

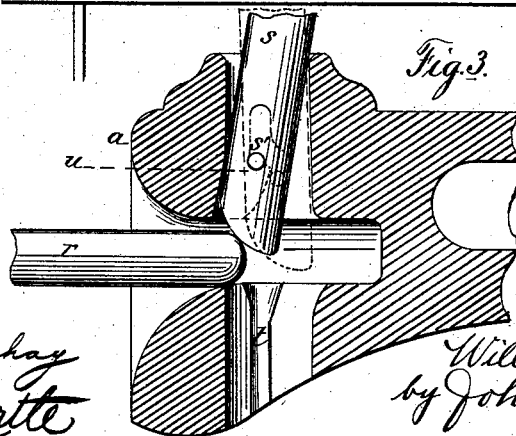
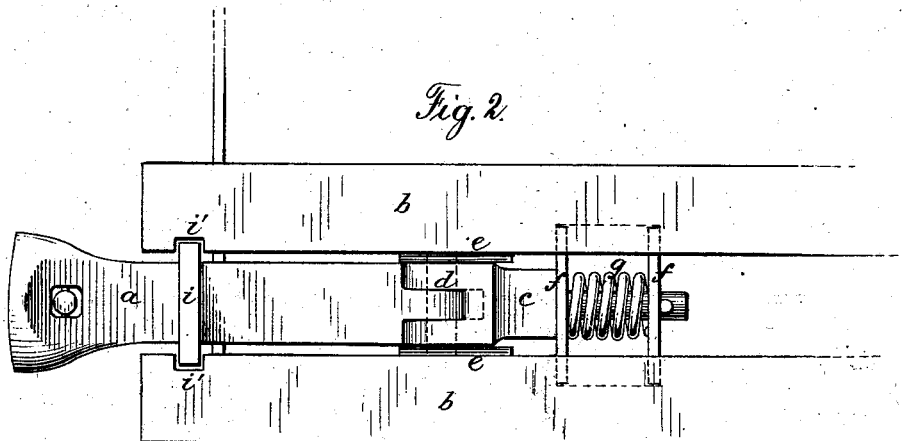
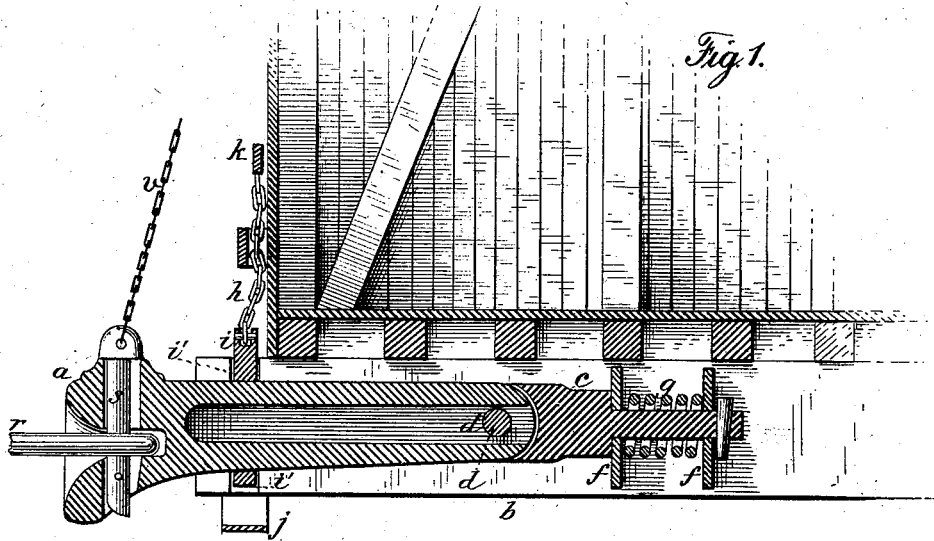
(No Model.)

2 Sheets—Sheet 1.

W. POWERS.
CAR COUPLING.

No. 259,914.

Patented June 20, 1882.



Witnesses:
Emma Crosby
Howell Lattie

Inventor:
William Powers
by Johnson & Johnson
Atty

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

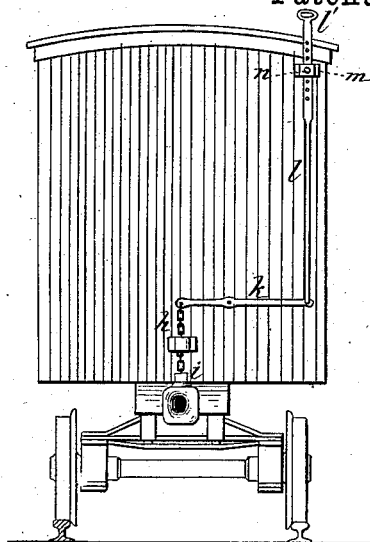


Fig. 5.

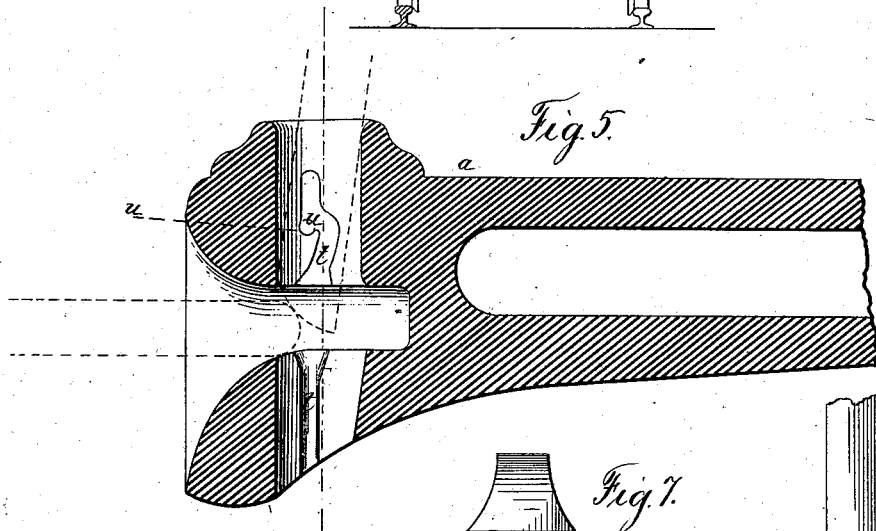


Fig. 7.

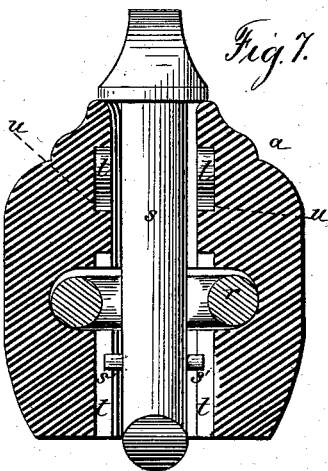


Fig. 6.

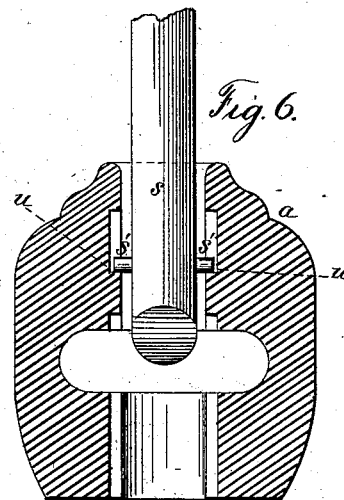
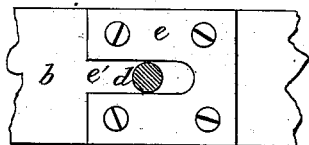


Fig. 8.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM POWERS, OF WYANDOTTE, MICHIGAN, ASSIGNOR OF ONE-HALF
TO RICHARD JONES AND JOHN ALLEN, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 259,914, dated June 20, 1882.

Application filed April 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM POWERS, a citizen of the United States, residing at Wyandotte, county of Wayne, and State of Michigan, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

My improved coupling is specially designed for freight-cars, and is particularly adapted for coupling cars of different height, and for supporting the pin in position for automatic coupling.

The specific matters of improvement consist in the means by which the coupling-pin is held in position for being tripped by the link in coupling the cars, and in the construction by which the draw-head is adjusted for coupling cars of different height.

Referring to the accompanying drawings, Figure 1 represents a vertical section of my improved coupling as applied to the longitudinal timbers of the car; Fig. 2, a bottom view of the same; Fig. 3, an enlarged vertical section of the draw-head, showing the manner of supporting the coupling-pin in position for automatically coupling with the link; Fig. 4, an end view of the car, showing the means for adjusting the height of the pivoted draw-head for coupling cars of different height. Fig. 5 is an enlarged vertical section of the draw-head, showing the interior groove by which the coupling-pin is supported in position for automatic coupling with the link; Fig. 6, a cross-section of the same, the coupling-pin being in the position shown in Fig. 3; Fig. 7, a similar section, the pin being shown in coupled position; and Fig. 8, a detail of the pivot-connection of the draw-head.

The draw-head *a* is applied to the longitudinal timbers *b b* of the car. It is secured between these timbers to the draw-bar *c* by a pivot-pin, *d*, having its bearings in slotted plates *e e*, (shown in Figs. 2 and 8,) secured to the sides of the car-timbers, and upon which the draw-head-coupling end is raised and lowered to set it to the required height. The draw-bar *c* is secured to cross-bars *f f*, fitted in slots in the car-timbers, so as to form a housing for a spring, *g*, which operates in the usual manner to relieve the concussion in coupling the cars and sudden jerking in starting the train. The pivot-

pin *d* of the draw-head moves in line with the draw-bar *c* in the slots *e'* of the plates *e*, the limit of such movement being about eight inches, and the slots are open at one end to allow of placing the pin therein between the car-timbers. The coupling end of the draw-head is suspended by a chain, *h*, connected to a metal strip, *i*, which embraces the draw-head and is held in position by grooves *v' v'* in the longitudinal timbers, within which the strap slides as it is raised and lowered to raise and lower the coupling end of the draw-head.

A strap, *j*, secured to the timbers *b b*, limits the descent of the coupling end of the draw-head, the range of the vertical movement of which is about nine inches above and nine inches below a horizontal position of the draw-head.

The chain *h*, by which the draw-head is held, is connected to the inner end of a horizontal lever, *k*, pivoted to the end of the car and extending to near the side thereof. A vertical bar, *l*, pivoted to the outer end of this lever *k*, rises above the top of the car, terminates in hand-hold *l'*, and is secured in position by a guide-cleat, *m*, and a pin, *n*, passing through it into said bar, which is provided with a series of holes to suit its vertical adjustment by said pin. The bar is depressed to raise the draw-head, and the latter is lowered of its own weight when the pin is drawn out of its fastening position. This bar and lever give a very convenient and safe means for connecting and operating a pivoted draw-head suspended by a chain and metal strap fitted to slide vertically in guide-grooves in the car-timbers.

For effecting the automatic coupling of the cars the draw-heads are constructed so as to hold the coupling-link *r* in a horizontal position, or nearly so. The coupling-pin *s* is round or beveled at one side, at its lower end fronting the flaring mouth of the draw-head, as shown in Fig. 3, and it is provided with short pins *s' s'*, projecting from its opposite sides near its rounded end. These pins fit in vertical grooves *t t* in the walls of the vertical opening in the draw-head, within which said coupling-pin works, and these pins and grooves have been so used merely to prevent the coupling-pin from being drawn entirely out the draw-head in uncoupling the cars, the upper ends

of the grooves forming stops for the pins *s'* in raising the coupling-pin. While I use the slots and short pins *s' s'* for the same purpose, I so form that part of these wall-slots above the horizontal opening for the link and below their upper closed ends with a lateral curved part as to leave a seat, *u*, into which the short pins *s'* drop when the coupling-pin is raised to its limit in uncoupling, and let fall and thereby hold the curved or beveled end of the coupling-pin in position to receive the end of the link in coupling the cars, as shown in Fig. 3. The coupling-pin, being thus supported, stands in a position inclining toward the end of the car, with its beveled or rounded end supported in position to intercept the link in entering the draw-head and be raised by it, and in being so raised by the action of the link upon its rounded end cause it to be carried back, so as to free the short pins *s' s'* from the groove-seats *u* and allow the coupling-pin to descend within the link. In this action the coupling-pin assumes a vertical position, as shown by dotted lines in Fig. 3. The seat-forming parts *u* of the grooves stand across their vertical planes, and the form of the groove is such as to cause the short pins *s' s'* to enter and be retained within the seats when the coupling-pin brings the short side pins above said groove-seats, which action is rendered automatic by the form of the grooves and the pulling up of the coupling-pin in a position inclining toward the end of the car. For this purpose the chain *v*, by which the uncoupling is effected, is connected to the car so as to pull the upper end of the coupling-pin toward the car to carry its side pins, *s' s'*, over into the groove-seats.

The link acts as a wedge upon the curved end of the coupling-pin, and it is such action, under the movement of the car and the entrance of the link within the draw-head, which carries the coupling-pin from its points of support, so that it drops into the link as soon as the latter passes fully into the draw-head. This construction avoids the use of spring slid-

ing devices and weighted tumbler-supports for holding the coupling-pin in position to be rendered self-coupling by the action of the link, while the simple construction by which the draw-head is applied to the longitudinal timbers of the car is of much importance, not only as to the cost, but in the adaptation of the coupling apparatus for attachment to the longitudinal timbers of the car, to which the draw-bar, its spring-housings, its pivot-pin connection with the draw-head, and the suspending-strap for the latter have each a movable connection, as shown in Fig. 2.

I claim—

1. The draw-head provided with the opposite seats, *uu*, opening into curved grooves *t* in its inner vertical walls, above its mouth, in combination with the coupling-pin *s*, having its lower end rounded or inclined on one side and provided with short side pins, *s' s'*, adapted to fit the said groove-seats, substantially as described, whereby in raising the coupling-pin its side pins are automatically seated in the said groove-seats to support the coupling-pin in position within the mouth of the draw-head to be raised by the entering link, thus displacing the short side pins from their seats, and effect the release of the pin for automatic coupling.

2. In combination, in a car-coupling, the pivoted draw-head *a*, the draw-bar *c f g*, the fixed slotted plates *e e'*, for the pivot of the draw-head, the strap *i*, chain *h*, lever *k l*, pin *n*, and the longitudinal timbers *b b*, having the guide-grooves for the said strap, the grooves for the cross-bars *f f*, and the slotted pivot-plates *e e*, all constructed as shown and described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM POWERS.

Witnesses:

A. E. H. JOHNSON,

J. W. HAMILTON JOHNSON.