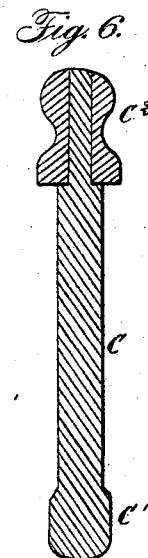
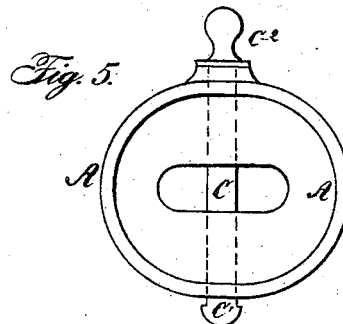
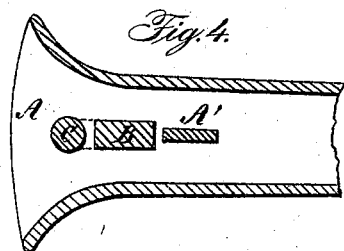
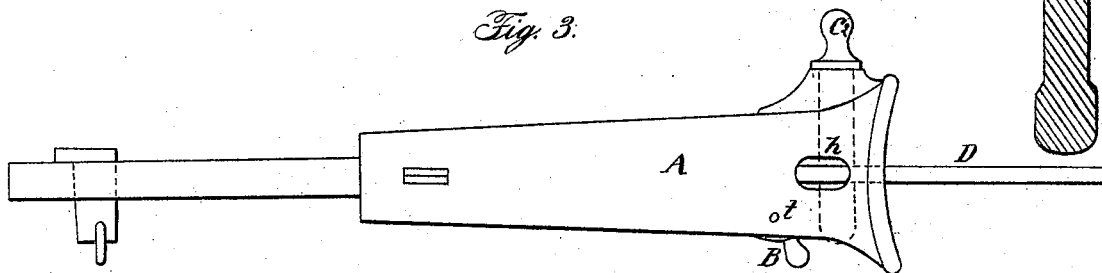
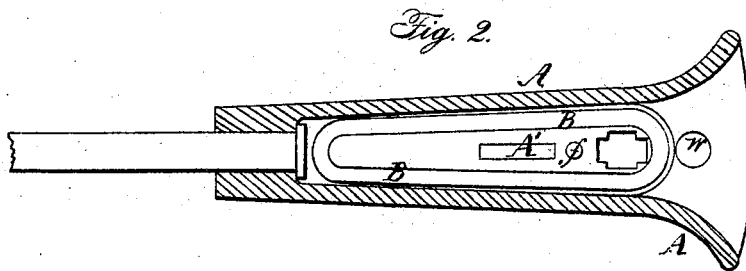
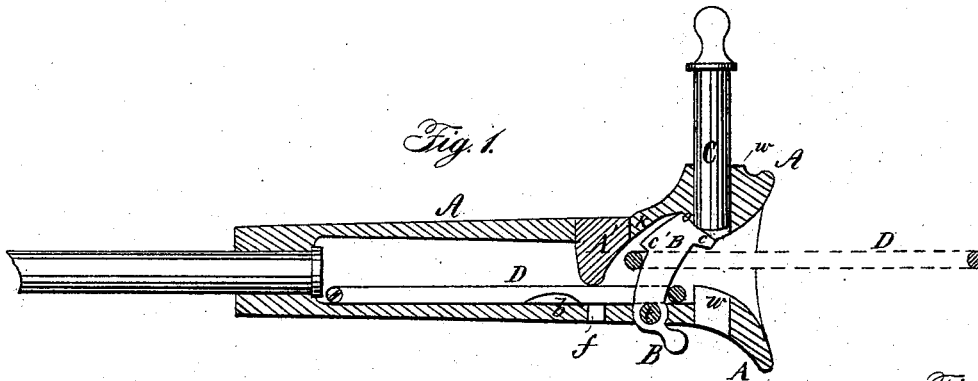


J. WIDNEY.
Car Coupling.

No. 54,238.

Patented Apr. 24, 1866.



Witnesses:

R. T. Combs
Edward Schaffer

Inventor:

James Widney
by his atty
M. W. Smith & Co.

UNITED STATES PATENT OFFICE.

JAMES WIDNEY, OF CARLISLE, PENNSYLVANIA.

IMPROVED CAR-COUPLING.

Specification forming part of Letters Patent No. 54,238, dated April 24, 1866.

To all whom it may concern:

Be it known that I, JAMES WIDNEY, of Carlisle, Cumberland county, State of Pennsylvania, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section taken in a vertical plane through my improved coupling. Fig. 2 is a horizontal section through the same. Fig. 3 is a side view. Fig. 4 is a sectional view, showing the upper side of the interior of the coupling-box. Fig. 5 is a view of the front end of the buffer. Fig. 6 is an enlarged sectional view of the coupling-pin.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful mode of constructing coupling-pins which are used for connecting coupling-links to buffer-boxes, said improvement consisting in so constructing the pins that they are permanently attached to the coupling or buffer boxes, and operate to a much better advantage than coupling-pins which can be removed from their places.

My invention further consists in a buffer which has a coupling-link and also a coupling-pin permanently attached to it, and which is so constructed that by a simple adjustment of the link the buffer will serve either as a male or a female coupler at pleasure, and automatically effect the connection when the cars come together, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

The buffer A is cast with a flaring bell-mouth and a contracted throat for the reception of the male coupling-link.

A' is a key, which is made of wrought or cast metal and inserted through a slot in the upper portion of the buffer, so that its small end shall extend nearly to the opposite or bottom side of the buffer. Sufficient space should be left beneath the lower end of the key A' to allow the coupling-link D to pass back and forward to assume the two positions shown in Fig. 1.

Immediately in rear of the key A' an elevation is cast on the buffer-box, as shown at b,

Fig. 1. This elevation is surrounded by a recess, into which the coupling-link D is placed when it is desired to have a female coupling, as shown clearly in the sectional view, Fig. 2.

When it is desired to have a male coupling the link D is removed from its recess to the position shown in dotted lines, Fig. 1, by elevating the outer end of the link until its opposite end will pass over the elevation b and under the key A'. This will bring the inner end of said link between the front edge of the key A' and the rear edge of a trigger, B, which is pivoted, by means of a transverse pin, t, to the lower part of the buffer, so that its upper end, which is arranged within a space, K, may be allowed to have a free longitudinal play, restrained only by a shoulder at o, Fig. 1.

The vertical trigger B has a lip, c, formed on its upper end for the purpose of receiving upon it the lower end of the coupling-pin C when this pin is elevated to its highest point, and thus supporting said pin in the position shown in Fig. 1. The pivot t is located in such relation to the upper and lower ends of the trigger that the upper end will always fall forward to the position shown in Fig. 1 when unrestrained, when it will be caught by the shoulder at o. A notch, c', is formed in the rear edge of the trigger to receive the rear end of the coupling-link D, or that end of a coupling-link which is permanently attached to the buffer, as shown in Fig. 1 in dotted lines.

A vertical opening is made through the forward part of the buffer to receive the coupling-pin C, as shown at w. The hole which is made through the upper portion of the bell-mouth is somewhat smaller at its upper end than at its lower end, for the purpose of preventing the pin C from being drawn through or detached from the buffer. This pin has enlarged heads formed on or otherwise suitably applied to its ends, as shown in Figs. 5 and 6, and these enlargements, while they allow the pin to have a free vertical movement through its holes, prevent the pin from being detached, as above mentioned.

I construct the coupling-pins C as represented by Fig. 6 by flattening the sides of a round bar of metal, so as to give it an elliptical form in cross-section, and to leave a cylindrical head, C', which is larger in one direction than the stem. The opposite end of the pin I reduce for the purpose of riveting on the en-

larged head C² after the pin is passed up through the holes in the buffer. When this has been done the head C' will prevent the pin from being drawn out of its upper hole, and the head C² will prevent the pin from dropping through its holes in the buffer. It will be seen that I do not reduce the strength of the pins by flattening them, but rather increase their strength, as they are presented edgewise to the draft or strain which is upon them.

The head C' is intended to pass freely through the lower hole, *w*, and sufficiently far into the upper hole to allow the tongue *c* of the trigger to fall beneath the pin when this pin is lifted up to its fullest extent.

As a female coupling-box or buffer the link D is pushed back out of the way of the trigger B, and when the cars come together the link of another buffer enters the buffer A, strikes the trigger B, and causes the pin C to drop down and thus effect the connection.

As a male coupling the link D is drawn out to the position indicated in dotted lines, and is

held in this position by the key A', which prevents it from being pushed back into the buffer when the cars are brought together.

Directly beneath the key A' is a hole, *f*, through the bottom of the buffer, for the admission of a pin when it is desired to drive out the said key. Openings are also made through the sides of the buffer at *h* to receive the hand or fingers to push forward the link D when necessary.

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

1. A coupling-pin for railroad-cars, constructed as described, for the purpose set forth.

2. Providing the buffer with a removable abutment, A', substantially as and for the purpose described.

JAMES WIDNEY.

Witnesses:

DAVID SMILEY,
GEORGE SMILEY.