect the aforesaid appliances for actuating the link and pin.

My invention also consists of improved means for connecting the pins with the aforesaid sliding yoke, so that an ordinary pin may be readily attached to the yoke and discon-

nected therefrom in case of breakage or for purposes of repair.

I will now proceed to describe my invention having reference to the accompanying drawings, and letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

In the said drawings, Figure 1 is a perspective view of the front portion of a box-car and draw-head having my improvements applied thereto. Fig. 2 is a side elevation of the same, showing in full and dotted lines different positions of the means for raising the link, as before mentioned. Fig. 3 is a side elevation of my improvements, showing the means for actuating the pin in a different position from that in which it is represented in Fig. 2.

In the drawings, *a* designates the car-body, *b* the draw-head which, as usual, may be permitted to have a limited longitudinal movement in its bearings underneath the car.

c designates the coupling-pin arranged in the draw-head in the usual way and extending through the top of the yoke *d*, which is arranged astride of the draw-head, as shown, and provided with bearings so as to be movable vertically on the draw-head. The head (not shown) of the coupling-pin *c* rests upon the top of the yoke *d*, and is held in place thereon by a plate *e*, which is secured to the top of the yoke *d* by means of screw-bolts, as shown.

f designates a rock-rod arranged in bearings beneath the car-body and provided with an arm *g*, extending down therefrom, which arm may be connected with the rock-rod *f* in any suitable way or form an integral part thereof.

h designates a pin or pivot arranged in the lower end of the arm *g*, so as to operate in a slot *i*, formed in the inner end of the link-rod *j*, which is at its outer end, as at *k*, pivotally connected with the end of the bell-crank lever *l*, pivoted at *m* upon the draw-head. The other arm of the said bell-crank lever is pivotally connected, as at *n*, with a link *o*, which is pivotally connected at its upper end, as at *p*, with a lever *q*, pivoted at its inner end, as at *r*, upon the draw-head, and loosely connected at

its outer end, as at *s*, with the vertically-sliding yoke *d*. The slot *i* in the inner end of the rod *j* is for the purpose of permitting a longitudinal play of the said rod without affecting the position of its connections, the said slot being coextensive, or thereabout, with the longitudinal movement of the draw-head *b* in its bearings connected with the car-body.

t designates a lever fulcrumed upon the front end of the car *a* and having its free end extending to or above the top of the same. Connected with the said lever *t* is a chain or similar device *u*, which extends within suitable guides to and under the car-body, being connected at its lower inner end with an arm *v*, which is connected with or may form an integral part of the rock-rod *f*, similar to arm *g*.

The operation of the parts so far explained may be described as follows: Supposing the vertically-sliding yoke to be down, as represented in Fig. 1, and to be in coupled position with the coupling-link, and it is desired to raise the said yoke and pin in order to uncouple the car, the operator, taking hold of the angular projection *w* of the rock-rod *f*, may move the same from the position in which it is represented in Fig. 2 to that in which it is represented in Fig. 3, moving arm *g* forward and actuating the rod *j*, bell-crank lever *l*, link *o*, and lever *q*, so as to cause them to assume the position, as is represented in Fig. 3, raising the yoke *d* and connected coupling-pin and releasing the link. This operation may take place providing the brakeman is on the ground at the side of the car. Supposing, however, that he is on the running-board and desires to uncouple the car from an adjacent car; he would then take hold of the lever *t* and raise the same so as to draw on chain *u*, moving the arm *v* of rock-rod *f* from the position in which it is represented in Fig. 2 to that which is shown in Fig. 3. In order to couple the cars or to lower the pin *c*, a reverse movement of the rock-rod *f* may be had.

y designates a rock-rod pivoted in bearings beneath the car-body similar to that in which the rock-rod *f* is supported, and is provided with an angular part or crank *z*. The said rock-rod *y* is provided with an arm *a'*, which at its lower end is pivoted in a slot *b'*, formed in the inner end of a connecting-rod *c'*, the outer end of which rod is pivotally connected by means of a link *d'* with an arm *e'*, pivotally connected, as at *f'*, upon the draw-head. The said rod *c'* is provided at its forward end with a frame *g'*, which extends forward on opposite sides of the draw-head and upwardly toward the front end thereof, as shown.

The cross-bar *h'* on the forward part of the frame *g'* is so constructed as that when the frame is moved through the medium of the rock-rod *y* and its connections from the position in which it is represented in the full

lines in Fig. 2 to the dotted-line position in the same figure, it will engage the link held by the pin and raise it from a pendent position to a substantially horizontal position, as shown, so that the link may enter the draw-head of an opposite car to receive the coupling-pin. The said link-raising frame *g'* may be operated through the medium of the angular part *z* of the rod *y*, similar to the operation of the vertically-sliding yoke through the medium of the angular part *w* of rock-rod *f*, all as will be understood without further description.

By the means before described it will be seen that my improvements provide means whereby a brakeman or other operative may readily couple and uncouple cars and control the position of the link without the necessity of going between the cars and subjecting himself to the dangers incident thereto.

It is obvious that changes may be made in the form and arrangements comprising my improvements without departing from the nature or spirit of the invention.

Having thus described my improvements and explained a way of constructing and using the same, I declare that what I claim is—

1. The combination, with the draw-head, of a rock-rod arranged in the bearings beneath the car-body, a vertically-movable yoke on the draw-head, the coupling-pin connected with said yoke, levers fulcrumed on the draw-head and connected with said yoke, and a link-rod *j*, connecting the said levers with the said rock-rod, as set forth.

2. The combination, with the draw-head, of a rock-rod arranged in the bearings beneath the car-body, a vertically-movable yoke on the draw-head, the coupling-pin connected with said yoke, levers fulcrumed on the draw-head and connected with said yoke, a link-rod *j*, connecting the said levers with the said rock-rod, a lever fulcrumed on the car-body having its free end extended above the top of the same, and a chain connecting the said lever with the said rock-rod, as set forth.

3. The combination, with the draw-head, of a rock-rod arranged in bearings beneath the car-body, a frame adapted to be swung from beneath the draw-head upward in front of the same to lift the link, arms *e'*, pivoted at their upper ends upon the draw-head, links *d'*, supporting the frame from said arms *e'*, arms *a'*, connected with the rock-rod, and pitmen or rods *c'*, connecting the arms *a'* with the link-lifting frame, as described.

4. The combination, with the draw-head, of a rock-rod arranged in bearings beneath the car-body, a vertically-movable yoke on the said draw-head, the coupling-pin connected with said yoke, levers fulcrumed on the draw-head and connected with the said yoke, and a link-rod connecting said levers with the said rock-rod, connections between the said link-

rod and the rock-rod being loose to permit a limited longitudinal movement of the draw-head independent of the rock-rod, as set forth.

5 The combination, with the draw-head, of the vertically-sliding yoke, the coupling-pin extending through said yoke and draw-head, the head of said pin resting on said yoke, and a plate removably secured to the yoke and covering the head of the pin, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 17th day of November, A. D. 1891.

HERMAN R. DORE.

Witnesses:

ARTHUR W. CROSSLEY,
A. D. HARRISON.