

(No Model.)

J. B. GOODWIN.

CAR COUPLING.

No. 264,075.

Patented Sept. 12, 1882.

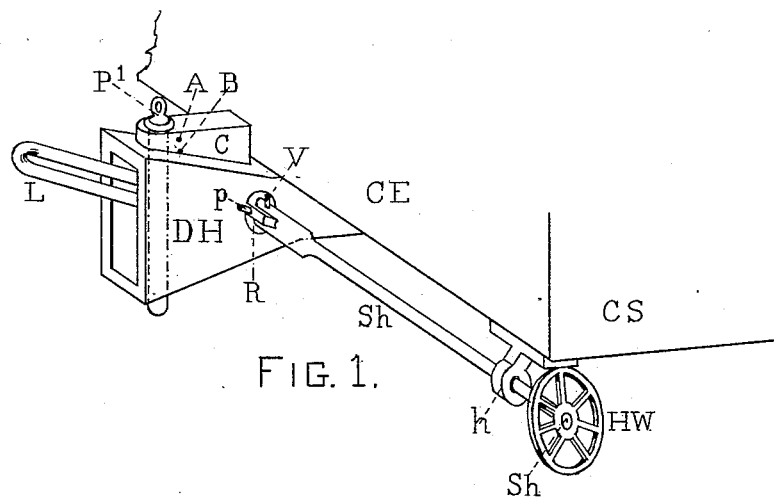


FIG. 1.

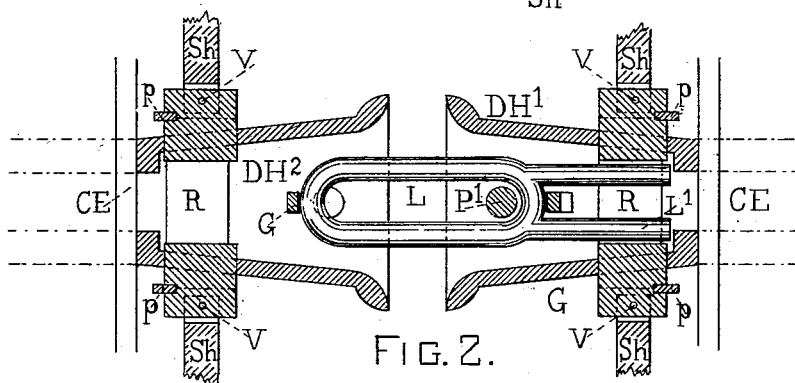


FIG. 2.

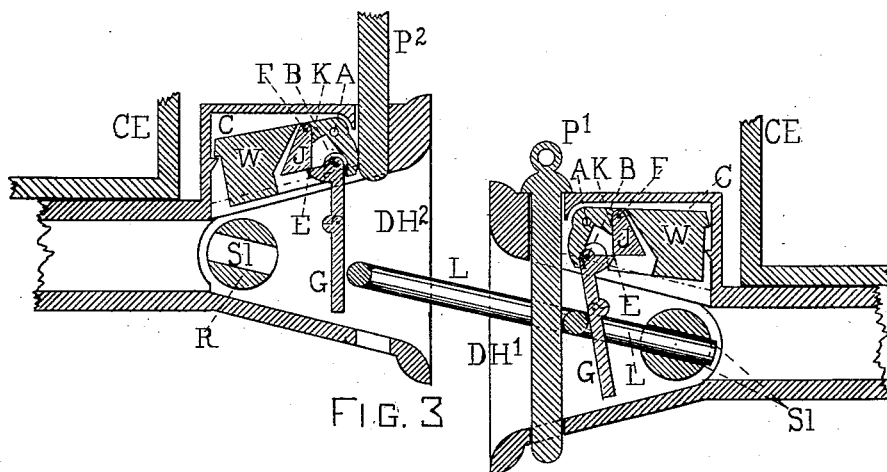


FIG. 3.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

JOSEPH B. GOODWIN, OF LOWELL, MASSACHUSETTS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 264,075, dated September 12, 1882.

Application filed March 31, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH B. GOODWIN, a citizen of the United States, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Railway-Car Couplings, of which the following is a specification.

My invention consists in arranging a reciprocally-rotating roller transversely through the draw-head of an open-mouthed car-coupling, through which roller a slot extends diametrically, into which slot one prolonged end of a coupling-link is inserted, so as to elevate and depress the projecting end of the link or move it laterally by the motion of said roller, and thus guide the projecting end of the fixed link into the mouth of the opposite draw-head. The motion of the roller is produced by means of a shaft connected therewith and extending out to the side of the car.

My invention further consists in an automatic device for dropping the coupling-pin in coupling cars together. My invention is illustrated in the accompanying drawings, of which Figure 1 is a perspective view of one draw-head and its operating-shaft in connection with car, showing shaft on one side. Fig. 2 is a horizontal section of two opposite draw-heads on section-line X Y, extending along the top of coupling-link, Fig. 3, and showing shaft on both sides. Fig. 3 is a longitudinal vertical section through the middle of two opposite draw-heads.

Similar letters refer to similar parts throughout the several views, and are as follows:

D H is the draw-head; C E and C S, the end and side of the car, respectively; P' and P<sup>2</sup>, the coupling-pins; L, the coupling-link; R, the rotating slotted roller; S l, the slot in same, into which the end of the coupling-link is inserted. S h is the operating-shaft; h, the hanging box supporting the outer end of shaft; H W, the hand-wheel for operating the shaft. p is a pin or shoulder which limits the lateral motion of the roller R and prevents its slipping out of its bearing in the draw-head. W is a weighted friction-lever which holds and drops the coupling-pin. Said lever swings on the fulcrum-pin A, which pin passes into the sides of chamber C. B is a pin which extends from side to side of chamber C and supports the swinging trigger G, which trigger, by be-

ing swung inward, elevates the end of the arm E, which arm, by bearing against the gravity-catch J, which hangs on the lever W by the pin F, raises the lever W to the position shown in draw-head D H', Fig. 3.

The operation and further description of my invention are as follows: An operative wishing to couple two cars together inserts the coupling-link L into the draw-head D H', passing the prolonged end L' of the link into the slot S l in the roller R, and secures the link in the draw-head by dropping the coupling-pin P'. The coupling-pin P<sup>2</sup> is lifted so as to leave the mouth of draw-head D H<sup>2</sup> free for the entrance of the coupling-link. The pin P<sup>2</sup> is held up by the friction caused by the pressure of the lower part of the front end of the weighted lever W against the side of the pin P<sup>2</sup>, thus pressing said pin against the front of the pin-hole. While the coupling-pin is in this position the trigger G hangs vertically within the draw-head D H<sup>2</sup>, its front presenting surface being just back of the vertical line of the pin-hole. The cars are now brought together and the projecting end of the inserted link is guided into the opposite draw-head by elevating or depressing the projecting end of the link by a reciprocating rotary movement of roller R (in draw-head D H') through the turning of the shaft S h by the hand-wheel H W. The same projecting end of the link may be also moved laterally by pushing or pulling the shaft S h longitudinally in its hanging box h, thus completing the guidance of the link where necessary into the opposite draw-head. On the entrance of the projecting end of the link into the opposite draw-head the said end collides with the trigger G and pushes it inward at the bottom, the upper end swinging on the pin B. This movement of the trigger raises the end of the arm E, which presses upward against the gravity-catch J, which is hung to the lever W, and raises the inward end of said lever, swings it on the pin A, and hence moves the front lower part of said lever W away from the coupling-pin P<sup>2</sup>, thus relieving the frictional pressure against the side of the coupling-pin and allowing it to drop into the pin-hole in the under side of the draw-head, thus engaging the link and coupling the cars.

It will be seen that the trigger G is provided with a hinge-joint between the lower

end and the suspending-pin B. It will also be seen that the foot of the gravity-catch J will slide toward the point of the arm E as the lever W is raised, and at a certain point in the upward movement of the arm E and the lever W the foot of the gravity-catch J will actually slip off. This will allow the point of the arm E to move upward in a circular movement on the suspending-pin B. These movements of the hinge-joint mentioned and the arm E allow the entering link to pass into the opposite draw-head quite as far if it should strike the upper part of the trigger as if it struck the lower end, and without injuring the pin-dropping mechanism. When the trigger G falls to a vertical position the gravity-catch J is pressed outward from and then falls against the shoulder K on the weighted lever W, and, slipping over the end of the arm E again, is in position to be again lifted by the arm E to raise the lever W, as before. The shaft S h is connected with the roller R by a movable joint secured by the pin V. As the shaft S h is supported loosely in only one hanging box near its outer end, the draw-head and draw-bar are permitted to have a freedom of longitudinal movement against the elastic bearing usually provided for the draw-bar in its connection with the car. The gravity-catch J and trigger G and arm E are shown in the drawings as if hung in a vertical slot in the middle of the lever W; but I do not confine myself to that particular location, as they may be attached to the side of the lever W.

The advantages to be derived from my invention are obviously that a person can, especially where the openings in the front of the draw-heads of two opposite cars are not of the same height or exactly opposite each other, guide the coupling-link into the opposite draw-head by turning or pushing the hand-wheel, and thus avoid the danger from reaching between the cars in the work of coupling.

A further advantage consists in the adapt-

ability of my invention to the use of the ordinary coupling-link in the ordinary way in any case where the ordinary draw-head is found in coupling various cars together.

I am aware that prior to my invention a car-coupling with a pin-holding mechanism consisting of a gravity-lever pressing against the side of the pin and operated by direct collision of the incoming link with said lever has been patented, by Letters Patent No. 166,622, to Bolton Mickle, August 10, 1875. I therefore do not claim the use of such a gravity-lever, simply and broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a car-coupling with an open-mouthed draw-head entered from the end, the device for raising and lowering and moving laterally the projecting end of the coupling-link L, consisting of the slotted roller R, having a rotary movement on its axis and a lateral movement on its journal-bearings, and connected by a hinge-joint at its outer end to an operating-shaft extending out and attached to the side of the car, as specified, and for the purposes set forth.

2. In a car-coupling, the pin-dropping mechanism, consisting of the trigger G and gravity-catch J, swinging on pins B and F, respectively, combined and operating with the lever W, substantially as described, and for the purpose set forth.

3. A car-coupling consisting of the draw-head D H, the roller R, the sliding shaft S h, and the hand-wheel H W, or its equivalent, in combination with the pin-dropping mechanism, consisting of the trigger G and the gravity-catch J, swinging on pins B and F, respectively, and operating the lever W, substantially as described, and for the purpose set forth.

JOSEPH B. GOODWIN.

Witnesses:

W. R. BATCHELDER,  
FRANK COBURN.