

(No Model.)

D. HIRSH.  
CAR COUPLING.

Patented June 16, 1891.

No. 454,045.

Fig. 1.



Fig. 2.

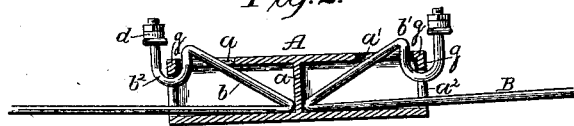


Fig. 3.

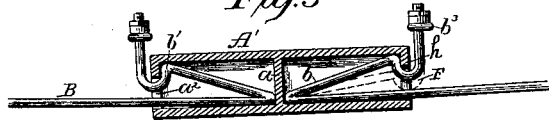


Fig. 4.

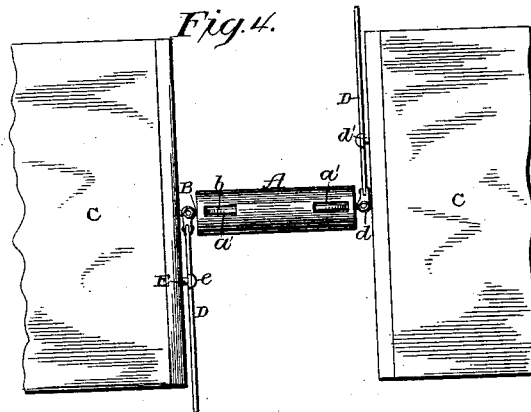


Fig. 5.

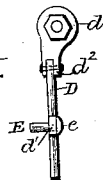


Fig. 6.

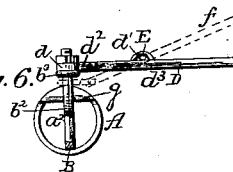


Fig. 7.



WITNESSES:

Geo. A. Lane  
Ella L. Gerhart

INVENTOR

Dora Hirsh

BY Wm. R. Gerhart

ATTORNEY.

# UNITED STATES PATENT OFFICE.

DORA HIRSH, OF LANCASTER, PENNSYLVANIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 454,045, dated June 16, 1891.

Application filed February 26, 1891. Serial No. 382,917. (No model.)

*To all whom it may concern:*

Be it known that I, DORA HIRSH, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Car-Couplings, of which the following is a specification.

This invention relates to improvements in automatic car-couplers; and the invention consists in the construction and combination of the several parts, as hereinafter fully described, and specifically pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a side view of one of my couplers, shown detached from the car and having both the draw-bars engaged therewith, and Fig. 2 a vertical longitudinal section of the same. Fig. 3 is a vertical longitudinal section of a modified form of the coupler. Fig. 4 is a top or plan view of the ends of two cars connected by the coupler. Fig. 5 is an enlarged view of the lever for uncoupling the cars. Fig. 6 is an end view of the draw-head shown in Figs. 1, 2, and 4, the draw-head being connected therewith; and Fig. 7, an end view of the modified form of draw-head shown in Fig. 3, the draw-bar being detached.

Similar letters indicate like parts throughout the several views.

Referring to the details of the drawings, A A' indicate hollow draw-heads, which may be either circular or rectangular in cross-section, as shown, respectively, in Figs. 6 and 7.

The draw-heads illustrated in the drawings are divided internally into two sections by transverse partitions  $a$  and have openings  $a^2$  in their ends. The partitions prevent the draw-bars from being driven too far into the head, and at the same time form a bearing for the draw-bar in backing the train.

The cylindrical draw-head A (shown in Figs. 1 and 2) has a longitudinal slot  $a'$  cut in the top of both sections thereof, the metal closing the outer ends of which forms a bearing  $g$ , that is engaged by the draw-bar, as will be explained. The bearing  $g$  is carried down somewhat, so that it closes the upper part of the end of the cylinder, thus increasing the bearing-surface.

In Fig. 3 is shown a modification in the con-

struction of the draw-head, in which the slot is omitted and the bearing formed by a lip  $h$  covering the upper part of the end opening  $a^2$ . The slot may also be omitted in the cylindrical form of the draw-head, or the rectangular form may be made with the slot, as is most desirable.

B indicates draw-bars constructed of spring metal, the outer ends  $b$  of which are bent back over the main portions and constitute spring-bars, which make vertical angles therewith. The vibrating ends of the spring-bars are bent downward and then again upward, so as to form shoulders  $b'$ , which engage the bearings  $g$  or  $h$  and loops  $b^2$ , that embrace said bearings, as seen in Figs. 2 and 3. With the slotted draw-heads the shoulders of the spring-bars pass upward through the slots  $a'$ , but in the modified construction they rest against the tops of the draw-heads. The outer arms of the loops  $b^2$  extend upward outside of and above the ends of the draw-heads and have bosses  $b^3$  formed thereon, that serve as a rest for the heads  $d$  of the operating-levers D. These heads engage the reduced ends of the said arms of the loops, being retained thereon by nuts and have jaws  $d^2$  formed on their ends, between which the levers are pivoted, as shown in Figs. 5 and 6. Upon the lever D there is constructed a lug  $d'$ , provided with an elongated slot  $d^3$ , Fig. 6, through which a fulcrum-pin E, fixed in the platform of the car, passes, the lever being held thereon by the enlarged head  $e$ .

In Fig. 4 is shown two cars G connected by a cylindrical draw-head constructed as just described. This draw-head is detachable from the draw-bars B of one or both cars; but, if preferable, the draw-head may be permanently secured to one of the cars in the same manner as with any other coupler, and have only one end constructed to be detachably engaged by a draw-bar.

To couple the cars, the draw-head being connected with one, the draw-bar to be engaged therewith is guided by its lever D, having the end elevated or depressed by the vertical movement of said lever and a horizontal movement communicated thereto by a longitudinal movement of the lever on the fulcrum-pin E.

To uncouple the draw-bar, the end thereof

is depressed, as shown by the broken lines F, Fig. 3, by a vertical movement of the lever D, (shown by dotted lines *f*, Fig. 6,) so as to disengage the shoulder *b'* from the bearings *g* or *h*.

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

1. In a car-coupler, the combination, with a hollow draw-head having an opening in the end, of a bearing formed in said open end, a draw-bar, and a spring-actuated shoulder connected with the draw-bar and adapted to engage the bearing of the draw-head, substantially as and for the purpose specified.

15 2. In a car-coupler, the combination, with a hollow draw-head open at the end and having a slot cut through the wall thereof, of a draw-bar and a spring-actuated shoulder connected with the draw-bar and adapted to engage the slot in the draw-head, substantially as and for the purpose specified.

20 3. In a car-coupler, the combination, with a hollow draw-head having an opening in the end, of a bearing formed at said opening, a draw-bar having the end bent back over the body thereof and forming a spring-bar, and a

shoulder formed on the spring-bar adapted to engage the bearing of the draw-head, substantially as and for the purpose specified.

4. In a car-coupler, the combination, with a hollow draw-head having an opening in the end, of a bearing formed at said opening, a draw-bar, a spring-actuated bar connected with the draw-bar and having a shoulder and loop, and a lever connected with the outer arm of said loop, substantially as and for the purpose specified.

5. In a car-coupler, the combination, with a hollow draw-head having an opening in the end, of a bearing formed at said opening, a draw-bar, a spring-actuated bar connected with the draw-bar and having a shoulder and loop, and a lever connected with the outer arm of said loop and having an elongated slot, and a pin secured to the car and engaging the elongated slot of the lever, all constructed and operating substantially as and for the purpose specified.

DORA HIRSH.

Witnesses:

GEO. A. LANE,

WM. R. GERHART.