

C. W. STILLIANS.
CAR COUPLING.

Patented Aug. 16, 1892.



UNITED STATES PATENT OFFICE.

CHARLES W. STILLIANS, OF PUEBLO, COLORADO, ASSIGNOR OF ONE-HALF TO
ISAAC FREUND, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 481,076, dated August 16, 1892.

Application filed November 11, 1891. Serial No. 411,588. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WESLEY STILLIANS, of Pueblo, in the county of Pueblo and State of Colorado, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The invention relates more especially to couplings for freight-cars; and the object of the invention is to provide a strong and durable coupling which may be operated and controlled without danger of accident to the train-hands and in which further provision is made for elevating or lowering the coupling-link to suit opposing cars and adapt it to the different heights of the draw-heads of such opposing cars.

The invention consists in the novel construction and combination of parts, as hereinafter particularly described, and defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of a part of a freight-car provided with my improved coupling. Fig. 2 is a broken front elevation thereof, the link being in section. Fig. 3 is a bottom plan view of the draw-head only, having my improvements. Fig. 4 is a transverse vertical section on line 2 2, Fig. 3. Fig. 5 is a top plan view. Fig. 6 is a longitudinal sectional elevation, and Fig. 7 is a detail perspective view of the winding-drum and its appurtenances.

The draw-head A of the coupling is formed hollow, as usual, and has a mouth or front opening a for the entrance of a coupling-link B, and at the lower wall of said mouth a central projection a' may be formed for preventing lateral play of the link.

The coupling-hook C is pivoted in a recess a^2 in the top of the draw-head by means of a bolt C' , said recess communicating at its outer end with the interior of the draw-head, and the downwardly-extending end or hook proper c entering the draw-head to engage the link B. A plate-spring C^2 is secured to the top of the draw-head by a screw c' or otherwise and exerts a downward pressure on the hook C to normally project the same into the draw-head,

said spring passing beneath a bridge A' on the draw-head, whereby the spring will strike the bridge when the hook C is raised, as hereinafter described, and relieve the strain on the securing-screw c' .

On top of the hook C at its outer end an eye c^2 is produced for the connection of one end of an operating-chain D, and said chain extends inward and upward to a connection with a winding-drum E, which is keyed on a shaft F, the latter having bearings in brackets and staples f , secured to the car-body.

Suitable pawls and ratchets $G G'$ are provided for retaining the shaft in any desired position, and the shaft is operated to wind or unwind the chain D by a lever-arm F' .

In order that the link B may be adapted to the draw-head of an approaching car regardless of the height of such draw-head, controlling devices are employed for such link. Thus in a vertical recess a^3 in the bottom of the draw-head a hook H is fitted and secured at its lower end to the cranked portion i of a rock-shaft I, the hook being forked at its lower end for the entrance of the shaft and provided with a bolt h for the holding of it in place. Any other connection may be adopted in practice. The rock-shaft I has bearings in straps I' , secured to the under side of the draw-head, and at one end there is formed on or secured to such shaft an operating-arm I^2 , which extends upward along the side of the draw-head. To the outer end of the arm I^2 a chain D' is secured, its other end being secured to the drum E, heretofore mentioned, the winding of the chain on the drum serving to throw the arm I^2 when desired.

The hook proper h' extends forwardly over the position occupied by the inner end of a link B when the latter is in the draw-head, and when the shaft I is so rocked as to cause the hook H to move downward in the recess a^3 its end h' will bear down on the inner end of the link B, raising the outer end to the desired height or inclination to enter the opposing draw-head. When the hook H is raised, the outer end of the link B falls and will thus enter a lower opposing draw-head.

In connection with the arm I^2 of the rock-shaft a spring J is employed for returning

the said arm and rock-shaft and the hook H to the normal position, said spring surrounding a rod J', which has a longitudinal movement in lugs j on a plate J², which is secured 5 to the side of the draw-head. One end of the rod J' bears against the arm I², and the arrangement is such that when the said arm is thrown to lower the hook H the rod J' is moved longitudinally against the tension of 10 the spring J, compressing the latter, the reaction of the spring returning the parts to the normal position.

In operation the link B in one car is raised or lowered to adapt it to enter the approach- 15 ing draw-head, and it strikes the hook C of the latter, raising the hook until it passes the hook proper c, whereupon the latter will be sprung into the lower normal position and thus couple the cars.

20 The hook C may be held in the raised position to prevent coupling by means of the drum E and chain D.

Having thus described my invention, what I claim as new, and desire to secure by Letters 25 Patent, is—

1. The combination, with a draw-head, of a coupling hook or arm, a normally-elevated vertically-sliding link-tilter in rear of the link-engaging portion of the hook or arm, and 30 mechanism for raising the coupling hook or arm and depressing the link-tilter, substantially as set forth.

2. In a car-coupling, the combination, with a draw-head, of a vertically-movable hook ex- 35 tending therein from the under side, its hook proper projecting forwardly over the position occupied by the ordinary coupling-link, a cranked rock-shaft held to said hook at its

lower end, and an arm for rocking said shaft, substantially as described. 40

3. In a car-coupling, the combination, with the draw-head, of link-controlling devices comprising a hook fitted to slide vertically in said draw-head, its hook proper lying nor- 45 mally within the draw-head over the position occupied by the usual link, a cranked rock-shaft for operating said hook, an arm for rocking said shaft, and a spring for returning the said arm and connected devices to the normal position, substantially as described. 50

4. In a car-coupling, the combination, with the draw-head, of link-controlling devices consisting of a hook held to a cranked rock-shaft and fitted to slide vertically in the draw-head, its hook proper lying therein and ex- 55 tending forwardly over the position occupied by the usual coupling-link, an operating-arm on the rock-shaft, a sliding rod bearing at one end against said arm, a spring on said rod for holding it against the said arm, and 60 a chain and winding-drum for throwing the arm, substantially as shown and described.

5. In a car-coupling, the combination, with the draw-head, of link-controlling devices comprising a vertically-sliding hook in the 65 draw-head, a rock-shaft to which said hook is connected, said shaft having an operating-arm, and a chain and winding-drum therefor, the chain being connected with the arm of the rock-shaft for throwing the same, sub- 70 stantially as described.

CHARLES W. STILLIANS.

Witnesses:

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