(No Model.)

A. SCHROEDER.

CAR COUPLING.

No. 485,062. Patented Oct. 25, 1892.

Fig. 1

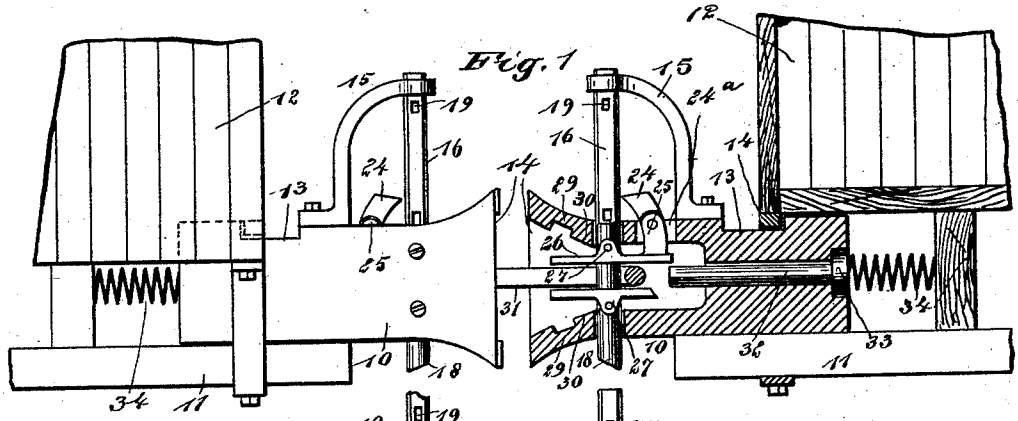


Fig. 2

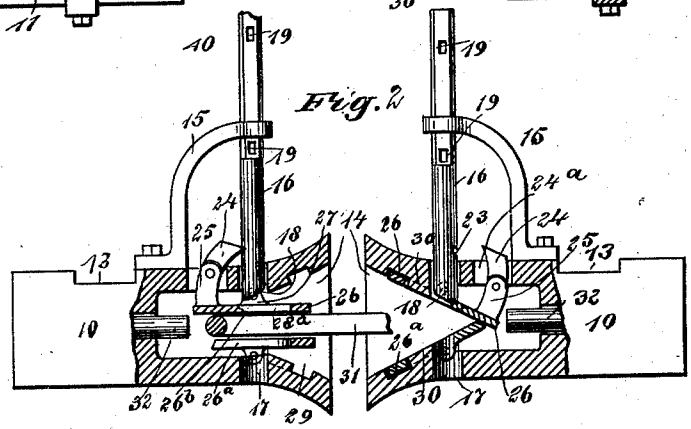


Fig. 3.

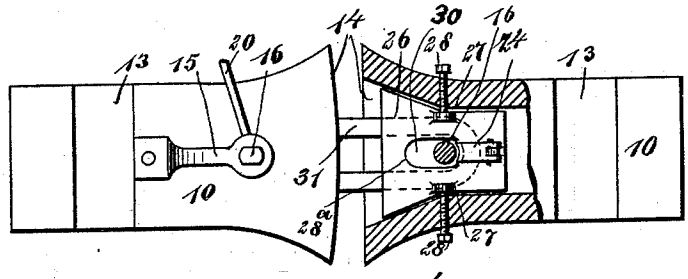
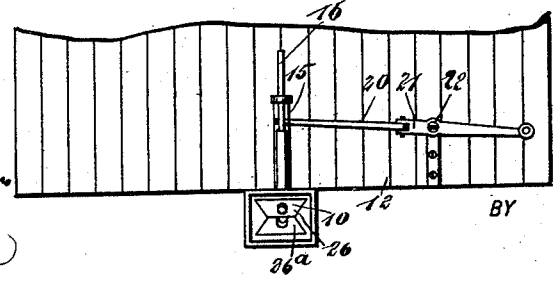


Fig. 4



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 485,062, dated October 25, 1892.

Application filed June 8, 1892. Serial No. 435,946. (No model.)

To all whom it may concern:

Be it known that I, AUGUST SCHROEDER, of Weston, in the county of Somerset and State of New Jersey, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to improvements in automatic car-couplings such as are adapted for use on either freight or passenger cars and are operated from either the top or sides of the car.

The object of my invention is to produce a simple form of coupling which is adapted to use the ordinary link, and which may consequently be coupled, when necessary, to an old-fashioned coupling, which will operate positively and automatically to couple two cars together, which will hold them together so that they cannot be accidentally uncoupled.

To this end my invention consists in certain features of construction and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of two couplings in a coupled position, one of them being shown in longitudinal section. Fig. 2 is a broken sectional elevation showing two couplings in position for coupling. Fig. 3 is a broken plan of the coupled couplings, one being shown partly in section; and Fig. 4 is an end view of the coupling as applied to a car, showing, also, a simple form of lever mechanism for lifting the coupling-pin.

The coupling is provided with a draw-head 10, which is essentially of the common form and which is held in a frame 11, which is secured to the under side of the car 12 in the usual way. The draw-head has a transverse recess 13 in the top, which receives a cross-piece 14 on the car-bottom, as shown in Fig. 1, and the recess 13 is sufficiently wide to permit the necessary longitudinal movement of the draw-head. The draw-head has a bell-shaped mouth 14 to enable it to more conveniently couple with the coupling of a higher or lower car, and it is provided on the top with an upwardly-extending curved guide-arm 15, in which is held to slide vertically a coupling-pin 16, this being adapted to drop through a hole 17, extending through the draw-head, and consequently the pin may engage a coupling-link in the usual way. The bottom of the pin is beveled slightly, as shown at 18, so that when in a raised position, as in Fig. 2, this lower end will conform to the shape of the top wall of the draw-head. The upper end portion of the pin is preferably flattened on the sides and provided with perforations 19 to receive the inner end of a lever-arm 20, this being fixed to a lever 21, which is fulcrumed on the end of the car, as shown at 22 in Fig. 4, and which extends outward so as to be easily reached from the side of the car. It will thus be seen that by depressing the outer end of the lever the pin may be raised, and it will also be understood that a chain may be operatively attached to the lever and extended upward to the car top in the usual way. The pin has on its back side and near the lower end a notch 23, the top wall of which is at right angles to the length of the pin, and this notch is adapted to receive the front edge of a pawl 24, which is held to move in a recess 24^a in the top of the draw-head, and is pivoted on the upper end of a lug 25, formed on the top side and rear end of a swinging jaw 26, the latter having side lugs 27 near the center, which are pivoted on transverse bolts 28, which are secured in the draw-head. The jaw 26 conforms to the shape of the opening in the draw-head, its front end being widened, as shown in Fig. 3, and it is provided with a central opening 28^a, large enough to receive the coupling-pin 16 and also a thickened portion of the wall of the draw-head. At the rear of the opening 28^a in the jaw 26, is a lip 26^b, adapted to support the coupling-pin, as hereinafter described. A similar jaw 26^a is fulcrumed beneath the jaw 26 and has its inner end arranged to swing beneath the rear end of the upper jaw, as shown in Fig. 2, and the lower jaw is, in other respects, exactly like the other jaw, with the exception that it does not have the lug 25 upon it. The jaws 26 and 26^a abut at their inner ends, as shown, and they are held so that their openings 28^a close over thickened portions 30 of the upper and lower

walls of the draw-head, and their front portions lie in recesses 29 in the upper and lower walls of the draw-head. The thickened parts 30 form bearing-surfaces for the front side of the pin 16, so that when a link is pulled hard against the pin the latter will not easily bend.

A common oblong link 31 of the usual kind is used in coupling, and in the back end of the draw-head and directly in the path of the link is an abutment or pin 32, which has a head 33 at its rear end which prevents it from moving too far forward, and the pin or abutment is normally pressed forward by a spring 34, which is held between its rear end at an adjacent timber under the car.

In the common form of couplings the links are sometimes long in relation to the draw-heads, so that the latter cannot come together before the link strikes their rear walls, and consequently the link is badly bent or possibly broken; but with the construction above described it will be seen that the draw-heads and bumpers may always come together, as the link when pushed well into the draw-head strikes the abutment 32, and the latter moves back against the tension of the spring 34, and no injury is done to the link.

The operation is as follows: When the link is pushed lengthwise into the draw-head, its inner end strikes the rear portions of the jaws 26 and 26^a, thus separating the jaws, and if the link is a long one it pushes back the abutment 32, as described above. When the jaws are separated, the rear end of the jaw 26 is pushed up and the rear end of the jaw 26^a pushed downward, the movement of the upper jaw releases the pin 16, and the latter drops downward through the link and through the hole 17, thus locking the coupling. When the coupling is to be uncoupled, one merely presses down on the outer end of the lever 21, which raises the pin into the position shown at the left hand in Fig. 2, and the pawl 24 catches into the notch 23 in the pin 16, thus holding the pin upward. The pin is thus raised entirely clear of the upper jaw 26. The link 31 may then be withdrawn from between the jaws and this allows them to assume their normal position, and the pawl 24 will move backward and the pin will drop down and catch on the lip 26^b, which is formed at the inner end of the opening 28^a. The pin will thus be held in a raised position by the said lip, and the coupling will be ready for another operation.

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

1. A car-coupling comprising an open-mouthed draw-head, a vertically-movable pin held to move in a hole in the draw-head, a pair of vertically-swinging link-holding jaws pivoted in the upper and lower portions of the draw-head, a fastening device to hold the pin in a raised position, and means for tripping the pin by the movements of the jaws, substantially as described.

2. A car-coupling comprising an open-mouthed draw-head having a vertical pin held therein, a pin held to slide in the pin-hole, link-holding jaws pivoted in the upper and lower portions of the draw-head and having openings for the passage of the pin, said jaws being adapted to lie in recesses in the draw-head, and a fastening device to hold the coupling-pin in a raised position, said device being operated by the movement of the upper jaw, substantially as described.

3. A car-coupling comprising an open-mouthed draw-head having a vertical pin held therein, a coupling-pin held to slide in the pin-hole and having a notch in one side, vertically-swinging jaws pivoted in the upper and lower portions of the draw-head and having central openings for the passage of the coupling-pin and to receive thickened adjacent portions of the draw-head walls, and a pawl carried by the upper jaw and adapted to engage the notch in the coupling-pin, substantially as described.

4. The combination of the hollow draw-head having a vertical pin-hole therein, the sliding pin held to move in the hole and having a notch in one side, the recessed jaws pivoted in the upper and lower portions of the draw-head, said jaws having openings for the passage of the pin and the upper jaw having a lip to engage the lower end of the pin, and the pawl pivoted on a lug of the upper jaw and held to engage the notch in the coupling-pin, substantially as described.

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