

J. W. CARRIER.  
CAR COUPLING.

No. 23,423.

Patented Mar. 29, 1859.

Fig: 1.

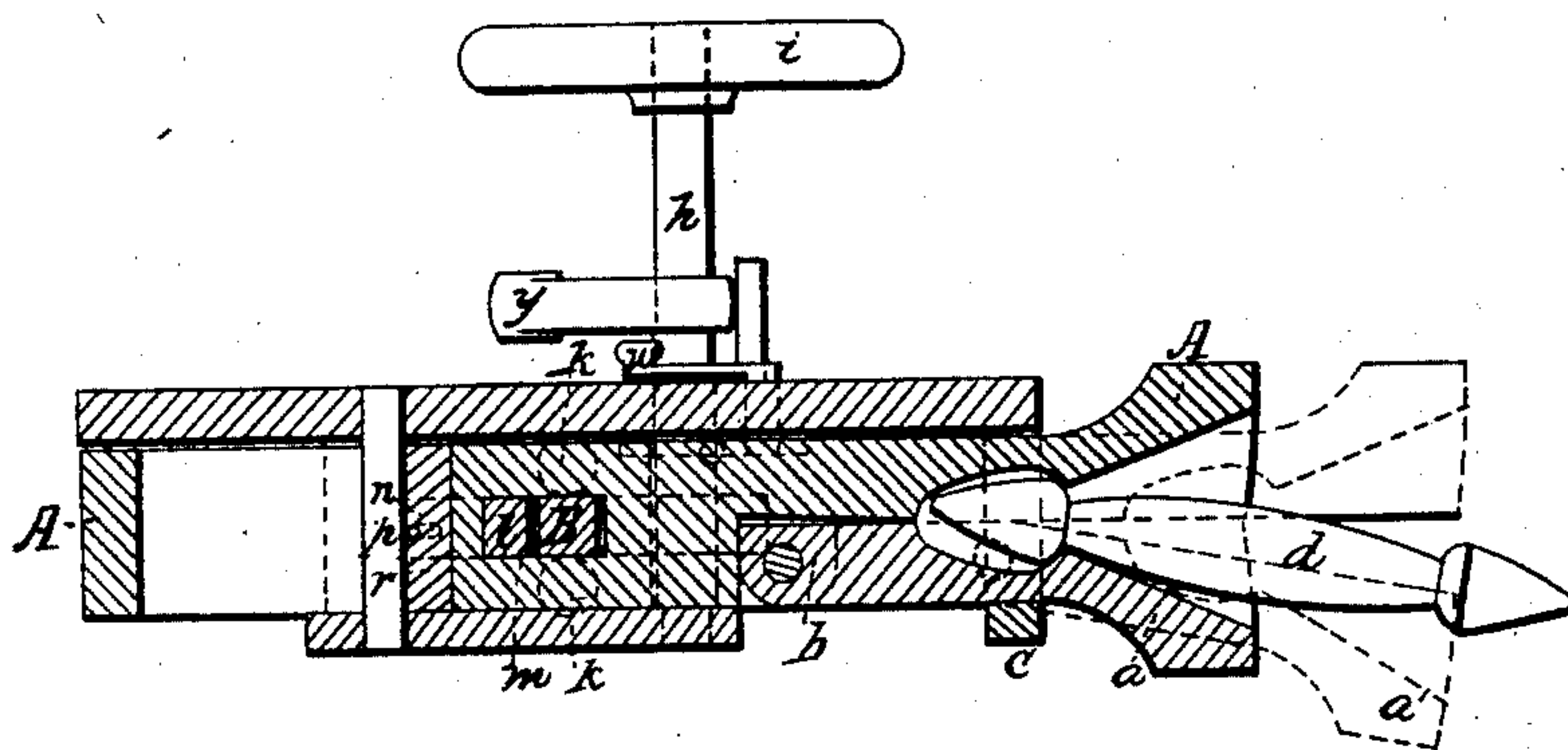


Fig: 2.

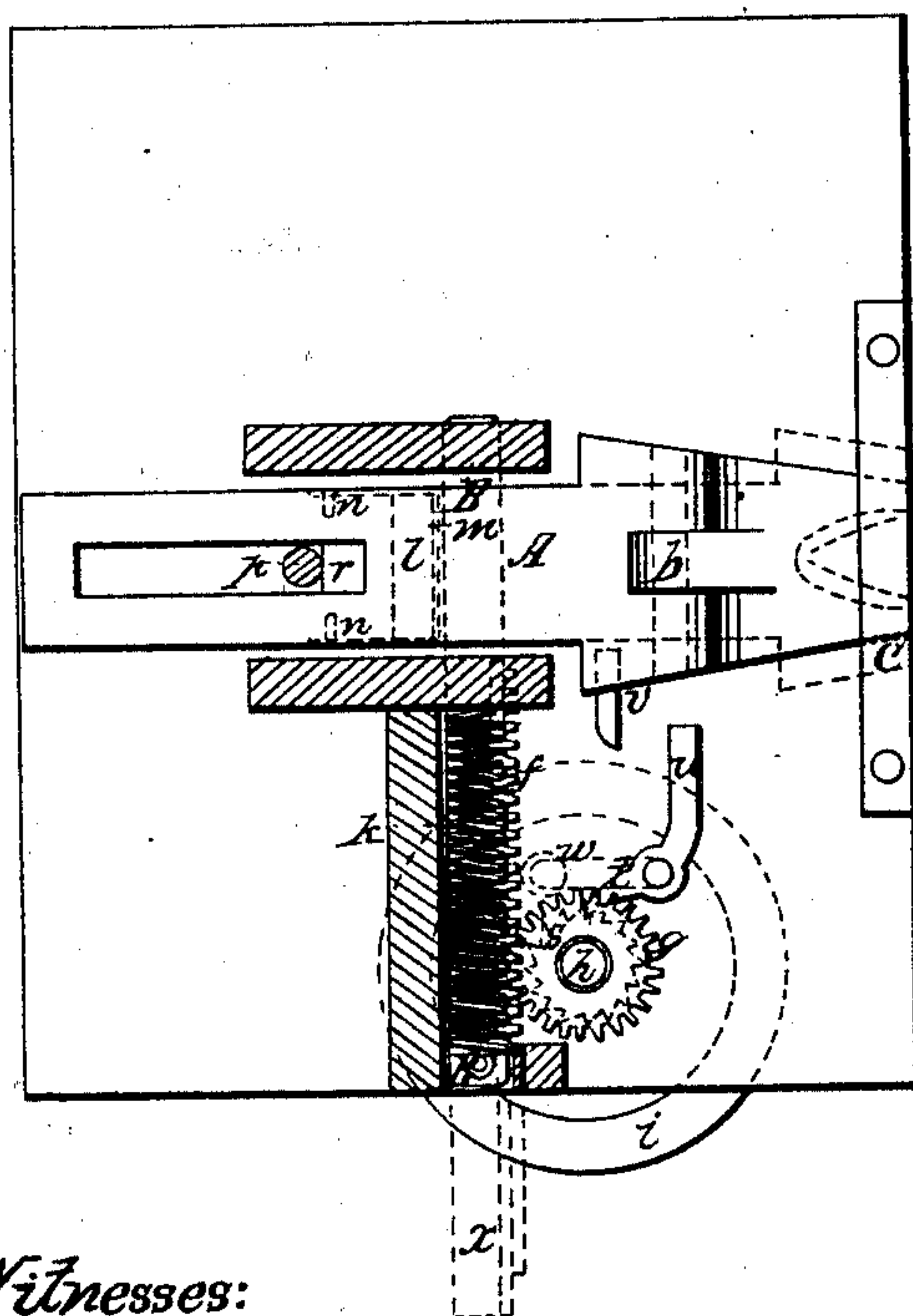


Fig: 4.

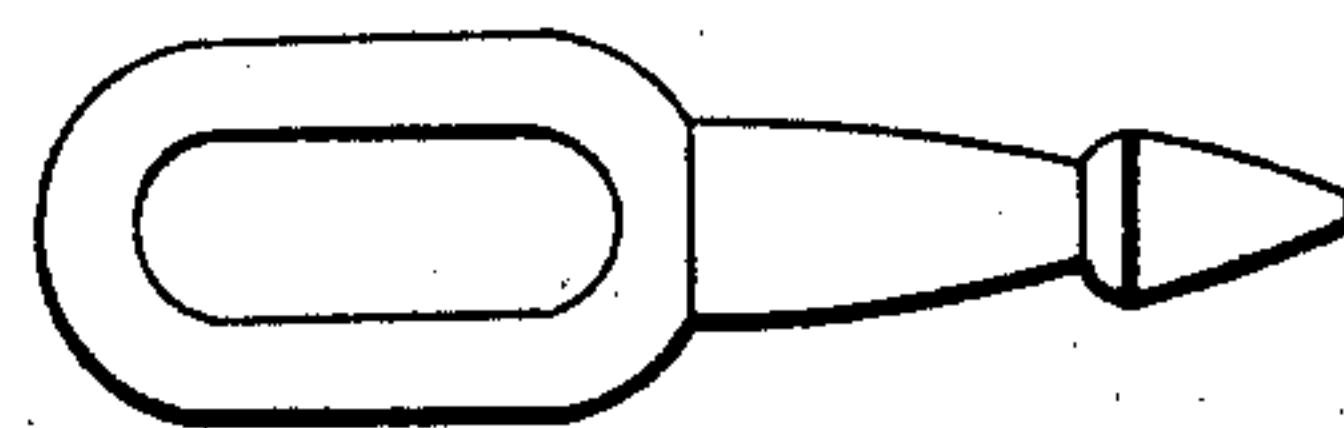


Fig: 3.



Witnesses:

George W. Fairfield  
Milton Bradley

Inventor:

James W. Carrier

# UNITED STATES PATENT OFFICE.

JAMES W. CARRIER, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND ABEL B. HOWE, OF SAME PLACE.

## CAR-COUPLING.

Specification of Letters Patent No. 23,423, dated March 29, 1859.

*To all whom it may concern:*

Be it known that I, JAMES W. CARRIER, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and Improved Railroad-Car Coupling; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical longitudinal section through the axis of the bunter. Fig. 2 is a reversed plan, partially in section to show the arrangement more fully.

The object of this invention is to produce a car coupling which shall be self coupling when two cars are brought together, thereby saving the operatives the danger encountered in going in between the cars for the purpose of coupling them together as now practiced, and also one that can be uncoupled from any convenient position on the platform of the car, or any other situation wherever it may be convenient to place the arrangement for that purpose.

Similar letters of reference indicate the same parts in both figures.

A is the bumper, the head or coupling end of which is formed in two parts, the lower half *a*, being hinged to the upper or main part at *b*, and upon which hinge it would be free to revolve by the force of gravity if it was not held up by the strap *c*, which passes around the bunter and prevents any unnecessary side motion and also holds the loose part or jaw *a*, in its proper position when the cars are coupled together.

*d*, is the connection pin which is made with a head or knob on each end of such form that it will freely enter the corresponding cavity in the bunter head, when said bunter is drawn out (and the jaw *a*, dropped as shown by the dotted lines *a'* Fig. 1) but which will hold securely when the bunter is in the position shown in the drawing.

B, is a horizontal pin or bar passing entirely through the bumper and holding it firmly in its place. On this pin is the rack *f*, operated upon by the pinion *g*, on the shaft *h*, on which is also the hand-wheel *i*.

*k*, *k*, are two spiral springs to force the pin B into its proper position. The slot or hole in the bunter which receives the pin

B, is made of a suitable size to receive a rubber or other spring *l*, behind the pin—thereby forming a very simple and convenient means of inserting the spring to give the necessary elasticity to the bunters. This spring is protected by a metallic strap *m*, which passes around the spring and is attached to the bunter by the screws *n*, *n*, which play in slots in the strap to allow the necessary motion when the spring is compressed by the strain on the bunter.

*p*, is a pin which passes vertically through the bunter and receives the strain when the car is being backed, and also forms a safety guard to prevent the possibility of the bumper being drawn entirely out if any other part should give way. In this slot and in front of the pin *p*, is inserted a second spring *r*, to serve the same purpose in backing that the spring *l* does in the forward motion.

*s*, is a ratchet on the shaft and thereby connected to the pinion *g*, and *t*, is a pawl operating in connection with said ratchet to hold the pin B, in its place (in opposition to the springs *k* *k*,) when it is drawn out of the bunter into the position shown by the dotted lines at *x*.

*v*, is a pin inserted in the side of the bunter, and which comes in contact with the arm *u*, of the pawl *t*, at the proper time to release the pin B.

*w*, is a handle or lever, connected with the pawl *t*, and to be placed in any convenient position where it can be operated by the person uncoupling the cars.

*y*, is a lever or handle connected to the shaft *h*, for the purpose of operating the pinion when it is not convenient to reach the hand wheel *i*.

Having described the several parts of my invention I will now proceed to explain its operation. We will suppose the car to be coupled to a train which is at rest and it is desired to detach it. By means of the hand wheel *i*, (or lever *y*), shaft *h*, and pinion *g*, the pin B, is drawn out to the position shown by the dotted lines *x*, and is entirely disconnected from the bunter, and by means of the handle or lever *w*, the pawl *t*, may be applied to the ratchet and the pin B held securely in its place. The car is now absolutely uncoupled, for as soon as the train starts, the bunter having nothing to hold



it in its place, is drawn out until the strap *c*, allows the jaw *a*, to fall sufficiently to release the connection pin *d*, as shown by the dotted lines *a'* in Fig. 1. As the bunter is drawn out, the pin *v*, comes in contact with the arm *u*, of the pawl *t*, and releases the pin B which is now ready to be thrown into place by the springs *k k*, whenever the bunter is thrown back to a coupled position.

10 If the pin *v*, was placed in contact with the arm *u*, of the pawl so that as soon as the bunter commenced to be drawn out, the ratchet would be released, the pin B would be thrown back through the bunter and

15 nothing accomplished, but by allowing the bunter to be drawn out about the size of the pin B, before the ratchet is released, the end of the pin B, comes in contact with the side of the bunter and is held there till the

20 bunter is thrown back. When another car comes in contact with this, the connection pin (one end of which is held in the other coupling) rides upon the concave surface of the jaw *a*, and enters its cavity in the

25 bunter head, and the two bunters coming in contact with each other, the bunter A, is forced back, the jaw *a*, brought to a horizontal position by the strap *c*, the pin B, is

thrown into place by the two springs *k, k*, and the coupling is completed.

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The upper or main portion of the bunter head is a little longer than the jaw *a*, so that the force of the shock when two cars come in contact is always received by a part strong enough to withstand it without injury.

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Fig. 3 shows a form of connection pin by which to connect two cars of different heights.

Fig. 4 shows a link combined with a pin for connecting one of my improved bunters to one of the ordinary kind now in use.

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The above description will enable any one skilled in the art to construct and use my invention.

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

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The sliding bunter A, connection pin *d*, pin *p*, springs *r*, and *l*, strap *m*, sliding pin B, springs *k, k*, rack *f*, pinion *g*, ratchet *s*, pawl *t*, and pin *v*, when combined and arranged substantially as herein described.

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JAMES W. CARRIER.

Witnesses:

GEORGE L. FAIRFIELD,  
MILTON BRADLEY.