

(No Model.)

2 Sheets—Sheet 1.

H. DEITZ.
CAR COUPLING.

No. 487,665.

Patented Dec. 6, 1892.

Fig. 1.

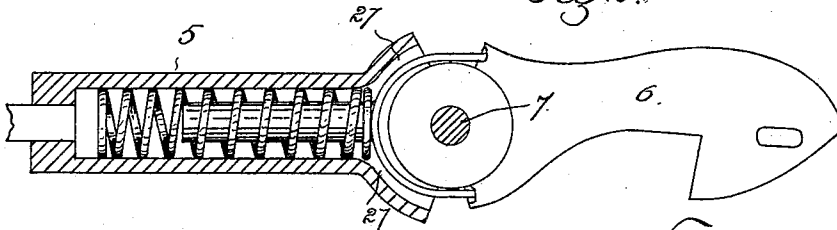


Fig. 2.

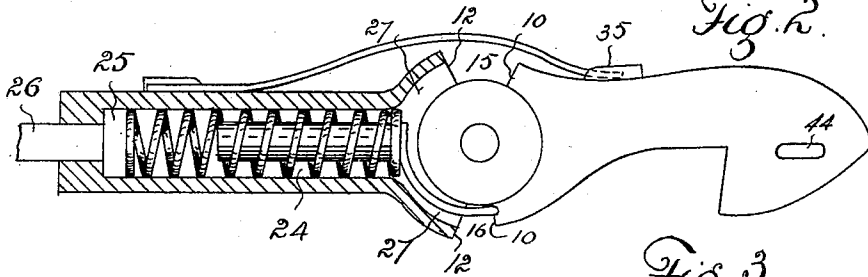


Fig. 3.

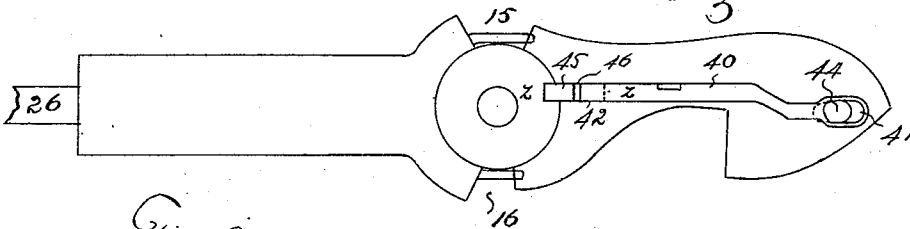


Fig. 9.

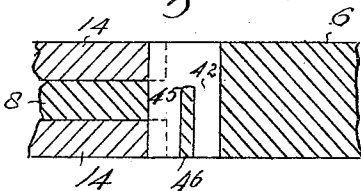


Fig. 4.

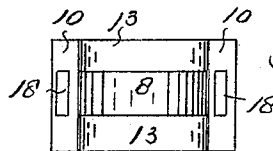


Fig. 5.

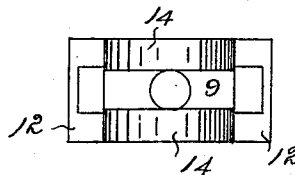


Fig. 8.

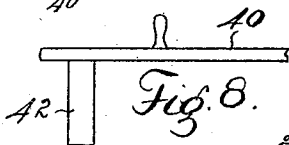
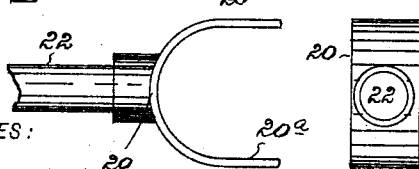


Fig. 6.

INVENTOR
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WITNESSES:
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Fig. 7.



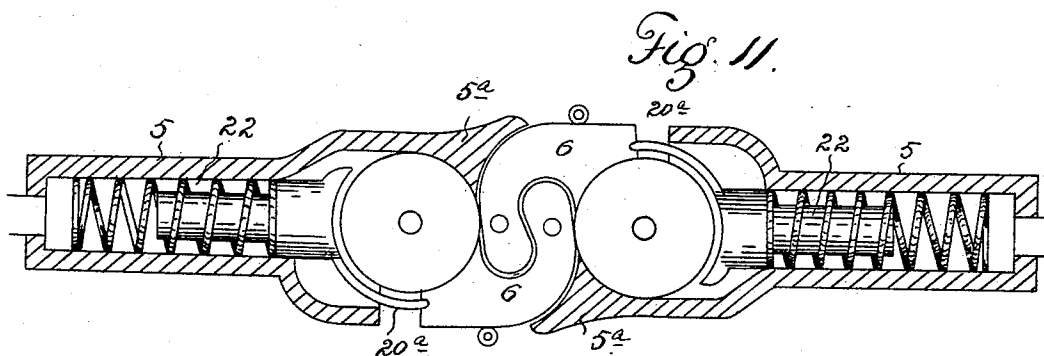
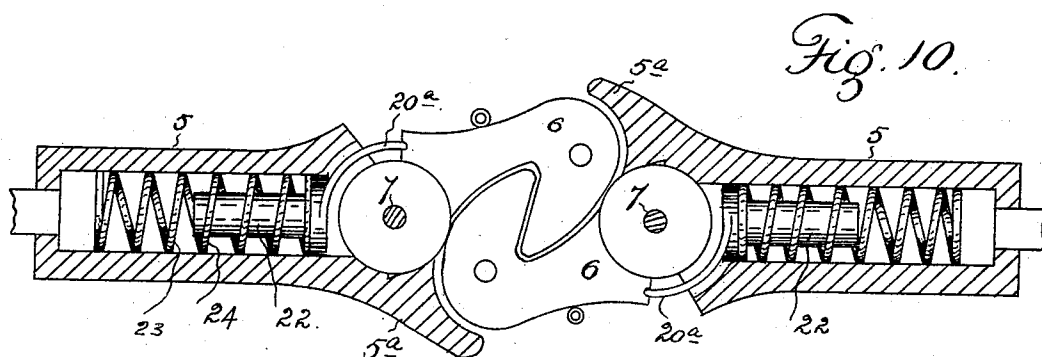
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2 Sheets—Sheet 2.

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No. 487,665.

Patented Dec. 6, 1892.



WITNESSES:
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UNITED STATES PATENT OFFICE.

HENRY DEITZ, OF DENVER, COLORADO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 487,665, dated December 6, 1892.

Application filed March 26, 1892. Serial No. 426,602. (No model.)

To all whom it may concern:

Be it known that I, HENRY DEITZ, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Car-Couplers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car-couplers specially designed for passenger-car service.

The object of the invention is to provide a coupler which shall be of simple and economical construction, automatic in action, reliable, and durable and practicable in use.

To these ends the device consists of the features, arrangements, and combinations hereinafter described and claimed.

In the drawings is illustrated an embodiment of the invention.

Figure 1 is a top or plan view of the coupler, partly in elevation and partly in section. Fig. 2 is a similar view of a modified form of construction. Fig. 3 is a top or plan view of the coupler, showing the locking device. Fig. 4 is an end view of the inner extremity of the coupling-head. Fig. 5 is a similar view of the adjacent extremity of the draw-bar. Fig. 6 is an end view in the fork engaging the coupling-head and bearing against a spring located in the draw-head. Fig. 7 is a top view of the same, the stem being partially broken away. Fig. 8 shows the locking device in detail. Fig. 9 is a section taken on the line *xx*, Fig. 3. Figs. 10 and 11 are horizontal longitudinal sections taken through a modified form of the device for use on either freight or passenger cars.

Similar reference characters indicating corresponding parts or elements in the several views, let the numeral 5 designate the draw-bar, and 6 the hooked coupling-head pivoted thereto by passing a pin 7 through the adjacent extremities of the parts, one of which is provided with a tongue 8, engaging a recess or groove 9, formed in the other. The adjacent extremities of parts 5 and 6 are provided with opposite vertical shoulders 10 and 12,

while one part, as the coupling-head, is provided with arc-shaped horizontal shoulders 13 to receive the adjacent correspondingly-shaped parts 14, formed on the draw-head. This construction permits freedom of movement of the two heads upon each other, such movement being only limited by the vertical shoulders 10 and 12. A space 15 separates shoulders 10 and 12 on the outside, while the inner corresponding shoulders are separated by a space 16. These spaces 15 and 16, lying between the vertical shoulders, permit the required lateral movement of the coupling-head upon the draw-head in both directions from the normal position of the coupling-head, which is in line with the draw-head. As shown in the drawings, space 16 is somewhat narrower than space 15, since the inner movement from the normal line of position need not be so great as the outward movement from this line.

The shoulders 10 of coupling-head 5 are provided with recesses 18 for the reception of the extremities of arms 20^a of fork 20. This fork is provided with a stem 22, surrounded by a coil-spring 23, located in a longitudinal recess 24, formed in the draw-head. The rear extremity of this spring engages the head 25 of bolt 26, which connects the draw-head with the car, while its forward extremity bears against the base of the fork or at the junction of the arms and the stem.

The draw-head is recessed on both sides, as shown at 27, to permit the backward movement of the fork as its extremities are pressed in giving the coupling-head its lateral movement in either direction. The stem 24 of the fork is of sufficient length to keep the fork in the proper position under all circumstances, but is not long enough to interfere with the required backward movement of the fork. The outer arm of the fork may be omitted and a leaf-spring 30 substituted therefor. This spring is rigidly secured at one extremity, as to the draw-bar, while its opposite extremity is secured within a guide or socket 35, formed on the coupling-bar, as shown in Fig. 2.

The coupling-head is provided with a locking device 40, slidingly secured thereto, and whereby the coupling-head may be rigidly locked upon the draw-head, as when it is de-

sired to couple the heads together by the use of the ordinary link and pin. This locking device is shaped substantially as shown in Figs. 3 and 8, and consists of a bar or narrow plate provided with an aperture 41 at one extremity and a depending pin 42 at the opposite extremity. When in the unlocked position, pin 42 occupies a recess 43, formed in the rear extremity of the coupling-head, while its forward extremity partially covers the opening 44 in the extremity of the coupling-head, through which the pin must be inserted in coupling by the use of a link and pin. Hence the pin cannot be inserted until the locking-bar is moved forward so that its opening 41 coincides with the opening 44 in the coupling-head. To do this it is necessary to raise bar 40 sufficiently to drop pin 42 into a recess 45, formed in the coupling-head, and parts 14 of the draw-head, the two recesses or sockets 42 and 45 being separated by a partition 46. The coupling-head is then rigidly locked upon the draw-head, and the coupling may be formed by dropping the pin into aperture 44 through the eye 41 in the locking-bar.

In the construction shown in Figs. 10 and 11 stem 22 is provided with only one arm 20^a, which engages a short coupling-head of substantially the same construction as that shown in the other figures. The draw-head in these figures is provided with a buffer, adapted to engage the outer curved surface of the coupling-head when the cars are coupled. There is a slight difference in construction between the coupling-heads shown in Figs. 10 and 11, while the position of these heads is reversed. The stem 22 of fork 20 is preferably provided with a shoulder 22^a, against which the outer extremity of spring 24 bears. The object of this shoulder is to stop the spring well within the longitudinal recess of the draw-head to avoid the possibility of the springs catching upon the draw-head at the mouth of said recess, as might be the case if the spring were allowed to engage the arms of the fork, as shown in Figs. 1 and 2.

Having thus described my invention, what I claim is—

1. In a car-coupler, the combination of the draw-head, the hooked coupling-head pivoted thereto, the adjacent extremities of the two heads being provided with oppositely-disposed vertical shoulders sufficiently separated to permit the required lateral movement in both directions, a spring located in the draw-head, and a fork having its base engaging the outer extremity of the spring, the shoulders of the coupling-head being provided with recesses to receive the extremities of the fork, the draw-head being recessed to permit the

required movement of the fork, substantially as described.

2. In a car-coupler, the combination of a draw-head longitudinally recessed and a spring-actuated forked stem located in said recess, the arms of the fork projecting therefrom, and a coupling-head which said arms engage, substantially as described.

3. In a car-coupler, the combination of the draw-head pivoted thereto and the spring-actuated fork having its base located in the draw-head, while its arms project therefrom and engage the coupling-head, substantially as described.

4. In a car-coupler, the combination, with the recessed draw-head and the coupling-head pivoted thereto, of a spring-actuated curved arm provided with a guide located in the recess of the draw-head, the arm projecting therefrom and engaging the coupling-head on one side, substantially as described.

5. In a car-coupler, the combination, with the recessed draw-head, of the hooked coupling-head provided with the curved outer face, the curved buffer formed on the draw-head to engage said face, and a spring-actuated curved arm provided with a guide located in the recess of the draw-head, the arm projecting therefrom to engage the coupling-head on the side opposite from the buffer, substantially as described.

6. In a car-coupler, the curved arm provided with the spring-actuated guide-stem, substantially as described.

7. In a car-coupler, the fork provided with the spring-actuated guide-stem, substantially as described.

8. In a car-coupler, the combination, with the draw-head, of the hooked coupling-head pivoted thereto and provided with an aperture in the outer extremity, and means for locking the coupling-head rigidly upon the draw-head, consisting of a sliding bar having an eye in its outer extremity and provided with a depending pin at its opposite extremity, and a recess formed to receive said pin when in the locked and unlocked positions, the bar being so located that its outer extremity partially closes the vertical aperture in the coupling-head when said bar is in the unlocked position, while the eye of the bar coincides as to position with said aperture when the bar is in the locked position, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY DEITZ.

Witnesses:

WM. McCONNELL,
LOUIS E. P. WILKES.