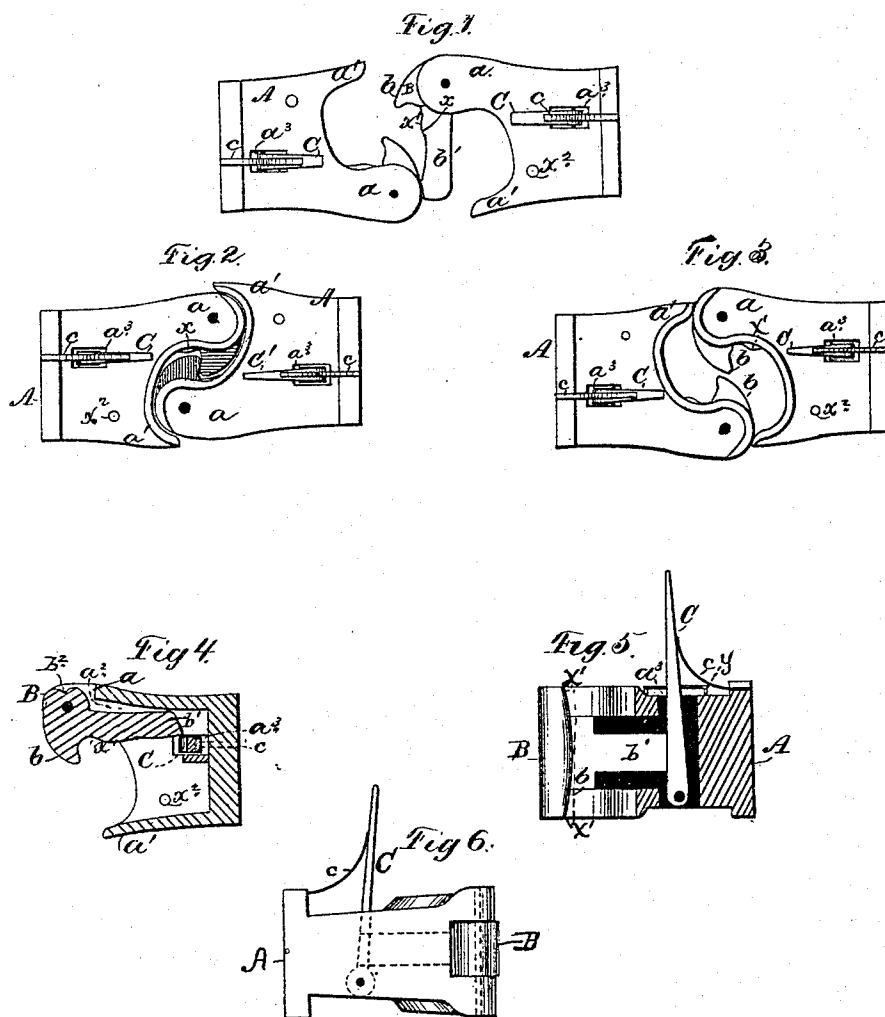


E. H. JANNEY.  
Car-Couplings.

No. 138,405.

Patented April 29, 1873.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **138,405**, dated April 29, 1873; application filed April 1, 1873.

*To all whom it may concern:*

Be it known that I, ELI H. JANNEY, of Alexandria, in the county of Alexandria and State of Virginia, have invented a new and useful Improvement in Car-Couplings; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention consists mainly in the combination of the hook and catch with a guard-arm, and in certain details of construction, which, in connection with the foregoing, will be fully described hereinafter.

In the drawing; Figure 1 represents a top-plan view of my improved coupling; Figs. 2 and 3, plan views of the parts reversed; Fig. 4, a transverse sectional elevation; Fig. 5, a side elevation, partially in section; and Fig. 6, a side elevation.

To enable others skilled in the art to make and use my invention, I will now proceed to fully describe the construction and manner of operation thereof.

A represents the draw-head, which may be constructed generally of any proper form. It is essentially provided, however, with the extension  $a$  and guard-arm  $a^1$ , and also with recess  $a^2$ , and slot  $a^3$ . B represents a rotary hook, consisting of the head  $b$ , and arm  $b^1$ , the same being united to the extension  $a$  by means of a pivot pin, as shown. C represents a lever resting in the slot  $a^3$ , of the draw-head, and suitably pivoted at its lower end as shown.  $c$  represents a spring, by means of which the lever is pushed forward, when undisturbed, into position to lock the arm of the rotary hook into the recess  $a^2$ .

The operation of my invention is as follows: When it is desired to couple the cars, one of the couplings should have its rotary hook in about the position shown in Fig. 1. Then as the cars come together the arm of the hook will be necessarily struck by the head of the adjacent hook, and be consequently forced back into its recess, the spring-lever yielding sufficiently for this purpose, in which position it will be securely locked by the return of the lever to place by the action of spring  $c$  after the arm has passed it. The cars are then se-

curely coupled, and cannot be disconnected except by pulling back the lever.

The essential parts of my invention are the rotary hook, guard-arm, which serves also as a guiding-arm, and the catch-lever for holding the arm of the hook; but certain other minor details of construction are also deemed of importance.

The arm of the hook is made to project at  $x$  for the purpose of insuring its being forced back into the recess by the entrance of the other hook, even if it does not approach in a straight line. The faces of the hooks where they bear against each other are made curved, as shown on the line  $x^1 x^1$ , Fig. 5, for the purpose of permitting the parts to have the necessary play upon each other as the cars rise and fall unequally, and also to adapt the faces to each other when not in the same vertical planes. The rotary hook is provided with a suitable stop,  $b^2$ , Fig. 4, by means of which its movement when opened is properly limited. A cap, of any suitable construction, is employed to cover the slotted opening in the draw-head, the same being slipped over the lever, as shown at  $y$ , in Fig. 5, by means of which the entrance of snow and ice is effectually prevented. Any form of spring may, of course, be employed in connection with the lever, which latter may be arranged, if desired, to project from the side instead of the top of the draw-head.

The advantages of the described construction are numerous. It will couple readily under all circumstances if one of the hooks is open but will not couple if both are closed. It is adapted for use upon cars of different heights. It has no lateral or longitudinal play, but moves freely vertically. It is impossible for it to become uncoupled unless the cars leave the track. By means of the hole  $a^2$  a link can be used to connect it to the ordinary draw-head. It is uncoupled at any time without the least difficulty by simply pulling back the lever. If desired, a key or wedge may be placed in the slot before or behind the lever to hold it either out of contact with the arm of the hook or to lock the latter in place.

The arm  $a$  is adapted for three different

purposes—that is, first, for guiding the adjacent coupling properly into place as the cars come together; second, for use as a bumper in connection with heads of arm *a* when the cars come together with the heads closed, as shown in Fig. 3; and, third, for preventing the parts from uncoupling upon curves, the arm of one coupling pressing against the draw-head of the other when curving to either right or left, and thus holding the two hooks together.

It will be observed that the line of curvature between the draw-head *a* and guard-arm *a*<sup>1</sup> is precisely the same as that of the hook and end of draw-head, by which means the parts, when they come together, are made to interlock closely so that all lateral and longitudinal play is prevented.

For freight cars the draw-head is prefera-

bly made of cast metal; but for passenger cars I prefer wrought-metal plates bolted together.

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

1. The combination in a car-coupling, of a rotary hook B, guard-arm *a*<sup>1</sup>, and automatic catch-lever C, substantially as described.

2. In combination with a draw-head having arms *a* *a*<sup>1</sup>, the hook B, all constructed and operated as described.

This specification signed and witnessed.

ELI H. JANNEY.

Witnesses:

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