

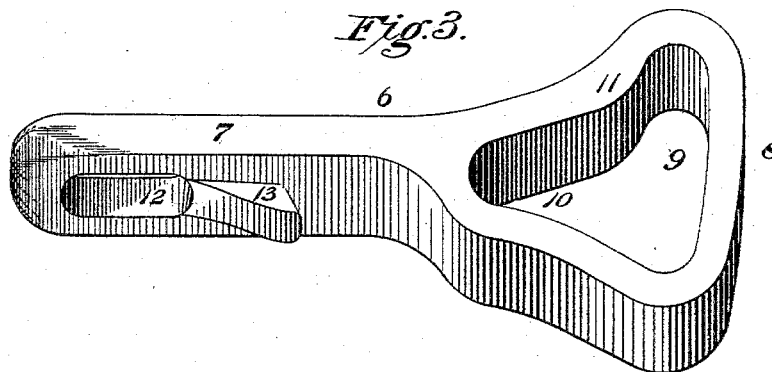
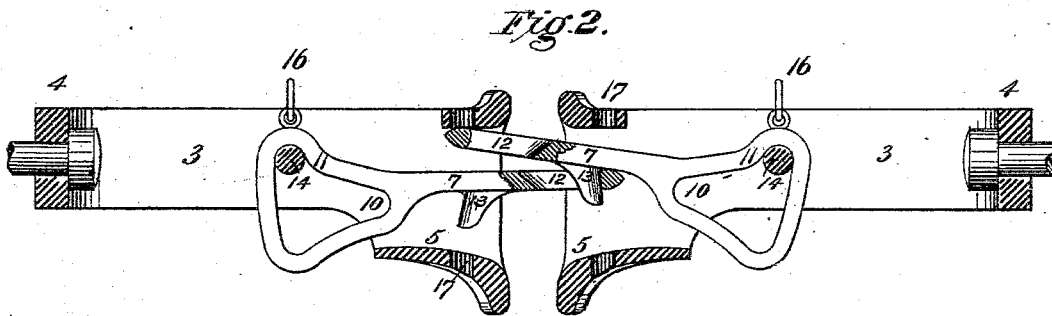
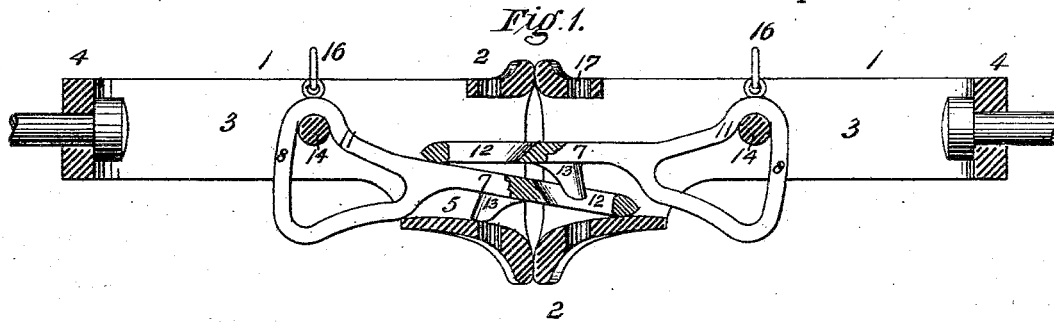
(No Model.)

J. T. WILSON.

CAR COUPLING.

No. 305,875.

Patented Sept. 30, 1884.



WITNESSES:

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JOHN T. WILSON, OF PITTSBURG, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 305,875, dated September 30, 1884.

Application filed August 7, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. WILSON, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Automatic Car-Couplings, of which improvements the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a view in side elevation of twin car-couplers, showing the positions assumed by the parts of the couplers just as the coupling has been effected. Fig. 2 is a sectional side elevation of twin couplers, showing the positions of the parts when under tension. Fig. 3 is a perspective view of my improved coupling-bar.

My invention relates to that class of automatic car-couplers in which each draw-head is provided with a coupling-bar having an eye in its forward end, and a depending hook rearward of the eye, said eye and hook being adapted to engage corresponding parts of the coupling-bar of the adjoining car.

Although the coupling devices of the above class, as heretofore constructed, operate efficiently in coupling cars, they are open to the objection that it is always necessary to raise the upper coupling-bar to uncouple the cars.

The object of my invention is to so construct the draw-head and coupling-bar that the cars can be uncoupled by raising the rear end of either coupling-bar; and to this end my invention consists in the construction and combination of parts, all as more fully hereinafter described and claimed.

The draw-bars 1 are of similar form and construction, made, by preference, of wrought-iron or steel, and consist of the head 2, the side bars or straps, 3, and the end piece, 4. The head 2 is rectangular in outline, but having its vertical sides longest, as shown, and as a consequence of this vertical length of sides the opening in the head will have to be such that cars of considerable difference in the height of their draw-bars can be coupled together. The lower wall or bottom, 5, of the head 2 is inwardly inclined, as shown, and extends some distance along the side bars, 3. The purpose or function of this construction will be more fully stated hereinafter.

The coupling bar or link 6 is constructed

with a tongue or horizontal portion, 7, and a vertical enlargement, 8, at its rear end. In the enlargement 8 is formed the vertical slot 9, which is extended toward the tongue 7, said extension 10 being V shape, as shown. On the upper wall of the V-shaped extension is formed the shoulder 11, the function of which will be hereinafter stated. In the tongue or front portion, 7, is formed the eye 12, and in the rear of the eye, between it and the slot 9, is formed the depending hook 13, having a rearwardly-curved point, as shown. This coupling-bar 6 is connected to the draw-bars 1 by the bolt or pin 14, passing through the side bars or straps, 3, and the vertical slot 9 of the coupling-bar. The pin or bolt 14 is so located in the draw-bar that the tongue of the coupling-bar will normally project slightly beyond the head 2 of the draw-bar, and the rear end of the coupling-bar is supported by the pin or bolt 14, resting in the upper end of the vertical slot, just behind the shoulder 11. When the pin or bolt 14 is in the upper end of the slot 9, the tongue or front portion of the coupling-bar is held in an approximately horizontal position by the rear edge of the lower inclined wall, 5, of the head 2, on which the middle portion of coupling-bar rests, as shown in Fig. 1, in which position the hook 13 will be clear of the inclined wall 5. This position of the coupling-bar is insured by the greater weight of its rear end. The front edge of the coupling-bar is beveled or slightly rounded, so as to insure its slipping by the end of the coupling-bar of an adjoining car when they are being coupled.

Each of the draw-bars 1 is provided with coupling-bars similar in construction as above.

The operation of the twin couplings when in use is as follows: The coupling-bars, being normally in the position above described, will, when the cars are pushed together, slide one over the other, and the hook 13 in the upper coupling-bar will drop into the eye of the other coupling-bar, thereby connecting the cars together. During this coupling operation the coupling-bars are held as against any rearward movement by the shoulder 11 bearing against the pin or bolt 14. This shoulder offers sufficient resistance to any displacement of the coupling-bar likely to occur from jars or shocks in the ordinary coupling operation, but will

permit of the rearward movement of the coupling-bar when the rear end of the coupling-bar is raised.

The cars may be uncoupled by raising the rear end of either of the links or coupling-bars. When the rear end of the upper link is raised, the forward end of the link will rest upon the upper side of the other or under coupling-bar as a fulcrum, and the hook of the upper link will be raised from the eye with which it was engaged, and during this uncoupling movement it will be observed that the coupling-bar acts as a lever of the second order, the hook acting as the weight, being between the front or fulcrum and the rear or power end; but when the rear end of the under link or coupling-bar is raised it will act as a lever of the first order, the middle of the under coupling-bar bearing against the front end of the upper link as a fulcrum, and the front end of under coupling-bar, acting as the weight, will be depressed sufficiently to free its eye from the hook of the upper link.

From the above it will be seen that the uncoupling may be effected by raising the rear end of either of the coupling-bars.

To facilitate the raising of the rear ends of the coupling-bars a chain, 16, is attached thereto, the opposite end of the chain being attached to an arm projecting from a rod or shaft journaled to the end of the car and having its ends provided with handles accessible without going between the cars.

In the head 2 are formed the holes 17 for the reception of a pin when the cars are to be coupled in the ordinary manner with a loose link, in which case the coupling-bar is pushed back in the draw-bar until its eye is in line with the holes 17. When the coupling-bar is thus pushed back, the pin or bolt 14 passes into V-shaped extension of the vertical slot provided for the endwise movement of the coupling-bar.

When two cars united by my improved coupling are pushed together, the front end of the lower coupling-bar will ride up on the inclined lower wall, 5, of the adjoining draw-bar head, thus preventing any disengagement of its eye from the hook of the upper coupling-bar.

It will be observed that as the opening in the head 2 of the draw-bar has a considerable vertical length, and as the rear end of the coupling bar or link is vertically slotted, the front end of the coupling-bar will have a large range of vertical play, thereby permitting of the coupling together of cars differing greatly in the height of their respective draw-bars.

The pin or bolt 14 is secured in place either by upsetting its heads on the outside of the

side bars, or by means of nuts or keys, and when so secured the pin or bolt will brace said side bars as against any spreading thereof.

I claim herein as my invention—

1. A coupling-bar having a vertical slot in its rear end, an eye at its forward end, and a hook intermediate between the two, substantially as set forth.

2. A coupling-bar having a vertical slot at its rear end, a horizontal V-shaped extension of the same, whereby to provide for endwise movement, an eye at its forward end, and a hook located rearward of the eye, substantially as set forth.

3. A coupling-bar having an eye at its forward end, a hook rearward of the eye, a vertical slot at its rear end, and a horizontal extension of the same, the upper wall of said extension being provided with a shoulder, 11, near its junction with the walls of the vertical slot, whereby to prevent any rearward movement of the coupling-bar, substantially as set forth.

4. In a car-coupling, the combination of a draw-bar, a coupling-bar pivoted within the draw-bar, and having an eye at its forward end, a hook rearward of the eye, a vertical slot at its rear end, and a horizontal extension of the same, whereby to provide for endwise movement, the upper wall of said extension being provided with a shoulder, 11, to prevent any rearward movement of the coupling-bar in certain positions thereof, and a pin or bolt passing through the draw-bar and the slot in the coupling-bar, substantially as set forth.

5. In a twin car-coupling device, a pair of draw-bars, each having a head formed with its lower side inclined, as described, in combination with coupling-bars pivoted within said draw-bars, and each having a vertical slot at its rear end, an eye at its forward end, and a hook intermediate between the slot and eye, substantially as set forth.

6. In a car-coupling, a draw-bar having side bars, in combination with a coupling-bar having a vertical slot at its rear end, an eye at its forward end, and a hook intermediate between the slot and eye, and a pin or bolt secured in the side bars and passing through the vertical slot in the coupling-bar, whereby the coupling-bar is pivotally held within the draw-bar, and the side bars are braced as against spreading, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JOHN T. WILSON,

Witnesses:

DARWIN S. WOLCOTT,
J. SNOWDEN BELL.