(No Model.)

W. F. JULIAN.

CAR COUPLING.

No. 302,259. Patented July 22, 1884.

Fig. 1.

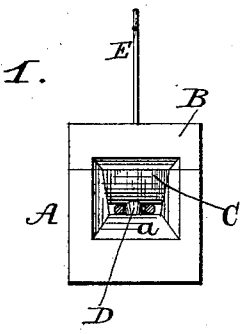


Fig. 2.

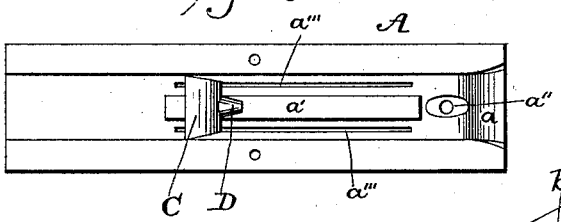


Fig. 3.

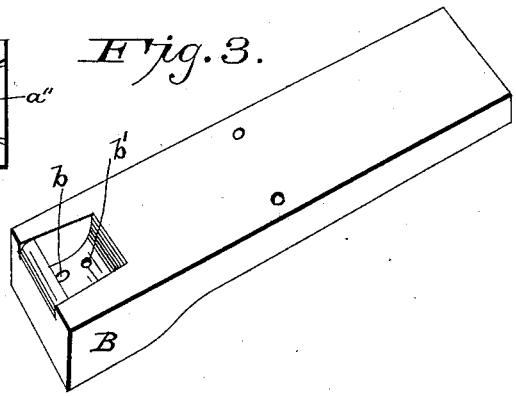
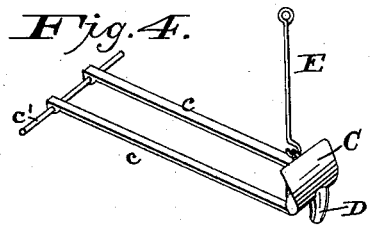


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM F. JULIAN, OF MEDORA, INDIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 302,259, dated July 22, 1884.

Application filed November 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. JULIAN, a citizen of the United States, residing at Medora, in the county of Jackson and State of Indiana, have invented certain new and useful Improvements in Devices for Coupling and Uncoupling Railway Cars and Coaches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to devices for coupling and uncoupling railroad-cars, operated from the platform or top of the car; and its object is to substitute automatic action, so far as is possible, for the manipulation necessary in ordinary devices. This purpose I mainly accomplish by means of a gravity-pawl of peculiar construction operating within the draw-head of the car, and provided with a hook of peculiar form for holding or releasing the coupling-link, as circumstances require.

In the accompanying drawings, wherein like letters refer to like parts, Figure 1 is a view of the forward part of a draw-head, illustrating the bell-shaped mouth of the same, the position of the gravity-pawl when the car is coupled, and the rod for uncoupling the same. Fig. 2 is a top view of the draw-head with the roof removed, showing the internal construction of the same and the construction of the pawl and coupling-hook. Fig. 3 is a perspective view of the inner surface of the roof of the draw-head, showing the recess and apertures hereinafter described; and Fig. 4 is a detached view of the pawl, to better show its construction.

A is the draw-head of a railroad-car, with the mouth *a* flared outwardly, like a bell, to guide the coupling-link properly to the hook. A flat dome, B, is formed upon the forward end of the roof of the draw-head, to permit the hereinafter-described pawl to be lifted sufficiently high for the entrance of the link. A slot, *b*, enables the lifting-rod to be inserted and attached to the pawl. A core or partition, *a'*, is formed upon the inside floor of the draw-head for the purpose of giving strength and steadiness to the arms of the pawl, and the forward end of this core serves as a buffer to the entering link. A recess, *a''*, is formed in the forward part of the floor of the draw-head to receive the coupling-hook when a coupling has been effected. Slots *a'''* are cut through the floor of the draw-head for the insertion of tools, to direct the arms of the pawl to the pivot-holes, and to remove obstructive matter that may get inside the draw-head.

C is a gravity-pawl, with long arms *c*, bent at their ends into round eyes, through which, and through the sides and core of the draw-head, passes the pivot-bolt *c'*. Projecting downward from the face of the pawl is a tapering hook, D, inclined inwardly. Attached to the crown of the pawl is a short rod, E, which passes up through the cap of the draw-head, and may be prolonged by means of a hand rod or chain, to enable the pawl to be lifted from the platform or the roof of a car without any necessity for the operator to get between two cars in the process of uncoupling.

The operation of the coupling mechanism is as follows: The end of a coupling-link is inserted in the mouth of the draw-head and pressed against the convexed face of the pawl, which rises, as does also the convexed hook, till the end of the link has slipped beneath it, when the pawl falls by its own weight, and the link is secured in place. The weight of the pawl and its planed lower surface keeps the link in a horizontal posture, so that when the car is moved against another provided with a similar coupler the coupling is performed automatically. To uncouple two cars it is only necessary for the operator, standing on platform or roof, to raise the rod E till the link is withdrawn. Owing to the tapering shape of the hook D and the ease with which the pawl is lifted, it follows that if (by reason of a car leaving the track and tilting) the link should make a quarter-turn, or more, it would disengage itself from the hook, and the derailed car thus become automatically uncoupled. It results, also, from the convexed surface of the face of the pawl and the ease with which the pawl is lifted that if, by accident, a vertical tendency be given to the link to the extent of about forty-five degrees upward, the link will detach itself, so that if the forward car of two, in case of collision, should be thrown

upon the car next in front, the rear car of the two would become uncoupled, and if the rear car of two should fall through a bridge or trestle it would disengage itself from the car immediately in front. In the event of the breaking of the hook D, an ordinary coupling-bolt can be passed through an aperture, *b'*, in rear of the rod-hole in the dome B, passing down behind the crown and between the arms of the pawl, through the link, and into the recess or socket *a''*, thus serving as a substitute till the hook can be restored. The bolt which pivots the pawl to the side walls of the draw-head is placed near the top of those walls, this being for the purpose of giving the head of the pawl ample up-and-down motion, to respond to the jolting of the train, without uncoupling or breaking the hook.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is the following:

1. In car-coupling mechanism, a gravity-pawl with convexed face and downwardly-projecting and tapering coupling-hook, substantially as herein described, for the purpose of releasing automatically the coupling-link when unduly elevated by accident, as herein set forth.

2. In car-coupling devices, the combination consisting of the herein-described draw-head, mouth, dome, (including its rod-slot and aperture for temporary link-bolt,) core, recess, floor-slots for guiding tools, gravity-pawl, (including its face, crown, and arms,) pivot-bolt, coupling-hook, and lifting-rod, for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM F. JULIAN.

Witnesses:

JOHN ECK,

WARREN WRIGHT.