

(No Model.)

H. G. RUSSELL, Dec'd.

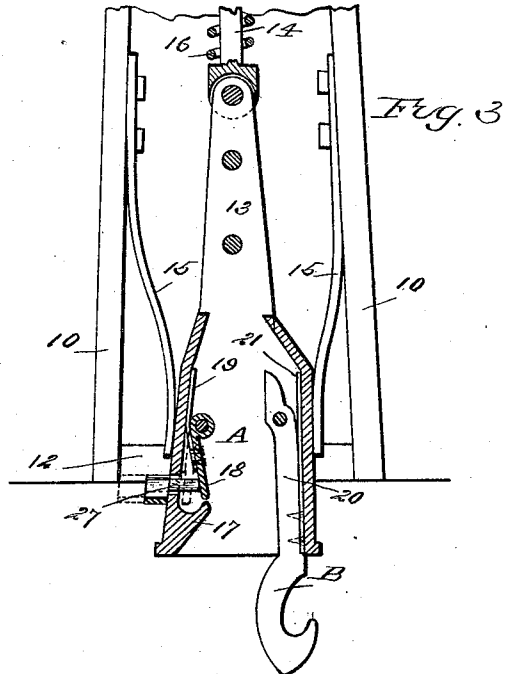
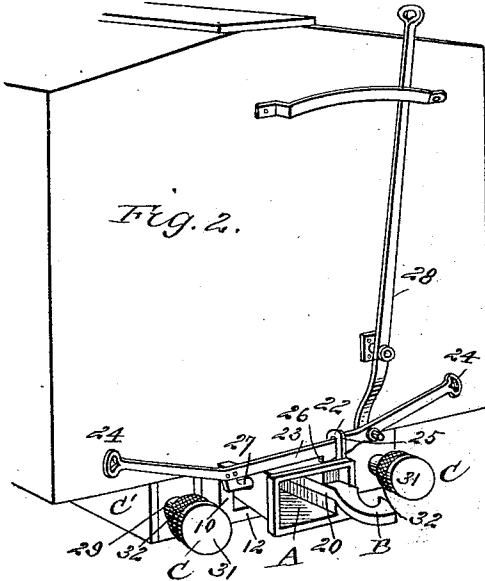
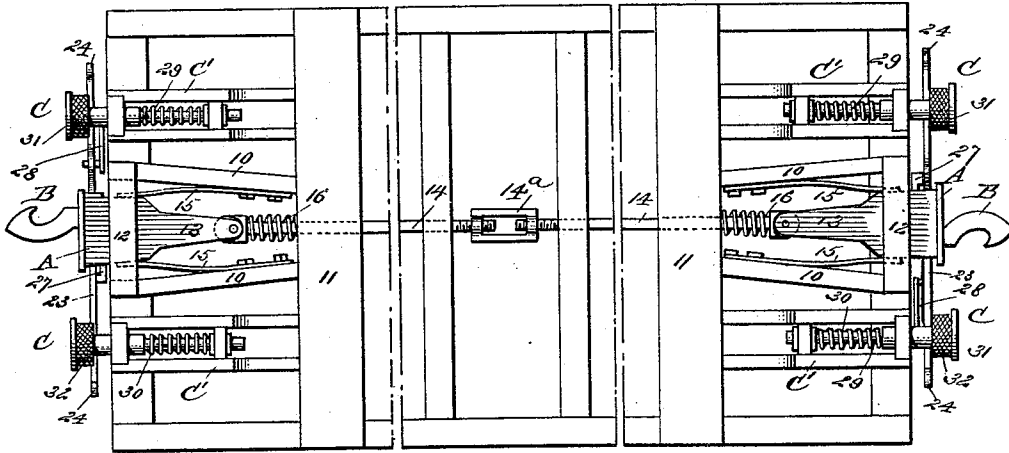
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CAR COUPLING.

No. 461,380.

Patented Oct. 13, 1891.

Fig. 1.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HAMLIN G. RUSSELL, OF LINCOLN, ILLINOIS; DAVID GILLISPIE AND LEWIS J. SIMS, EXECUTORS, AND LYDIA A. RUSSELL, EXECUTRIX, OF SAID HAMLIN G. RUSSELL, DECEASED.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 461,380, dated October 13, 1891.

Application filed September 25, 1890. Serial No. 366,090. (No model.)

To all whom it may concern:

Be it known that I, HAMLIN G. RUSSELL, of Lincoln, in the county of Logan and State of Illinois, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description.

My invention relates to an improved car-coupler, and has for its object to provide a coupler of simple and durable construction capable of an automatic coupling action and of being conveniently and expeditiously uncoupled from the top or from the sides of the car.

A further object of the invention is to provide a means whereby the draw-heads at the ends of a car may be united by a yielding adjustable connection, and also to provide springs, in connection with the draw-bars, capable of performing the dual functions of draw and buffer springs.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is an inverted plan view of a car having the improved form of couplers applied thereto. Fig. 2 is a perspective view of the coupler applied, and Fig. 3 is a horizontal section through one of the draw-heads.

A housing is attached to the bottom of the car at each end, consisting, preferably, of two side beams 10, extending from the sills to the sand-bars 11, the said side beams being secured to the floor-timbers and the sand-bars in any approved manner. The side beams of the housings are connected at their outer ends by a cross bar or beam 12, and the side beams are somewhat diagonally located to render the outer ends of the housings of greater length than the inner ends.

In the forward portion of each housing a draw-head A is located, constructed usually with rearwardly and inwardly tapering sides, and the said draw-head at its inner end is provided with two tail-straps 13, one emanat-

ing from the upper and the other from the lower face of the head. The tail-straps are pivotally connected with the forward end of a draw-bar 14 in such manner as to be capable of lateral movement, and the said draw-bar extends, preferably, through a wear-plate secured to the sand-bar and through or over the sand-bar to a connection with the draw-bar of the draw-head located at the opposite end of the car, which connection is effected by a turn-buckle 14^a or its equivalent. A spring 15, preferably of the plate or strap pattern, is rigidly secured at its rear end to the inner face of each side beam 10 of the housing, and the forward ends of the springs, which are free, are made to engage with the side faces of the draw-head, as is best shown in Fig. 3.

Near the pivotal connection of the draw-bar with the draw-head a shoulder is formed, and a spring 16, which encircles the draw-bar, has a bearing at one end against said shoulder and at its opposite end against the wear-plate of the sand-bar or against the bar itself. It will be readily understood that the construction of the draw-bar and draw-head at each end of the car is identical.

On one inner side surface of the draw-head at its mouth a nose 17 is formed, as is best shown in Fig. 3, its inner side surface being inclined or beveled and the inner end surface concaved. Immediately back of the concaved end of the nose a trip-plate 18 is pivoted at its rear extremity, which trip-plate is practically of a width equal to the height of the chamber in which it is located. The trip-plate is normally held in engagement with the side wall of the draw-head chamber by a spring 19, secured at or near one end to the outer side face of the plate, and bearing at or near its opposite end on the wall of the said chamber back of the fulcrum of the plate, as is best illustrated in Fig. 3. The shank 20 of a coupling-hook B is pivoted preferably within a channel produced in the side of the draw-head chamber opposite the trip-plate, and the shank of the hook is normally retained in engagement with the said side by a spring 21, secured to the shank and bearing on the draw-head side. The hook proper is located outside of the draw-head mouth and faces in

the direction of the side of the car, being adapted to engage with the nose 17 of an opposed coupler.

The joints at the tail-straps of the heads 5 are for the purpose of permitting the heads to automatically adjust themselves to a straight line while the cars are passing around curves. The turn-buckle connection between the opposed draw-bars of a car admits of any 10 desired longitudinal adjustment of the heads and virtually renders the draw-bars continuous, whereby the forward head only draws upon the spring at the rear of the car. The single spring upon each draw-head thus performs the function of a draw and a buffer 15 spring.

When the draw-bars of a car are provided with the yielding connection shown, the coupling-hooks are effectually prevented from becoming uncoupled upon a curve, which action 20 would be likely to take place if the draw-heads could not automatically assume a position practically in horizontal alignment with each other. The side springs of the draw-heads, when the couplers are not over a curve, 25 hold the mouth of the draw-head in a central position between the sides of the car, and when the car is being drawn around a curve, however slight, the springs serve to assist to 30 steady the head in its movement in the direction of either side of the car.

Upon the draw-head at one side a guide-staple 22 is located, and through the staple a trip-bar 23 is made to pass, which bar extends 35 transversely across the upper face of the draw-head and beyond the sides thereof. The outer ends of the trip-bar are preferably slightly upwardly inclined and terminate in loops or eyes 24, which serve as hand-holds 40 to facilitate the movement of the bar from the sides of the car. The trip-bar is provided with an upper shoulder 25 and a lower shoulder 26, the shoulders being located at that portion of the bar which passes through the guide-staple. 45 The lower shoulder 26 is adapted for engagement with one corner of the draw-head and serves to retain the trip-bar in one position, and the upper shoulder retains the bar in another position by engagement with the guide-staple. 50

At one side of the center of the draw-bar an angled pin 27 is attached, the horizontal member of which pin passes through an opening in the side of the draw-head immediately 55 back of the trip-plate 18, with which plate it is adapted to engage. By drawing the bar 23 in the direction of one side of the car, so that the under shoulder 26 engages with one side edge of the draw-head, the pin 27 is carried 60 within the draw-head chamber a sufficient distance to force the trip-plate outward, so that the said trip-plate will cover the cavity in the inner end of the nose 17. The coupler is at this time in an uncoupled position, and 65 the coupling with an opposed coupler cannot be effected, as the link of the opposed coupler

instead of engaging with the nose 17 will slide down the trip-plate 18. When the trip-bar is released from the position above described, the spring 19 back of the trip-plate 70 acts to restore the plate to its normal position, and as the plate moves outward the pin 27 is also carried outward, whereupon the upper shoulder 25 of the trip-bar engages with the guide-staple 22. The coupler is now in position 75 to couple with the opposed draw-head, and the hook of the said draw-head will engage with the nose 17.

To uncouple, the trip-plate 18 is forced inward, which action throws the coupling-hook 80 out of engagement with the nose 17. In order that the cars may be readily uncoupled from the top, a lever 28 is fulcrumed at the end of the car, and the lower end is attached to the trip-bar 23, between its center and one ex- 85 tremity, as shown in Fig. 2. The upper end of the lever 28 extends above the top of the car and terminates in a handle, whereby it may be readily grasped by the operator, lifted, and carried in the direction of the sides of 90 the car. The lever may be readily lifted a sufficient distance to clear the shoulder of the trip-bar 23 from engagement with the draw-head by providing the lever with a slot at its 95 fulcrum.

A buffer C is located at each side of each draw-head. The buffers are held to slide in suitable housings C', and consist of a rod 29, 100 having movement in the housings, the said rod being encircled by a spiral spring 30, forming a cushion therefor, and the outer ends of the rods have heads 31 formed thereon. 105 At the rear of the heads a rubber cushion 32 is secured, and thus should the shock in coupling be greater than the springs 30 can sustain, the rubber cushions 32 will act and effectually prevent the opposed draw-heads 110 from coming in too forcible engagement. The buffers are preferably so located that they occupy a position one at each side of the draw-head housing immediately over the tracks.

Having thus described my invention, I claim as new and desire to secure by Letters Patent— 115

1. In a car-coupling, the combination, with a draw-head provided with the nose 17, of the pivoted and spring-pressed plate 18, the pin 27, projecting into the draw-head and engaging the said plate, the trip-bar 23, provided with shoulders 25 and 26, and the guide-staple 22 on the draw-head, substantially as herein shown and described. 120

2. In a car-coupling, the combination of a pivoted draw-head provided with a hook-like extension or nose on one side, and a coupling-hook pivoted in the draw-head on the side opposite the hook-like extension, substantially as described. 125

3. In a car-coupling, the combination of a pivoted and spring-pressed draw-head having a hook-like extension or nose on one side, 130

and with a channel in its opposite side, and a coupling-hook pivoted in the said channel, substantially as described.

4. In a car-coupling, the combination, with
5 a housing, of a draw-head pivoted in the housing and having a hook-like extension or nose on one side, springs secured to the housing and engaging the draw-head, a coupling-hook pivoted in the side of the draw-head opposite
10 the hook-like extension or nose, and a spring secured to the coupling-hook and engaging the draw-head, substantially as herein shown and described.

5. In a car-coupling, the combination, with
15 housings at opposite ends of the car and adjustably-connected and yielding draw-bars projecting into the housings, of draw-heads pivoted to the ends of the draw-bars and having hook-like extensions on one side, springs
20 engaging opposite sides of the draw-heads,

and pivoted and spring-pressed coupling-hooks in the draw-heads opposite the hook-like extensions, substantially as herein shown and described.

6. In a car-coupler, the combination, with 25
a draw-head provided with a hook-like extension upon one side wall near the mouth, of a spring-pressed trip-plate pivoted at the rear of the extension, a spring-pressed coupling-
hook pivoted opposite the trip-plate, a trip- 30
bar capable of lateral movement above the draw-head, and a pin projected downward from the trip-bar adapted to engage with the trip-plate, substantially as shown and described.

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Witnesses:

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