(No Model.)

G. BELL.

CAR COUPLING.

No. 454,417. Patented June 16, 1891.

Fig. 1.

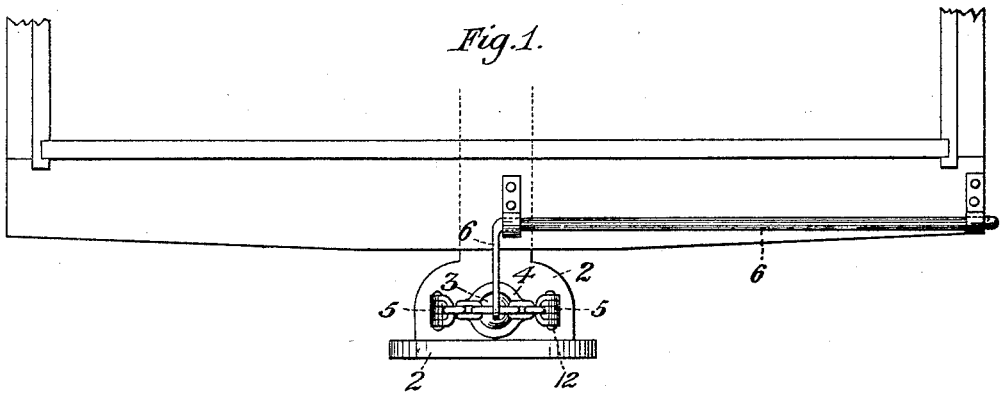


Fig. 3.

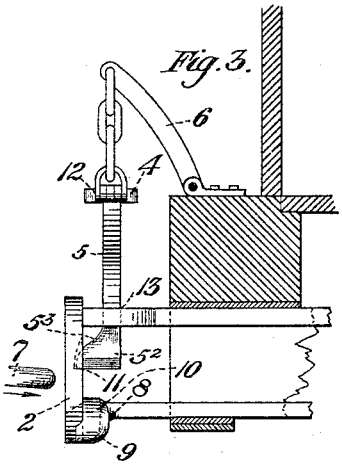


Fig. 2.

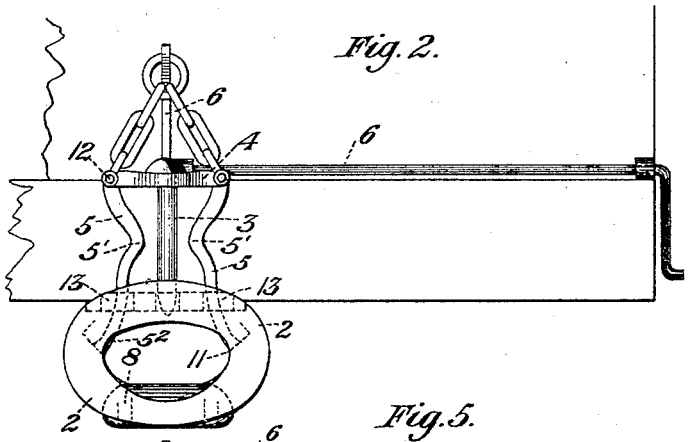


Fig. 5.

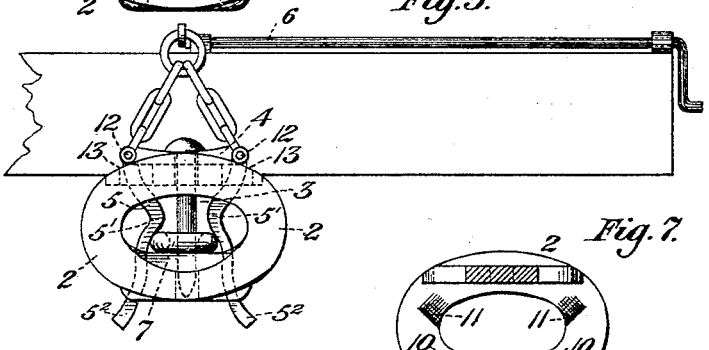


Fig. 4.

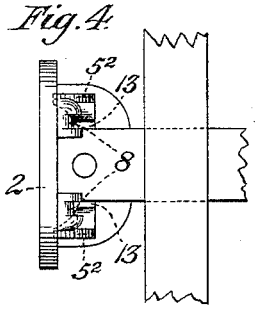


Fig. 7.

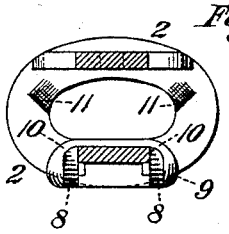
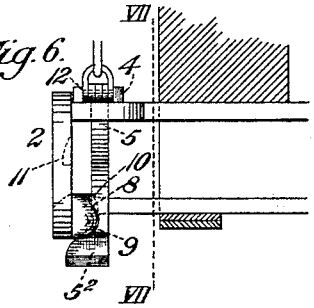


Fig. 6.



WITNESSES.

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W. B. Carson.

INVENTOR.

George Bell

by his Atty

A. P. Potter

UNITED STATES PATENT OFFICE.

GEORGE BELL, OF MANSFIELD, ALLEGHENY COUNTY, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO JOHN DARRALL AND WILLIAM REESE, BOTH OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 454,417, dated June 16, 1891.

Application filed March 6, 1891. Serial No. 383,944. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BELL, of Mansfield, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Couplings for Freight-Cars; and I do hereby declare the following to be full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which, like letters indicating like parts—

Figure 1 is a plan view of my improved coupler. Fig. 2 is a front elevation thereof, showing the pin in a raised position. Fig. 3 is a side elevation, partly in section, showing the parts in a similar position. Fig. 4 is a bottom plan view of Fig. 3. Fig. 5 is a front elevation of my improved coupler, showing the pin and other parts of coupling in position for use. Fig. 6 is a side elevation, partly in section, of Fig. 5. Fig. 7 is a cross-section from the back taken on the line VII VII of Fig. 6.

The object of my invention is to provide an automatic coupling for railroad-cars, and more particularly for freight-cars; and it consists in the mechanism constructed and arranged as hereinafter described and pointed out.

By reference to the drawings which accompany this specification a more specific description of the device can be obtained.

In the various figures, 2 is a draw-head, similar to those in ordinary use, and 3 is a coupling-pin. This coupling-pin 3 performs the ordinary function of a coupling-pin, and is retained in position and raised up to permit of uncoupling by means of a yoke 4, through which it passes. At each end of the yoke 4, and depending therefrom by pins 12, are guard-arms 5, having inwardly-projecting curvatures $5'$ and weighted ends 5^2, provided with inclined faces 5^3. The draw-head has openings 13, through which the guard-arms 5 move upwardly and downwardly as the coupler is operated, which is effected by the use of the lever 6, which runs to the side of the car to a safe position within easy reach of the operator. The link connecting the cars is the ordinary one in common use and is shown at 7. After the coupling is made the guard-arms 5 fall down and are received and retained by the small socket 8, formed in the enlargement 9 on the back of the draw-head 2. This enlargement 9 has its upper surface inclined, as shown at 10, over which, in coming down, slides the weighted ends 5^2 of the guard-arms 5. When the guard-arms 5 are raised and are in position to couple, as shown in Figs. 2 and 3, the weighted ends 5^2 of the guard-arms 5 drop into the recesses 11 in the back of the draw-head and rest there, maintaining the position until dislodged by the shock of the cars coming together in the act of coupling. The yoke 4, which supports the guard-arms and also retains in position the coupling-pin, is in turn attached to a hand shaft or lever 6, with a suitable crank-arm, by means of which the yoke and the guard-arms and coupling-pin are raised up by the brakeman or other person in charge of the car when it is desired to uncouple.

In coupling the cars by the use of my improvement there is no necessity for anything being done by the brakeman, as the act of uncoupling leaves the parts in the proper position for coupling. The coupler acts automatically, nothing being required to make the coupling except the shock or jar of the cars coming together and the impinging of the draw-heads upon each other.

The operation of my improvement is as follows: When it is desired to uncouple two cars, the brakeman, who stands at the side, turns the handle of the lever 6 so as to raise the yoke 4 and consequently the pin 3 and the guard-arms 5, so that the coupler takes the position shown at Figs. 2 and 3, the lower ends of the guard-arms standing in and being supported by the recesses 11 in the back of the draw-head. This leaves it in position to couple, so that when the cars come together the shock or jar throws the ends of the guard-arms 5 out of the recess 11, and the force of gravity causes the guard-arms to slip down through the openings 13 in the draw-head and assume the position shown in Figs. 5 and 6. The peculiar curved shape of the guard-arms enables them to embrace closely the link after the coupling is made and to fit snugly around it. This position is retained by the coupler until it is desired to uncouple,

which is easily and speedily accomplished by a turn of the lever 6, which brings everything back into position, as shown in Fig. 2.

Having thus described my improvement and its operation, I claim herein and desire to secure by Letters Patent of the United States—

1. In a car-coupler, the combination, with a draw-head having vertical openings for the passage of guard-arms, of a yoke supporting vertically-operating guard-arms and a coupling-pin attached to a hand-shaft and crank, whereby the yoke may be raised vertically, substantially as set forth.

2. In a car-coupling, the combination, with a draw-head, of a yoke supporting guard-arms having inwardly-projecting curvatures, and a coupling-pin passing through said yoke, and means for raising the said yoke, guard-arms, and coupling-pin in the act of uncoupling, substantially as set forth and described.

3. In a car-coupling, the herein-described guard-arms having inwardly-projecting curvatures and weighted ends provided with inclined faces, the said guard-arms being pivotally attached to a yoke, by which they are supported, and having vertical play through openings in the draw-head in the act of uncoupling, substantially as and for the purpose herein set forth

In testimony whereof I have hereunto set my hand.

GEORGE BELL.

Witnesses:
W. B. CARSON,
WM. A. STONE.