(No Model.)

R. CLINTON.

CAR COUPLING.

No. 457,108. Patented Aug. 4, 1891.

Fig. 1.

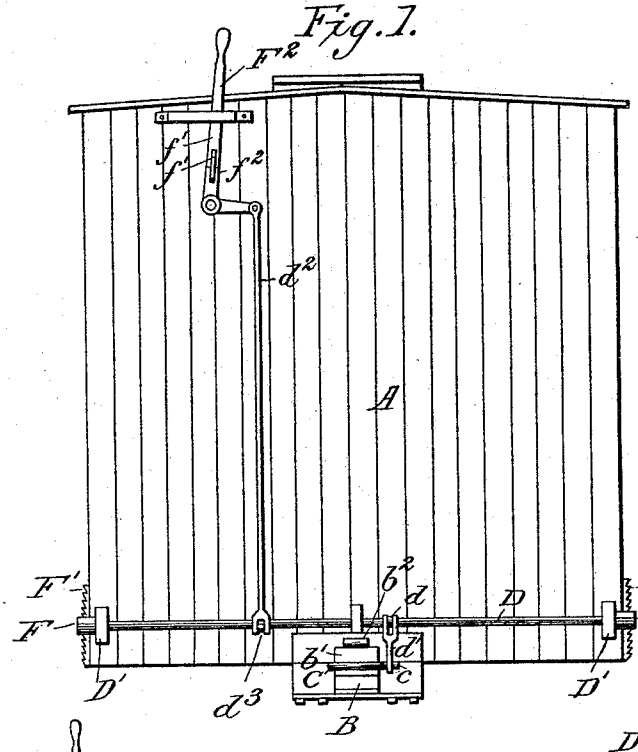


Fig. 2.

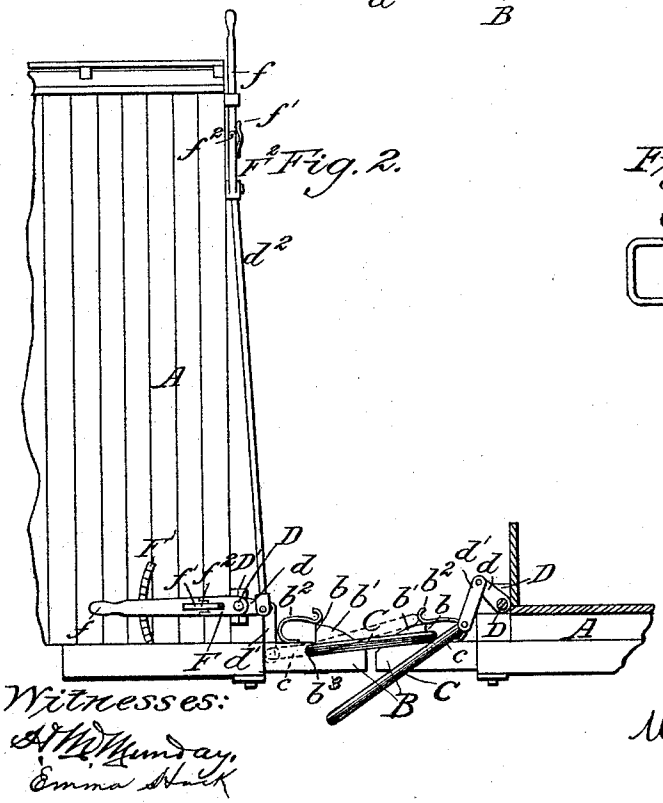
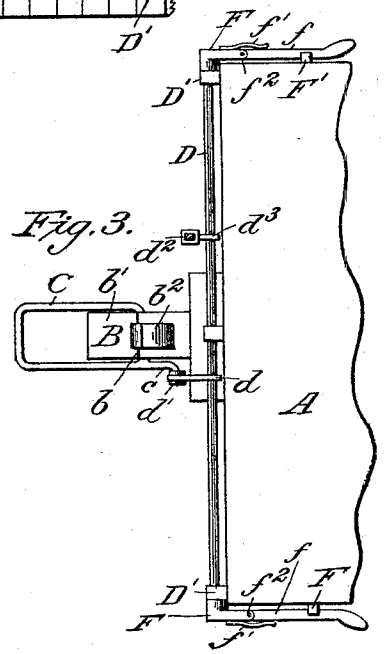


Fig. 3.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RICHARD CLINTON, OF PORTLAND, OREGON.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 457,108, dated August 4, 1891.

Application filed March 20, 1891. Serial No. 385,834. (No model.)

To all whom it may concern:

Be it known that I, RICHARD CLINTON, a citizen of the United States, residing in Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Improvement in Car-Couplers, of which the following is a specification.

My invention relates to car-couplers.

The object of my invention is to provide a cheap, simple, durable, strong, and efficient coupler which may be operated without endangering life by getting between the cars.

To this end my invention consists, primarily, in connection with a draw-bar furnished with a hook or an inclined surfaced or curved projection, of a coupling-link fitting astride the draw-bar and furnished with an operating arm or lever for tilting and holding it in proper position to ride over and engage the corresponding hook or inclined surfaced projection on the draw-bar of the adjacent car to be coupled. The operating-arm of the coupler-link is actuated by suitable connecting mechanism from the side or top of the car, so that the cars may be coupled or uncoupled without any necessity for getting between the cars. The draw-bars of all the cars are made alike, and the draw-bars at each end of every car are furnished each with a coupler-link and the mechanism for actuating it. Only one of the coupler-links is used at a time, the other hanging idly. The draw-bars are also furnished with a device, preferably a spring, for holding the links in place or in engagement with the hook or projection on the draw-bar. The connecting mechanism for actuating the operating arm or lever of the pivoted link preferably consists of a rock-shaft extending transversely across the end of the car and provided with an arm or projection connected by a pitman with the operating-arm of the link and having an operating arm or lever at each side of the car for rotating the rock-shaft. The rock-shaft is further provided with another arm or lever connected by a pitman or link with a bent lever at the top of the bar. By this means the coupling-link may be operated from either side of the car or from the top thereof, as convenience may require.

My invention further consists in the novel devices and novel combinations of parts and devices herein shown and described, and more particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is an end view of a car equipped with my invention. Fig. 2 is a side elevation partly in section, and Fig. 3 is a plan view.

In the drawings, A A represent portions of cars to be coupled, and B B are the draw-bars thereof. Each draw-bar B is furnished with a coupling projection or hook *b*, having an inclined or curved surface or nose *b'* to adapt the end of the link to ride up or over the same as the cars A A come together. The coupler draw-bar B is further provided with a device or spring b^2 for holding the link in place in engagement with the hook or projection *b* and to prevent the link bouncing out.

C is the coupler-link, preferably made of wrought-iron. It fits astride the draw-bar B of the coupler and is adapted to engage at each end the hook or coupling projection *b* on the draw-bars B B. The link C is provided with an operating arm or lever *c*, preferably made integral with the link or welded thereto, and by which the link C is tilted and held in proper position to strike the inclined or curved surface *b'* of the hook *b* as the cars come together, so that the link will ride over and engage the hook *b*. This same arm or lever *c* also serves to elevate the link into the position indicated in dotted lines in Fig. 2 to uncouple the cars.

Each of the draw-bars B is provided with a lever-armed link C, one of the links C hanging idly down, while the other is in use. By providing the draw-bar at each end of each car with a coupling-link C the cars may be coupled indiscriminately, either end to. The coupler-links C, through their operating-arms *c*, are actuated by a rock-shaft D, journaled in suitable bearings D', secured to the end of the car, and which is furnished with an arm or projection *d*, connected by a pivoted link or pitman *d'* with the operating-arm *c* of the link C.

The rock-shaft D extends across the end of the car and is furnished with a crank or operating lever F. The lever F is held in position by a rack or comb F', secured to the side

of the car. The lever F, or the portion *f* of it which engages the rack F′, is adapted to have a slight lateral movement to permit the necessary rotary movement of the lever F and rock-shaft D as the link C rides over the inclined surface *b′* of the hook *b* on the draw-bar. To provide for this necessary lateral movement I preferably provide the lever with a jointed section, as *f*, which engages the rack F′. A spring *f′* holds the jointed portion *f* of the lever out of engagement with the teeth of the rack F′ when it has been once released therefrom by the pivotal movement of the link C as it rises on the angle *b′* of the draw-bar. The spring *f′* is placed over the joint f^2 of the lever F in such manner as to hold the part *f* of the lever from the rack F′ when it is once disengaged from the rack until set again by the operator. The spring *f′* may be of any suitable form or construction, and the joint f^2 or other provision for a slight lateral movement of the lever may of course be located at any convenient point other than that indicated in the drawings—as, for example, at the connection between the lever F and rock-shaft D. The teeth of the rack F′ should be so shaped as to retain or hold the part *f* of the lever in engagement with the rack until the link C strikes the angle *b′* of the draw-bar, and at the same time permit the part *f* of the lever to slide or move out of engagement with the teeth as the rock-shaft D is rotated by the rising of the link C on the angle of the draw-bar B.

To enable the coupler to be operated from the top as well as from either side of the car, I provide a bent lever F^2 at the top, which is connected by a pivoted link or pitman d^2 with an arm or projection d^3 on the rock-shaft D. This lever F^2 is provided with a similar hinged section *f*, spring *f′*, and rack F′.

The operation is as follows: To couple the cars the brakeman or operator from the top or either side of one of the cars, as may be most convenient, turns the operating-lever and sets it in engagement with the rack F′ in such position as to hold the link C of one of the cars in proper position to strike against the angle *b′* of the draw-bar B of the other car as the two cars come together. As the cars come together the end of the link C rides over the angle *b′*, thus turning the link C on its pivot, rotating the rock-shaft D, and thereby releasing the actuating-lever of its movable part *f* from engagement with the rack F′, when the spring *f′* will then hold the part *f* out of engagement with the rack, thus permitting the rock-shaft D to rotate, as required, and the link C to drop down over the hook *b* as the cars continue to approach. As the link C rides over the angle *b′* of the draw-bar it of course lifts the spring b^2. To uncouple the cars the operator, from either side or the top of the car, turns the lever F F or F^2, and lifts the link C into the position indicated in dotted lines in Fig. 2, thus disengaging the link from the hook *b*.

The link C is pivoted to the draw-bar B at one end, the draw-bar being provided with a slot, recess, or hole b^3 to receive the pivot end of the link.

In my invention it will be observed that the end or cross-bar of the link itself forms the pivot upon which the link turns, and that the lever-arm *c* of the link projects from the side or corner of the link and is adapted to fit or work at the side of the draw-bar B.

I claim—

1. In a car-coupler, the combination, with a draw-bar having an inclined or curved surfaced hook or projection, of a coupler-link furnished with an operating arm or lever secured rigidly thereto and projecting from the side or corner of the link, the end or cross-bar of the link forming the pivot on which it turns, and connecting mechanism for operating said coupler-link from the side or top of the car, substantially as specified.

2. The combination, with draw-bar B, furnished with inclined or curved surfaced hook or projection *b*, of coupling-link C, pivoted to said draw-bar and provided with an operating arm or lever *c*, secured rigidly thereto and projecting from the side or corner of the link, the end or cross-bar of the link forming the pivot on which it turns, rock-shaft D, having arm *d*, and a pitman or pivoted link connecting said arms *d* and *c*, said rock-shaft being also furnished with a lever for actuating the same, substantially as specified.

3. The combination, with draw-bar B, furnished with inclined or curved surfaced hook or projection *b*, of coupling-link C, pivoted to said draw-bar and provided with an operating arm or lever *c*, secured rigidly thereto and projecting from the side or corner of the link, the end or cross-bar of the link forming the pivot on which it turns, rock shaft D, having arm *d*, and a pitman or pivoted link connecting said arms *d* and *c*, said rock-shaft being also furnished with a lever for actuating the same, and a device for holding the coupler-link in place over said hook *b*, substantially as specified.

4. The car-coupler device comprising draw-bars B B, each having angle-faced hook *b* and furnished with coupler-links C C, having operating-arms *c c* secured rigidly thereto and projecting from the side or corner of the link, the end or cross-bar of the link forming the pivot on which it turns, substantially as specified.

5. The car-coupler device comprising draw-bars B B, each having angle-faced hook *b* and furnished with coupler-links C C, having operating-arms *c c* secured rigidly thereto and projecting from the side or corner of the link, the end or cross-bar of the link forming the pivot on which it turns, and connecting mechanism for operating said coupler-links from the side of the car, substantially as specified.

6. The car-coupler comprising draw-bars B B, each having angle-faced hook *b* and furnished with coupler-links C C, having oper-

ating-arms *c c* secured rigidly thereto and projecting from the side or corner of the link, the end or cross-bar of the link forming the pivot on which it turns, and connecting mechanism for operating said coupler-links from the top of the car, and springs b^2 for holding said links in place over said hooks, substantially as specified.

7. The combination, with draw-bar B, having angle-faced hook *b*, of coupler-link C, having operating arm or lever *c* secured rigidly thereto and projecting from the side or corner of the link, the end or cross-bar of the link forming the pivot on which it turns, rock-shaft D, furnished with arm *d* and pitman *d'*, an actuating-lever, and a rack for holding the link C in position to couple the cars, substantially as specified.

8. The combination, with draw-bar B, having angle-faced hook *b*, of coupler-link C, having operating arm or lever *c*, rock-shaft D, having arm *d* and pitman *d'*, actuating-lever F, having jointed or movable part *f*, rack F', and spring *f'*, substantially as specified.

9. The combination, with draw-bar B, having angle-hook *b*, of pivoted link C, having operating arm or lever *c*, rock-shaft D, having arm *d*, pitman *d'*, a bent lever at the top of the car, and mechanism connecting said bent lever with said rock-shaft, substantially as specified.

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