(No Model.)

H. W. WARNER.

CAR COUPLING.

No. 387,025. Patented July 31, 1888.

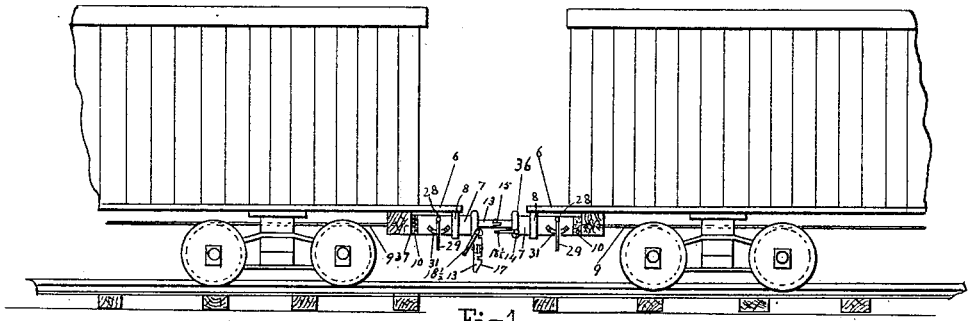

Fig. 1.

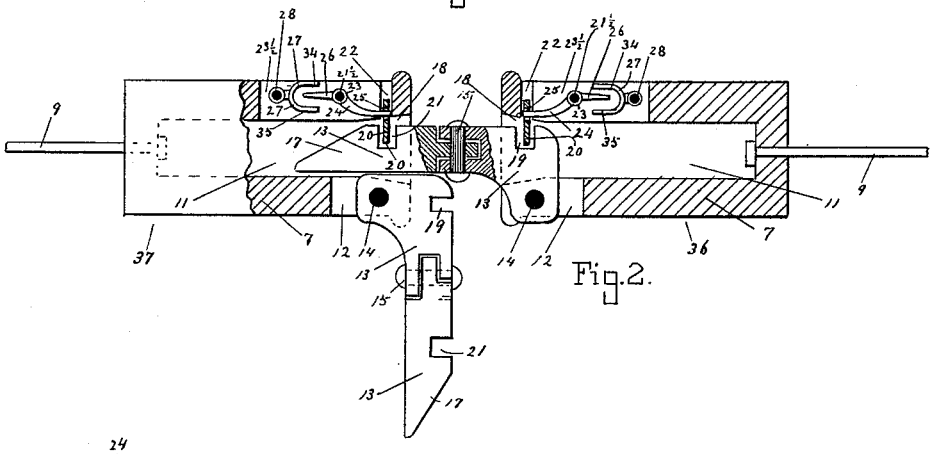

Fig. 2.

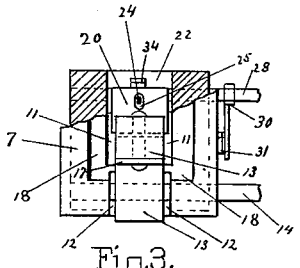

Fig. 3.

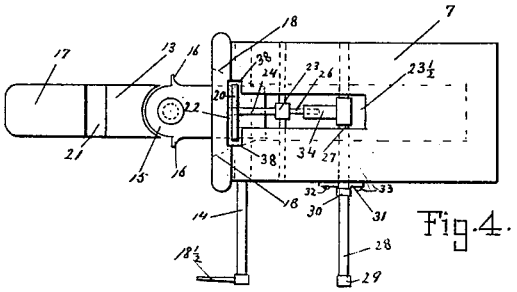

Fig. 4.

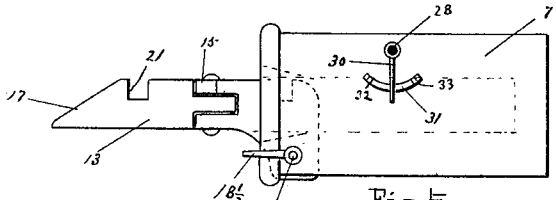

Fig. 5.

Witnesses,
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UNITED STATES PATENT OFFICE.

HENRY W. WARNER, OF BALTIMORE, MARYLAND.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 387,025, dated July 31, 1888.

Application filed December 17, 1887. Serial No. 258,160. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. WARNER, a citizen of the United States, residing at Baltimore, in the State of Maryland, 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 letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in devices for automatically coupling railroad-cars; and it consists of certain self-locking mechanism, whereby when the two cars are brought together they will be automatically and securely coupled in this position, the object of my invention being to provide a safe and secure means of coupling cars, wherein is avoided the great danger to life to which persons are exposed who now perform that operation, particularly on freight-trains, and which I accomplish by the device herein described, wherein all preparatory operations for coupling are performed at the side of the car, and under no conditions requiring the person who may be engaged in the work to go between the cars.

In the further description of my invention reference is had to the accompanying drawings, in which—

Figure 1 is a view in full of the device as applied to the cars. Fig. 2 is a vertical section through the coupler, showing one tongue partly in section. Fig. 3 is a front end view of coupler with part of bull-nose removed. Fig. 4 is a view in full looking down on the coupler. Fig. 5 is a side elevation in full of coupler.

The same figures refer to the same or similar parts throughout the several views.

The figure 6 denotes the platform of a car which is provided with this device, under which is secured the bull-nose 7 in the usual manner by the strap 8, a draft-rod, 9, being secured to the coupler for taking the pulling-strain, and a buffer, 10, for relieving the shock of impact.

The devices to be herein described are placed one at each end of the car to be coupled thereby, and are of like construction, and the description of the details of that applied to one end of the car will be sufficient for a complete understanding of the device.

The bull-nose 7 is made of cast-iron, and of the form shown in Fig. 2, wherein the square recess 11 extends to near the inner end, which is closed for securing thereto the draft-rod 9. On the bottom side and at the open end of the bull-nose 7 is a slot, 12, wherein is pivoted by means of the shaft 14, to which it is secured, the offset end of the tongue 13, whereby the said tongue is free to be moved to either a horizontal or dropped to the vertical position. This tongue 13 is constructed with the hinged joint 15 therein in order to permit the necessary flexibility when the train is rounding a curve, this flexibility being limited by the stops 16, which are placed on one part of the joint, whereby the tapered end 17 of the tongue 13 may always be in position to find its way in the bull-nose 7 of the other car, the said bull-nose being provided with an inward taper, 18, at its open end to facilitate the adjustment.

As stated, the tongue 13 is free to be moved by the shaft 14 to either the horizontal position or permitted thereby to be dropped, the raising of which is accomplished by turning the shaft 14 by means of the lever 18½, the said shaft 14 being of sufficient length to perform this operation from the side of the car.

In order to lock the tongue 13 in the horizontal position preparatory to coupling, the slot 19 is provided in the top thereof, into which drops by gravity the lock-plate 20, the curved corner of the tongue permitting this movement of said tongue. At the other or outer end of the said tongue 13 is provided another slot, 21, which serves to lock this tongue in the bull-nose of another car by the lock-plate thereof in a manner to be explained in describing the operation. Transversely on top of the bull-nose 7 is the opening 22, which extends through the metal of the top thereof and forms a guide, 38, for the lock-plate 20, in which it is permitted to move freely up or down, gravity tending normally to hold it in the down position.

In order to raise the lock-plate 20 and thus release it from either of the slots 19 or 21 of

that tongue in which it is engaged, whereby the cars may be separated or the tongue 13 dropped, a lever, 23, is provided and pivoted by the pin 21½ in a suitable recess, 23½, which is made in the bull-nose casting for this purpose, the said lever 23 consisting of the arm 24, which extends through the opening 25 in the lock-plate 20, whereby when the said arm is raised or lowered the said lock-plate will move in unison therewith. For convenience of operating, and that the lock-plate 20 may be free to be operated automatically by the tongue 13, this lever 23 is provided with the additional arm 26, which is operated by the forked lever 27, that is secured to the shaft 28, the said shaft 28 being extended through the metal of the bull-nose, which forms a bearing therefor, and to a sufficient length to be conveniently operated from the side of the car, at which point it is provided with a lever, 29, for operating, a stop-lever, 30, being likewise secured to the shaft 28, just outside the bull-nose, which travels over the arc 31, whereon are the stops 32 and 33, that this lever may be held in the desired position. The forked lever 27 is made in this form.

In order that the lock-plate 20 may have free movement when it is desired that the tongue 13 shall operate it automatically; the upper jaw, 34, of this lever 27 serving to raise the lock-plate 20 by pressing on the arm 26, and the lower jaw, 35, serving to lock plate 20 in the down position through the lever 23, when this condition is desired. The space between the jaws 34 and 35 of the forked lever 27 when in mid-position being sufficient to permit the said free movement of the lock-plate 20.

The manner of operating is as follows: On the approach of two cars that are to be coupled the tongue 13 of one of the devices, 36, is raised to the horizontal position by means of the lever 18½, which may be accomplished from the side of the car, as described, the lever 29 being in the mid-position, whereby the lock-plate 20 will fall in the slot 19 and lock the tongue 13 in this position. The other car is prepared by moving the lever 29 of the device 37 to the extreme right, when the lock-plate 20 will be raised out of the slot 19, in the manner described, and gravity will cause the tongue 13 to drop to the vertical position, after which the lever 29 is again placed in mid-position and the cars are brought together, when the tongue 13 of the device 36 will enter recess 11 of the bull-nose 7, the tapered end 18 thereof causing the lock-plate 20 to be raised until it meets with the slot 21, when it will drop therein and the two devices will be securely locked together, which position is made more secure by moving the lever 21 to the extreme left, when it will be stopped in this position by the stop 32 on the arc 31, whereby the jaw 35 of the forked lever 27 will prevent any accidental movement of the lever 23, in the manner heretofore described. When it is desired to uncouple the cars, the lever 29 of the device 37 is moved to the extreme right, when the lock-plate 20 will be raised out of the slot 21 of the tongue 13, and the said tongue may be drawn therefrom and dropped or kept in position for another coupling, as described.

Having described my invention and the manner of operating, what I claim, and desire to secure by United States Letters Patent, is—

1. In a device for coupling railroad cars, the combination of a bull-nose, a tongue, 13, pivoted to the said bull-nose and provided with the slots 19 and 21 thereon, a lock-plate, 20, a lever, 23, and the shaft or pin 21½, for the purpose set forth.

2. In a device for coupling railroad-cars, the combination of a bull-nose, a tongue, 13, pivoted to the said bull-nose and provided with the slots 19 and 21 thereon, the said tongue 13, provided with the hinged joint 15, a lock-plate, 20, a lever, 23, a lever, 27, a shaft, 28, and the hand-lever 29, secured to the said shaft 28, for the purpose set forth.

3. In a device for coupling railroad-cars, the combination of a bull-nose, a tongue, 13, pivoted to the said bull-nose and provided with the slots 19 and 21 thereon, the said tongue provided with the hinged joint 15, a lock-plate, 20, a lever, 23, a forked lever, 27, a shaft, 28, the hand-lever 29, the stop-lever 30, and the stop-plate 31, for the purpose set forth.

4. In a device for coupling railroad cars, the combination of a bull-nose, a tongue, 13, pivoted to the said bull-nose and provided with the slots 19 and 21 thereon, the said tongue 13, provided with the hinged joint 15, a lock-plate, 20, a lever, 23, a forked lever, 27, a shaft, 28, the hand-lever 29, the stop-lever 30, the stop-plate 31, the shaft 14, to which is fixed the tongue 13, extended and provided with the hand-lever 18½ thereon, substantially as shown, and for the purpose set forth.

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

HENRY W. WARNER.

Witnesses:

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JNO. T. MADDOX.