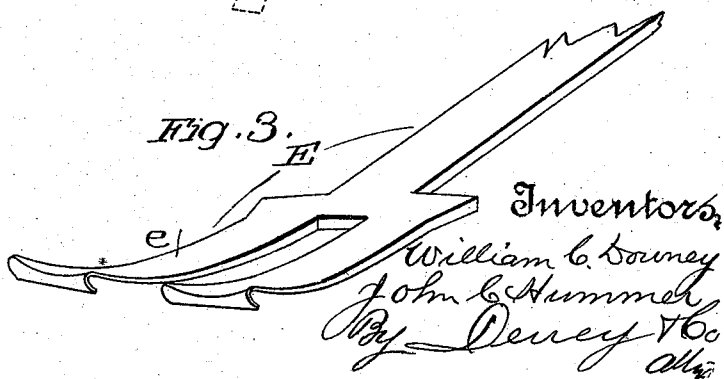
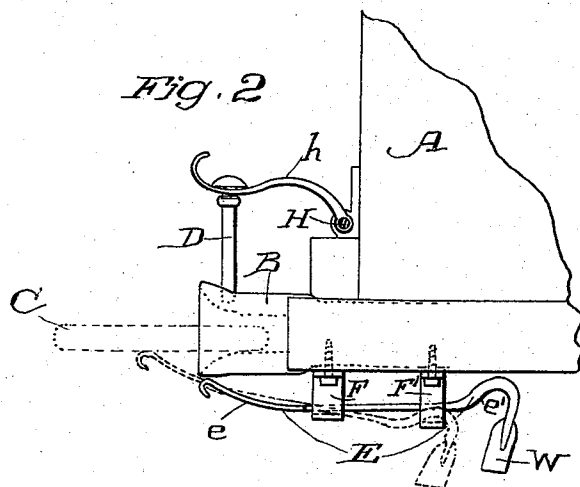
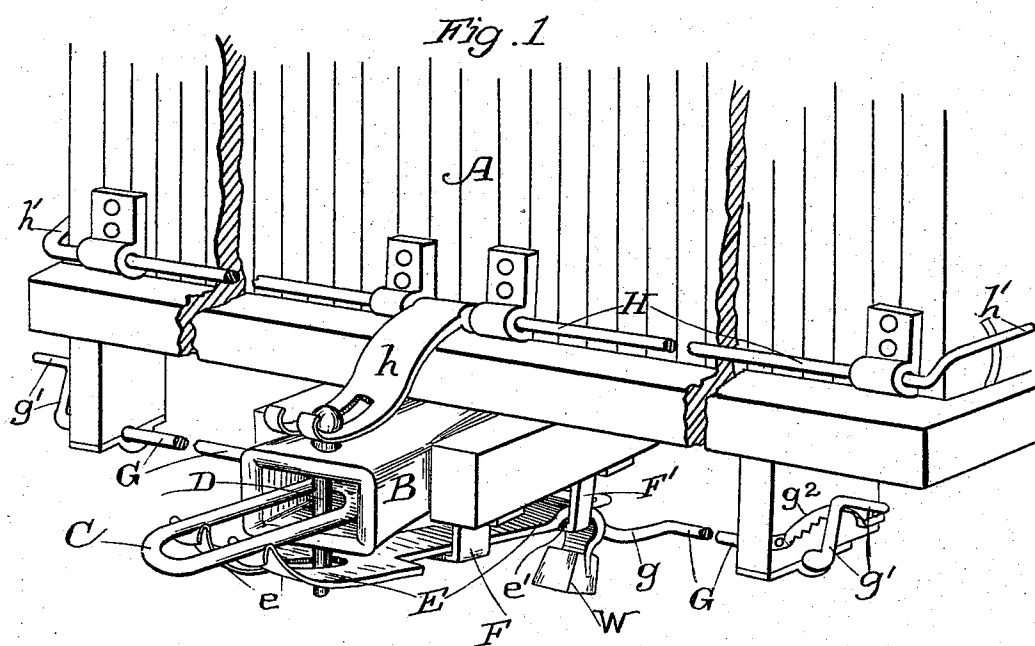


(No Model.)

W. C. DOWNEY & J. C. HUMMER.
CAR COUPLING.

No. 532,315.

Patented Jan. 8, 1895.



Witnesses,
St Anne
J. A. Bayless

Inventors,
William C. Dorney
John C. Hammer
By Devey & Co
Attys

UNITED STATES PATENT OFFICE.

WILLIAM CHARLES DOWNEY AND JOHN CHARLES HUMMER, OF BISHOP,
ASSIGNORS OF ONE-THIRD TO W. M. RICHARDS, OF KEELER, CALIFORNIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 532,315, dated January 8, 1895.

Application filed November 12, 1894. Serial No. 528,463. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM CHARLES DOWNEY and JOHN CHARLES HUMMER, citizens of the United States, residing in Bishop, county of Inyo, State of California, have invented an Improvement in Car-Couplings; and we hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to that class of car couplings in which the old style link and pin are used, in connection with means, controllable from the side or top of the car, for lifting and dropping the coupling pin, and for adjusting, leveling and guiding the link into the opposing draw-head chamber.

Our invention consists in the novel construction and arrangement of the link adjuster and the connections for actuating it, and also in combination with the coupling, the novel means for operating the coupling pin, all of which we shall, hereinafter, fully describe and specifically claim.

The object of our invention is to provide simple, effective, durable and easily operated means for raising and lowering the coupling pin, and for properly and accurately adjusting, leveling and guiding the link in the act of coupling; all operations being performed from the side or top of the car, thus obviating the necessity and avoiding the danger of going between the cars, to couple or uncouple, and the operation of adjusting the link being had by means which, from the nature of their construction and the mode of their operation, are not likely to jam or cramp.

Referring to the accompanying drawings for a more complete explanation of our invention,—Figure 1 is a perspective view of our car coupling. Fig. 2 is a side elevation. Fig. 3 is a perspective view of the link adjuster E.

A shows the end of a car, to which is attached, in the usual manner, the draw-head B, having the usual coupling link C and coupling pin D. Directly under the draw-head lies the link adjuster E. This consists of a sufficiently heavy piece or plate, the outer end or head *e* of which is of about the same width as that of the draw-head, and is slotted or forked to pass freely by the projecting lower extremity of the pin D. The adjuster head

e also bends upwardly to the forward edges of its forks, said edges being slightly concaved on top to form a bed or resting place for the link sides, and being also bent downwardly slightly to form a finishing lip or front. The body or shank of the adjuster E is supported upon and is freely movable lineally within a stirrup F and a second stirrup F' secured under the guide timbers of the draw-head. The rear end of the shank or body of the adjuster is formed or provided with an upward bend or deep groove *e'*, and the extremity is weighted as shown at W. Now, by reason of this construction and the free hanging of the adjuster in the stirrups, it results that when the adjuster is forced forward, the bend or groove *e'* at its rear end will drop down upon the rear stirrup F', the weight at said end thus causing the forward end or head *e* of the adjuster, as it moves forwardly, to rise up under the link, and to lift and hold it level, the amount of movement of the adjuster being properly determined primarily. Upon forcing the adjuster back again, its head moves downwardly and backwardly, the bend or groove at the rear rising from the stirrup, until the whole adjuster lies upon and hangs in its stirrups in a substantially horizontal position. Therefore, in operation, the adjuster is moved forward lineally, until its weighted rear end, dropping down upon the rear stirrup, its forward end is raised up under the link to level it. It holds the link thus and guides it in the act of coupling until, the opposing draw-head, coming in contact with the adjuster, the latter is moved back lineally until its head lies under the draw-head, out of the way. In these movements of the adjuster there is no tendency to cramp or bind, there being only the simplest forward and backward movement, during which, on account of the shape, and of the hanging of the adjuster, the head of the latter, moving forward, rises up, to lift the link, and moves down again, to clear the draw-head, in withdrawing.

Any suitable connections may be had by which to move the adjuster lineally, but in order to prevent any possible cramping we have the crank *g* on the shaft G. This crank merely bears behind the weighted rear end

of the adjuster, and by its impingement forces the adjuster forward, and then relieves it, so that it may be moved back again, by the contact of the opposing draw-head. The crank shaft G is suitably mounted under the car and its ends are formed with cranks g' which are in convenient position to be operated from the sides of the car. It is best that these cranks lie wholly within the plane of the sides of the car so that they will be out of the way and will not be liable to be displaced by contact with anything; and to better hold them in the position to which they are to be adjusted, they may work in proper racks, such as g^2 .

Across the end of the car and mounted in suitable bearings, is a rock shaft H to which, about its center, is attached a crank arm h , the forward end of which is forked and upturned and is adapted to engage the head of the coupling pin D. The ends of the rock-shaft H are provided with cranks h' by which it is operated, whereby, through the central crank h , the coupling pin may be raised and lowered. The cranks h' are adapted to be operated from the sides of the car, though it is obvious in this case, as well as with the shaft G below, that suitable connections may be had with said shafts, by which they may be operated from the top of the car.

The object of slotting or forking the forward end of the adjuster E and the forward end of the pin lifting crank h is to permit the proper longitudinal movement of the draw-head of the coupling. This is necessary, because both the adjuster and the crank arm are not connected with the draw-head, but as they are either connected with or in close proximity to the coupling pin which moves with the draw-head it is necessary that they be so constructed as to permit the independent movement of the latter. This connection is also a loose enough one to provide for the lateral play of the draw-head. The slot in the crank arm h also provides for the movement of said crank arm through an arc of a circle in rising and falling, while the coupling pin which it raises, moves up and down in a straight line, for the reason that as the arm and pin rise, the head of the pin slips down to the base of the fork of the arm, and out again, as it is lowered. The slot or fork in the adjuster below will also provide for the drawing out of the draw-head or its carrying away without affecting the adjuster.

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

1. In combination with the coupling link of a car coupling, a means for leveling and guiding the link consisting of a freely-suspended longitudinally-slidable piece or plate having its forward end upturned and its rear portion weighted, said piece or plate being mounted in suitable bearings and having a bend or deep groove at its rear whereby when

the adjuster is moved forward its bent or grooved portion enables its weighted rear end to drop and thereby elevate the front end, and means for moving the adjuster forward.

2. In combination with the coupling link of a car coupling, an adjuster for leveling and guiding said link, consisting of a plate or piece suspended freely from the car under the draw-head and adapted to move back and forth in a plane parallel with the length of the draw-head, said plate having a head on which, when projected beyond the draw-head, the link is adapted to lie and a weighted rear end adapted when the adjuster is moved forward to cause its head to rise up under and support the link, and means operative from the outside of the car for forcing the adjuster forward, consisting of a shaft having a crank adapted to impinge against the weighted rear end of the adjuster.

3. In combination with the coupling link of a car coupling, an adjuster for leveling and guiding said link, consisting of a plate or piece suspended freely from the car under the draw-head and adapted to move back and forth in a plane parallel with the length of the draw-head, said plate having a head on which, when projected beyond the draw-head, the link is adapted to lie and a weighted rear end adapted, when the adjuster is moved forward, to cause its head to rise up under and support the link, and means operative from the outside of the car for forcing the adjuster forward, consisting of a shaft having a crank adapted to impinge against the weighted rear end of the adjuster, said shaft having end cranks for operating it which lie within the plane of the sides of the car.

4. In combination with the coupling link of a car coupling, an adjuster for said link consisting of the plate or piece suspended or hung from under the car directly under the draw-head and adapted to move back and forth in the direction of the length of the car, said plate having the forward end or head upon which, when projected and elevated, the coupling link is adapted to lie, and the bend or groove at its rear end and weight at the extremity thereof, whereby when moved forward said rear extremity drops down and elevates its forward end or head, and means operative from the outside of the car for moving the adjuster plate or piece forwardly.

5. In combination with the coupling link of a car coupling, an adjuster for said link consisting of the plate or piece suspended from under the car directly under the draw-head and adapted to move back and forth in the direction of the length of the car, said plate having the forward end or head upon which, when projected and elevated, the coupling link is adapted to lie, and the bend or groove at its rear end and weight at the extremity thereof, whereby, when moved forward, said rear extremity drops down and elevates its forward end or head, and means

operative from the outside of the car for moving the adjuster plate or piece forwardly, consisting of a shaft having the central crank impinging against the rear end of the adjuster plate.

5 6. In combination with the coupling link of a car coupling, an adjuster for said link consisting of the plate or piece suspended from under the car directly under the draw-head and adapted to move back and forth in the direction of the length of the car, said plate having a forked or slotted forward end or head playing by the coupling pin and upon which, when projected and elevated, 10 the coupling link is adapted to lie, and the bend or groove at its rear end and weight at the extremity thereof, whereby when moved forward said rear extremity drops down and elevates its forward end or head, and means

operative from the outside of the car for moving the adjuster plate or piece forwardly. 20

7. A car coupling consisting of the draw-head with its link and pin, the lineally movable link adjuster suspended under the car, with its forward end adapted to project and 25 rise up under the link and its rear end grooved and weighted to automatically lift its forward end, a crank shaft for operating said adjuster, the rock-shaft on the end of the car and the crank arm of the rock-shaft forked 30 or slotted over the coupling pin.

In witness whereof we have hereunto set our hands.

WILLIAM CHARLES DOWNEY.

JOHN CHARLES HUMMER.

Witnesses:

GEO. L. ALBRIGHT,

B. F. SCOTT.