

(No Model.)

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J. S. PEACOCK.

CAR COUPLING.

No. 346,171.

Patented July 27, 1886.

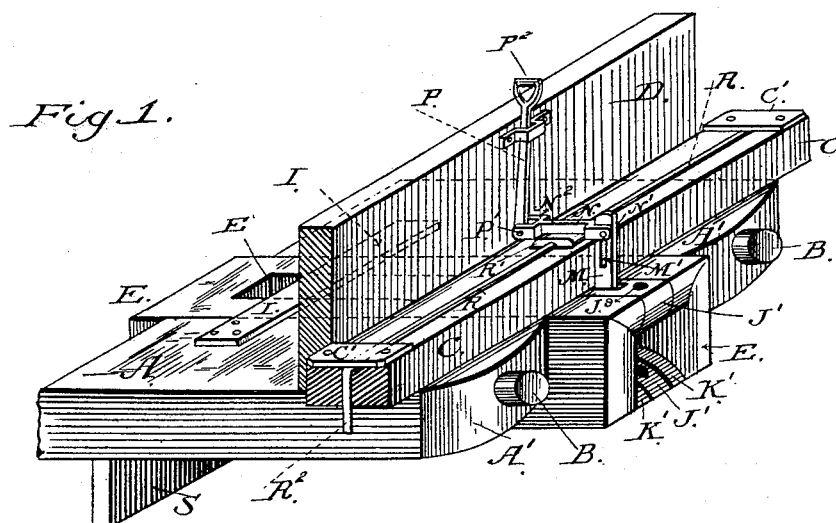
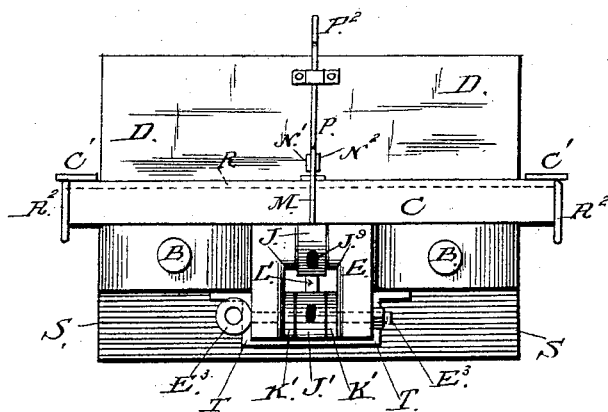


Fig. 2.



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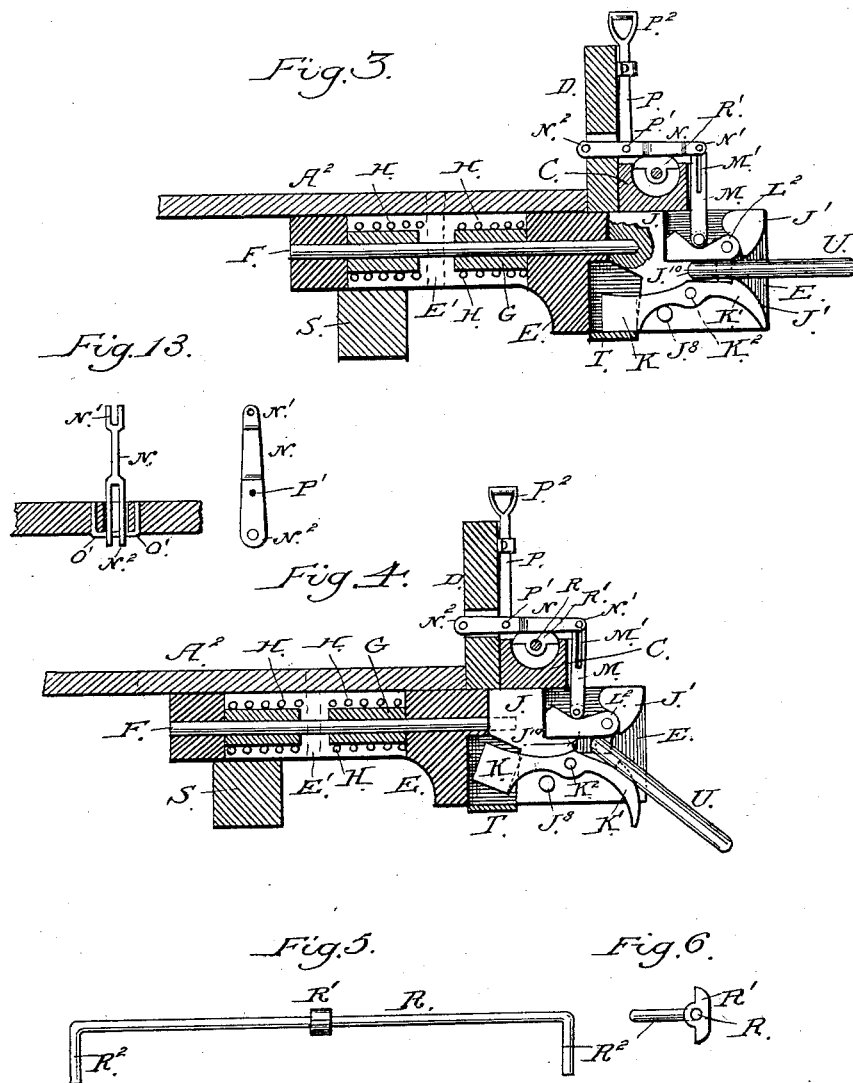
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Fig. 7.

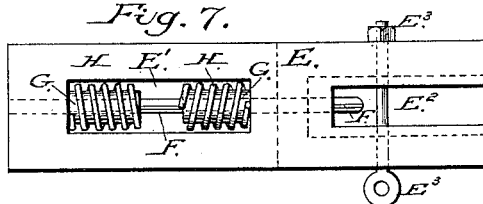


Fig. 8.

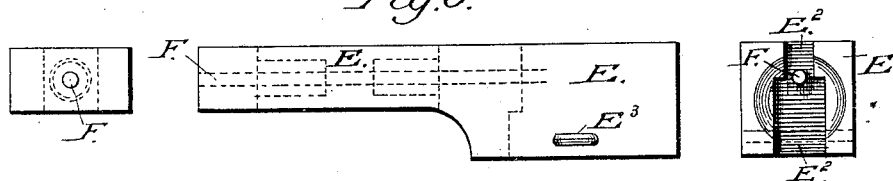


Fig. 9.

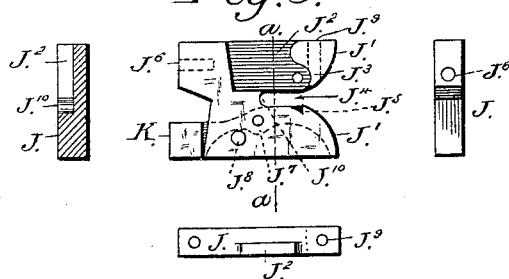


Fig. 10.

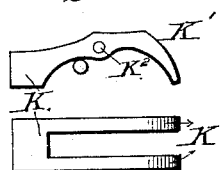


Fig. 11.

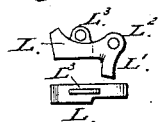
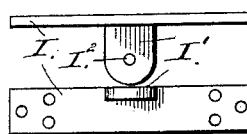


Fig. 12.



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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 346,171, dated July 27, 1886.

Application filed May 10, 1886. Serial No. 201,673. (No model.)

To all whom it may concern:

Be it known that I, JACOB S. PEACOCK, a citizen of the United States, residing at the city of Lancaster, county of Lancaster, State of Pennsylvania, have invented a new and useful Improvement in Car-Couplers, of which the following is a specification.

This invention pertains more particularly to the class of car-couplers using a link for the purpose of connection.

The object of the improvement is to obviate the necessity of going between the cars to be coupled for the purpose of guiding the link, and thus preventing loss of life or limb while attending to the duties connected with the make-up of the train.

I attain the above objects by a peculiar construction of draw-head, in combination with rod-and-link mechanism that may be operated from the sides of the cars, or from the platforms or roofs of the same.

The drawings herewith, forming a part of this specification, show very fully the construction and operation of my coupler, like letters of reference indicating similar parts.

Figure 1 is a perspective elevation of part of a car, showing my improvement attached. Fig. 2 represents an end elevation of the same; Fig. 3, a longitudinal section of the draw-head, with the supplemental head in full elevation, showing the coupling-link held for connection with a car of the same center height of draw-head. Fig. 4 is a representation of the same, with the coupling-link held for connection with a car having a lower center of draw-head. Fig. 5 represents the platform cam-shaft, whereby the link-dog is lifted out of the way of an entering link or for the purpose of uncoupling; Fig. 6, a cross-section through shaft and cam; Fig. 7, a plan of the draw-head detached from the car, showing spring guiding-rod center to the supplemental head, and the supplemental gum springs inside of the spiral springs, the abutment-plate being removed; Fig. 8, a side and front and rear elevations of the same draw-head. Fig. 9 represents, in side elevation, cross-section on line *a a*, plan, and rear-end elevation, the supplemental draw-head. Fig. 10 represents the counterbalancing and link-guiding jaw of the supplemental head; Fig. 11, side elevation

and plan of the link-locking dog. Fig. 12 represents in front elevation and reverse plan the central abutment for the draw-head springs. Fig. 13 represents in plan and side elevation the bifurcated arm operating the link-locking dog, and showing the mode of pivoting the same to the car-body, in all of which—

A represents the framing of the car; A', a front and rear extension, forming a platform-support and seats for the bunters B; and A², the floor of the car; C, the platform; D, the end of the car. These parts as enumerated differ in no respect from the usual construction.

E represents my improved draw-head, which may be constructed of timber or metal. I prefer to use the latter as more economical. It is constructed of the form clearly shown in Figs. 7 and 8 in exterior outline and in section in Figs. 3 and 4. A vertical mortise, E', is cut through the rear portion, and forms a pocket for the reception of the re-enforce gum springs G and the spiral springs H upon the outside of the same. A longitudinal bore-hole, central to the rear section of the draw-head, is provided with a rod, F, which passes through the gum springs and abutting-piece, and serves to retain them in place in the pocket, and, extending forward between the bifurcation E², serves as a guide and rear support to the supplemental draw-head.

The abutment-piece consists of a plate, I, having formed integral therewith an ear, I', with a perforation, I², for the rod F, and when secured in place with the ear central to the length of the pocket E' forms an abutment, which receives the thrust of the cars in backing, or the pull of the same in drawing, the train. The piece I is bolted to the frame-work of the car, leaving the draw-head free in its movement longitudinally.

The supplemental draw-head J is stamped, formed, or cast of the form shown in Figs. 3, 4, and 9, of a suitable thickness, with fixed jaws J' J', having in the upper jaw a recessed or sunken portion, J², for the reception of the link-locking dog L, which is pivoted at J³ therein. A bifurcation, J⁴, between the jaws admits the link. A keeper-notch, J⁵, in the lower jaw serves as a stop to the forward movement of the locking-dog. A bore, J⁶, in

the upper rear portion serves to connect the head J with the rod F. A perforation, J', serves as the pivotal rocking point for the counterbalance-jaw K, while the perforation J⁸ serves, in connection with the pin E³, to releasably lock the supplemental head J to the draw-head E. A vertical perforation, J⁹, in the jaws serves for a coupling-pin when odd cars are to be coupled together.

10 The counter-balance K is formed with integral jaws K' and pivot K², and in its normal position the outline of the jaws K' is coincident with the jaws J'. The function of the counter-balance is to regulate the angle at which the coupling-link U shall be held. As shown in Fig. 3, when the link is pressed rearward against the stop J¹⁰, the projection of the same forward will be nearly parallel with the rails, and when drawn forward against the locking-dog L, as shown in Fig. 4, it will incline at an angle of about twenty degrees, and at intermediate locations between these extreme points the angle will of course vary in the same ratio; and thus the link may be adjusted to suit a wide range of heights of draw-bar centers above the track. It will be noticed that as soon as the weight of the link preponderates over that of the counter-balance the latter rises at the rear to a height dependent upon the location of the link between the stop J¹⁰ and tail L' of the dog, and the jaws K' depress in front, carrying the link U along, while the fixed jaw J' acts as a guide to the link laterally by projecting more or less within the same. The locking-dog L is pivoted at L² within the recess J² of the upper jaw, and is provided with a tail-piece, L', adapted to span the bifurcation between the jaws J' J' and to drop within a keeper-notch, J⁵, in the lower jaw. An ear, L³, serves to connect the dog with the hand operating mechanism by pivotal connection with the rod M. This rod has a slot, M', at the upper end, terminating at the top surface of the pin in the head N' of the arm N. This arrangement permits the rod M to rise with the dog without affecting the position of the arm N; but the latter upon being raised has an instantaneous effect upon the rod M and its connected dog L, and raises the latter so as to release the link when it is desired to uncouple the cars.

The cars couple automatically when the device is in the position shown in Fig. 1. The link carried by the advancing car enters the jaws J' J', and, striking the tail L', lifts the dog L, together with the bar M, which is free to rise, the slot M' passing by without influencing the pin in the head N' of the hand operating-arm N, and when the closed end of the link has struck the stop J¹⁰ the tail L' will clear the link, and the dog, dropping by gravity with the tail L' in the keeper-notch J⁵, locks the link against any automatic release from the head.

65 The hand operating device for uncoupling is composed of the arm N, having bifurcated ends N' connected with the rod M, and N²

pivoted to the inside of the car by a pin, O', bent at right angles at the ends and driven into or bolted to the car-face. A pin, P', connects the vertical rod P with the same, the latter having a spade-handle, P², at its upper end. This rod may be of any length to adapt it to the requirements of the car to which it is attached.

75 To operate the uncoupling device from the ground, a shaft, R, having its ends bent at right angles to form levers R', has at the center of its length a cam, R², made integral with the shaft or securely fixed thereto. A groove is made in the platform C deep enough to receive said shaft, and it is secured in place by guard-plates C', which project over the ends of the platform, so as to cover the lever R². The arm N rests upon the cam R', and therefore upon moving the levers R² at either side of the car from a vertical to a horizontal position the arm N is lifted, and with it the bar M and locking-dog L, releasing the link and uncoupling the cars. A cross-bar, S, secured to the under side of the car-frame, holds the rear reduced portion of the draw-head E in place, and a bar-iron yoke, T, secured in the same manner, holds the front enlarged portion of the draw-head. It will be noticed that the draw-head is also the main bunter, the striking of the same resulting in its movement rearward and the compressing of the forward springs against the abutment I', while the pull of the train compresses the rear springs against the abutment, the compound springs tending to ease off shocks, the spiral springs being first brought into action and their force supplemented by the gum springs as the resistance is increased.

105 It will be seen that ample provision has been made for repairs. The simple withdrawal of the pin E³, which passes through both the draw-head and supplemental jaw-piece, releases the latter, when it may be removed, repaired, and returned in place, the pin reinserted, and the car is ready for service.

Having described my improvement, shown its construction, and recited its advantages, I desire to claim as follows:

1. As an improvement in link-couplers for cars, a draw-head, preferably of metal, having in the rear reduced portion of the same a vertical aperture forming a pocket for the springs, the front enlarged end bifurcated vertically to form a seat for the supplemental head, a transverse bore and pin for the retention of said head, a longitudinal bore central to the section of the reduced rear portion, a rod adapted to said bore and projected from the rear end to a short distance beyond the base of the front bifurcation, in combination with the car by cross-bar S and yoke T, with the spiral springs H, gum springs G, abutment I', and the head J, as and for the purpose set forth.

2. In combination with a draw-head, E, as shown and described, a supplemental head, J, having an upper recessed jaw, a keeper notched

lower jaw, a bore-hole in the rear end adapted to fit upon the rod F, pivoted to the upper jaw within the recess, a locking-dog adapted to lift automatically and to lock by gravity the entering link, pivoted to the lower jaw, a counterbalanced bifurcated jaw, K, adapted to regulate the angle of the link in coupling, and bore-hole J for pin E³, as and for the purpose set forth.

10 3. In combination with a draw-head, E, and its supplemental head J, as shown and described, a locking-dog pivoted in a recess of the upper jaw of said supplemental head, having a tail spanning the bifurcation of said head, 15 and adapted to engage with a keeper-notch in the lower jaw of the same, an ear, L², in pivotal connection with a bar, M, having a slot, M', whereby it is adapted to operate automatically in coupling the cars, substantially as and 20 for the purpose set forth.

4. In combination with a draw-head, E, its supplemental head J, locking-dog L, and bar M, as described and shown, the arm N, having a bifurcated jaw, N', pivoted in the slot M' of 25 the bar M, its rear bifurcated end pivoted to a staple, O', within the car, and having a pivotal connection, P', for the bar P in front of the car-face, said bar P terminating in a handle suitable for operating the device, held in 30 a vertical position by a clamp-guide, the whole combined and adapted on raising the bar P to lift the dog L in the head J and release the link for uncoupling, substantially as and for the purpose set forth.

35 5. In combination with a hand operative device for uncoupling from the car itself, a

shaft, R, located transversely of the platform in a groove formed therein, having a cam, R', at its center, secured to or forming an integral portion of the said shaft, said cam being 40 immediately beneath and in contact with the arm N, the ends of said shaft bent at right angles with the same to form operating-levers thereto, and removably secured in place by protection-plates C', whereby the rocking of 45 the cam by the levers R² from the sides of the car will raise the arm N, bar M, and dog L, thus releasing the link U and uncoupling the cars, substantially as and for the purpose set forth.

6. As an improvement in car-couplers, a bifurcated counterbalanced jaw, K, having a pivotal connection, K², with the lower jaw of a supplemental head, J, as shown and described, its jaws K' coincident with the jaw 55 J' of said head in a state of rest, and adapted, in combination with said lower jaw, to hold the advancing link at the desired angle to couple, as and for the purpose set forth.

7. In combination with the draw-head E, 6c its supplemental head J, dog L, springs G H, abutment-piece I', guiding-rod F, cross-bar S, and yoke T, the pin E³ securing the head J within the bifurcated seat E², whereby the said supplemental head may be removed from 65 or be retained in the draw-head by the withdrawal or insertion of said pin, as and for the purpose set forth.

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Witnesses:

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