

(No Model.)

D. O'ROURKE.

CAR COUPLING.

No. 336,736.

Patented Feb. 23, 1886.

Fig. 1.

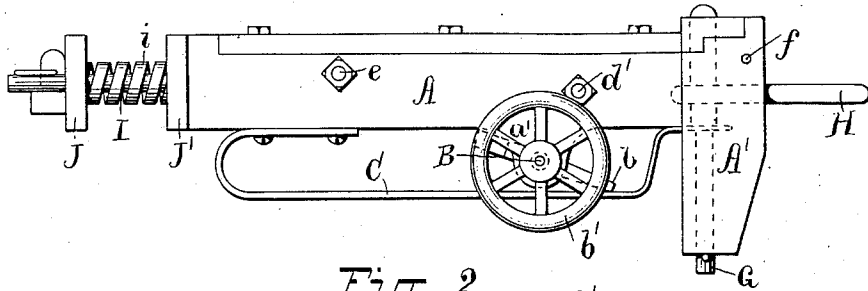


Fig. 2.

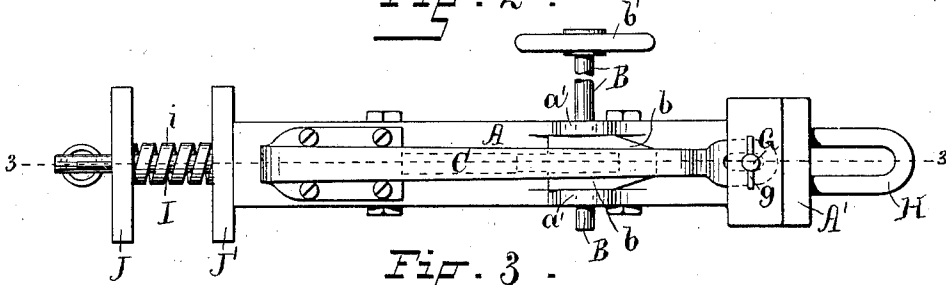
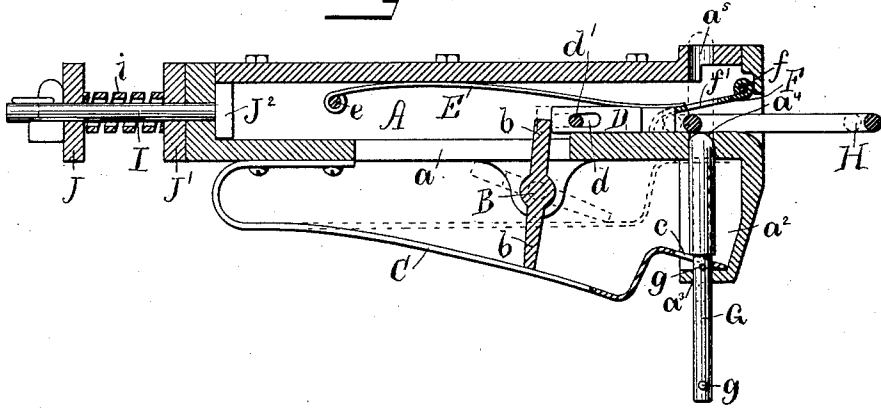


Fig. 3.



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# UNITED STATES PATENT OFFICE.

DANIEL O'ROURKE, OF SELMA, ALABAMA,

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 336,736, dated February 23, 1886.

Application filed May 26, 1885. Serial No. 166,656. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL O'ROURKE, of Selma, in the county of Dallas and State of Alabama, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to couplings for passenger and freight cars; and the object of my invention is to produce a coupling which shall be capable of using the common form of link, which may be set for coupling without necessitating the entrance of the operator between the cars, which, when set, will automatically couple, and by which cars may be uncoupled without necessitating the entrance of the operator between the cars.

To the above purposes my invention consists in the provision of a peculiar spring for operating the coupling-pin and a peculiar trigger for operating the said spring.

My invention also consists in the combination, with the link-operating spring and trigger, of a peculiar slide operated by the coupling-link and serving to trip the trigger when the cars are being coupled.

My invention consists, also, in an adjusting-shaft for operating the trigger, a hinged and spring-controlled guide for directing and preserving the proper action of the coupling-link, and a peculiar extension upon the coupling-head or bumper to guide the coupling-pin and to prevent overriding of the two couplers.

My invention consists, lastly, in certain peculiar and novel features of construction and arrangement, all as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved car-coupling. Fig. 2 is an under side plan view of the same. Fig. 3 is a sectional view of the same on the line 3 3 of Fig. 2.

In the said drawings, A designates the casing or frame of the bumper, which is of oblong rectangular form, and composed of two side pieces and a top and bottom, all securely bolted together, so as to inclose certain of the working parts of the coupling mechanism.

In the bottom piece of frame A is formed an elongated slot, *a*, and from beneath the said bottom piece depends two brackets or hangers, *a'*.

B designates a shaft, which extends transversely of frame A and carries midway of its length a trigger, *b*, which consists of two arms extending radially from shaft B in opposite directions. The end of the upper arm works through slot *a*.

C designates a spring, which is secured at its inner end beneath frame A and extends forward beneath the frame to the outer end thereof. Upon the outer end of shaft B is mounted a hand-wheel, *b'*. The tendency of spring C is to remain upward at its outer end against the under side of frame A, as shown in solid lines in Fig. 1 and in dotted lines in Fig. 2. It will thus be seen that by turning the shaft B so that trigger *b* shall assume a vertical position the spring C will be depressed, as shown in solid lines in Fig. 3, and that by turning the shaft in the opposite direction the trigger will assume a horizontal position, or nearly so, as shown in dotted lines in Fig. 3, and the spring will be permitted to fly upward at its outer end.

D designates a slide located within frame A and working over slot *a*, so as to be engaged by the upper end of trigger *b*. This slide is formed with a slot, *d*, through which works a pin, *d'*, which extends transversely through frame A, and the ends of which rest in the sides of said frame.

E designates a spring, which is secured at its rear end beneath the top of frame A and extends forward toward the outer end of said frame. This spring rests and presses at its outer end upon the slide D.

F designates a guide, which is hinged at its upper end to a pin, *f*, and upon the lower end of which the spring E presses also. The said guide lies in the mouth of the frame A.

A' designates the coupling-head, which is securely bolted upon the outer end of frame A, and which is also formed with a downward extension, *a''*.

G designates the coupling-pin, the upper part of which is larger than the lower part. This pin works vertically through a hole, *a'''*, in the lower end of extension *a''*, and also through holes *a''''* *a'''''* in the outer end of frame

A. The outer end of spring C is formed with a slot, *c*, so as to embrace the lower part of pin G.

*g g'* designate two pins, which are inserted or formed laterally in the smaller portion of the coupling-pin G, the lower pin serving to limit the upward movement of the coupling-pin, and the upper pin, *g'*, serving to insure the dropping of the coupling-pin by being engaged by spring C in case the coupling-pin binds in the bumper-head.

H designates the coupling-link, which may be either of the plain open form shown, or of any other usual or preferred form.

I designates the draw-bar, *i* the traction-spring, and J J' J<sup>2</sup> the abutment-plates thereof, these parts being of the usual or any preferred form, and having only a general relation to the invention.

The operation of my improved coupling is as follows: When two cars are to be coupled, the shaft B is turned by the hand-wheel *b'* toward the outer end of the bumper, and this brings the trigger *b* into vertical position, depressing spring C and drawing down pin G, or allowing it to fall of its own weight, so as to clear the mouth of the bumper. The link H, which is supposed to be coupled to the other car, now enters the mouth of the bumper, and in so doing strikes first against swinging guide F, partly raising its free end against the pressure of spring E. By virtue of the pressure of spring E upon said guide the latter holds the link down upon the bottom of frame A as the link slides into said frame. The link next strikes against the outer end of slide D, forcing it inward to the limit of movement permitted by slot *d* and pin *d'*. During the movement of the slide its inner end strikes against the upper end of trigger *b* and throws the same backward, so as to release spring C, which flies upward, and in so doing forces the coupling-pin upward through the link by engaging with the lower end of the enlarged portion of the coupling-pin. In its upward movement the coupling-pin passes through a hole, *f'*, in the guide F. When the cars are to be uncoupled, it is simply necessary to again turn the hand-wheel toward the outer end of the bumper, thus depressing spring C and allowing pin G to fall; or, if said pin binds, drawing it downward by engaging with pin *g'*.

In case the car provided with my improved coupler is higher than that to which it is to be coupled, the extension *a*<sup>2</sup> prevents any bumper from riding over the other.

Thus it will be seen that by virtue of my invention the operations of coupling and uncoupling are greatly simplified and facilitated, and all danger to the operator is avoided by dispensing with the necessity of his entering between the cars.

The shaft B is supposed to work at its outer end in a slotted hanger extending downward from the outer side sill of the car, and said shaft may be tapered toward its outer end.

The bumper may be made of cast or wrought iron, if desired, instead of the separate pieces above described.

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

1. The combination, with a coupling-pin working vertically in a bumper-head, a spring for operating said pin, and a trigger mounted on a shaft and constructed to depress and release the spring, of a slide operated by the link and arranged to trip the trigger for releasing the spring, substantially as specified.

2. The combination, with a coupling-pin working vertically in a bumper-head, a shaft carrying a trigger, and a spring operated by said trigger to raise and lower the pin, of a slide operated by the link to trip the trigger, and a guide for directing the link to the slide, substantially as set forth.

3. An improved bumper-head having two compartments with suitable openings in their walls, said openings registering one above the other for the passage of the vertically-operated pin, and having a spring-acted link-guide, substantially as and for the purpose described.

4. In a car-coupling, a spring constructed to operate a vertically-moving pin, a shaft carrying a trigger for operating the spring, a spring-pressed slide for tripping the trigger, and a spring pressed guide for directing the link toward the slide, substantially as specified.

5. In a car-coupling, the combination, with the draw-head, of a double-chambered bumper-head and the operating-spring C, the sliding trip D, the two-armed trigger *b*, and the vertically-operated pin *g*, substantially as described.

6. The bumper-frame having the head with its extension *a*<sup>2</sup>, as set forth.

7. The combination, with frame A, having the slot *a*, of the spring C, the shaft B, with its trigger *b*, the slide D, with its slot *d*, and the pin *d'*, as set forth.

8. The combination, with the frame A, having the slot *a*, of the spring C, the shaft B, with its trigger *b*, the slide D, and guide F, as specified.

9. The combination, with the frame A, having the head A', with its extension *a*<sup>2</sup>, the slot *a*, and holes *a*<sup>3</sup> *a*<sup>4</sup> *a*<sup>5</sup>, and hangers *a'*, of the pin G, having the enlarged and reduced portions and pins *g g'*, the spring C, with its hole *c*, the shaft B, with its trigger *b* and wheel *b'*, the slide D, with its slot *d*, the pin *d'*, the guide F, with its hole *f'*, the pin *f*, and the spring E, all substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand.

DANIEL O'ROURKE.

Witnesses:

E. N. MEDLEY,  
J. D. DEMING.