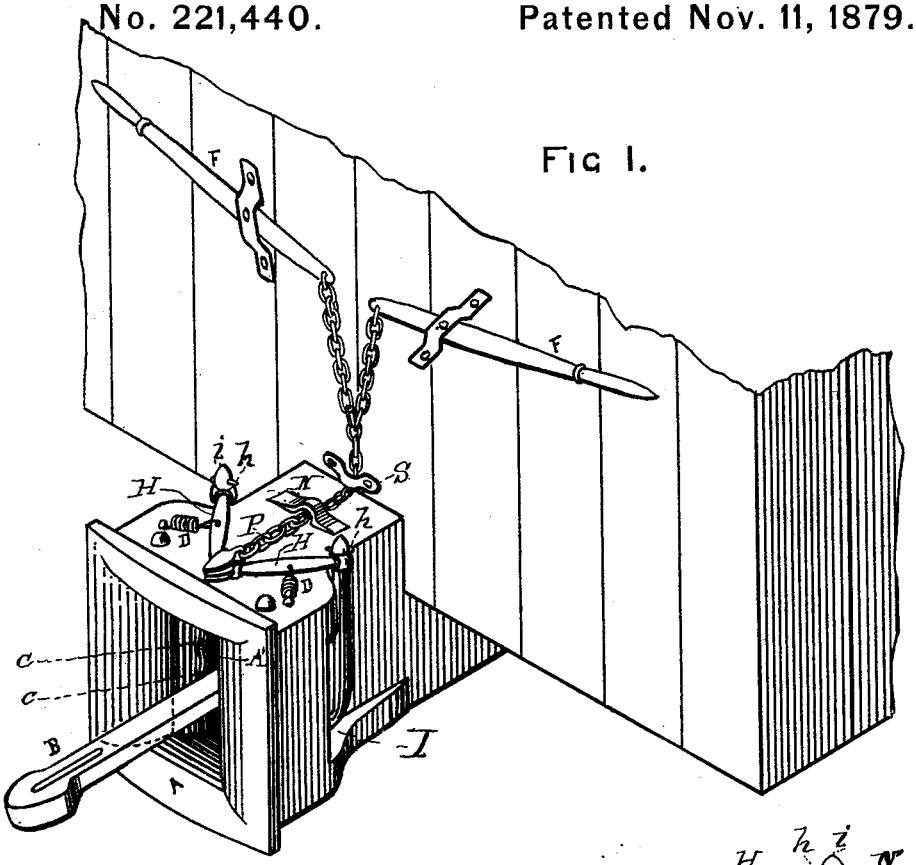
G. W. BOLTON.
Car-Coupling.

No. 221,440. Patented Nov. 11, 1879.

FIG 1.



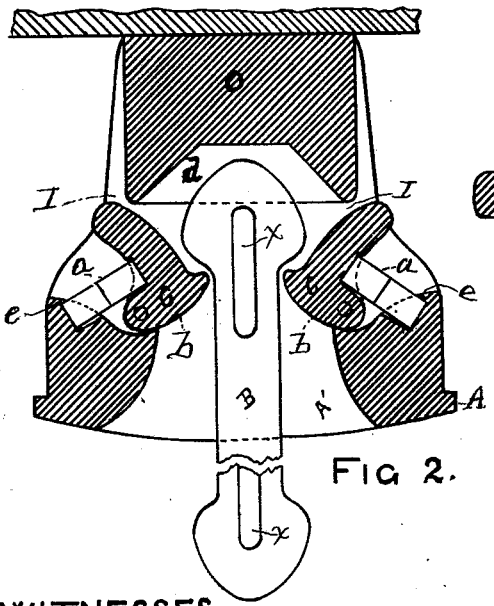


FIG 2.

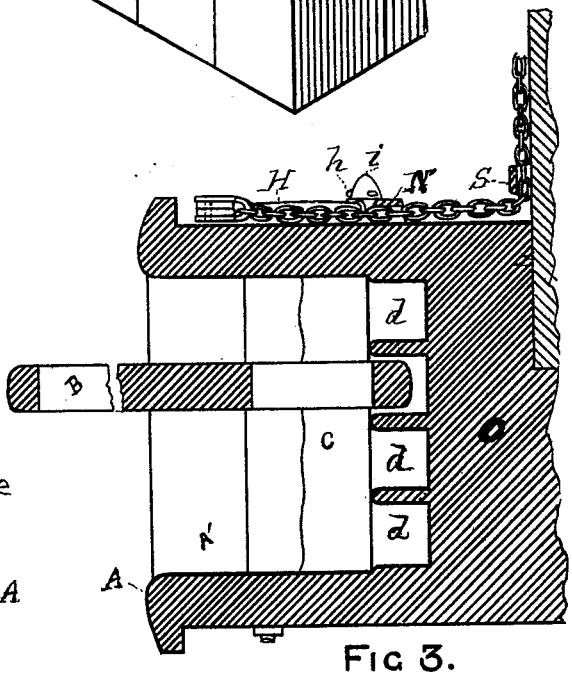


FIG 3.

WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE W. BOLTON, OF DETROIT, MICHIGAN.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **221,440**, dated November 11, 1879; application filed May 29, 1879.

To all whom it may concern:

Be it known that I, GEORGE W. BOLTON, of Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a perspective view of my invention attached to the end of a car. Fig. 2 is a horizontal sectional view, showing a plan view of the link when coupled; and Fig. 3 is a vertical longitudinal sectional view of Fig. 1.

This invention has relation to car-couplings; and it consists in the improvements in the construction of the same hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings, A designates the draw-head, which has a vertically-elongated flaring opening, A′, at its front for the introduction of the link B. The link B is of the class denominated "arrow-head" links; yet its heads are bounded by curved instead of angular lines, the purpose of which will be hereinafter explained. The draw-head A has side openings, I, in which work pivoted jaws C, L-shaped in cross-section, as shown in Fig. 2. These jaws C have their bearings in the upper and lower sides of the draw-head A, and at their outer edges have vertical arms *i*, which enter eyes in the outer ends of the toggle-lever H, and are held in place therein by pins *h*. The inner faces, *b*, of the jaws C have indentations *c*, to direct the link B to the shelves or receptacles *d* in the seat O when the cars are being coupled. These indentations and shelves are provided in order that the link may be employed to couple cars of different heights.

Springs *a* are interposed between the outer faces of the jaws C and the walls *e* of the draw-head A for returning the jaws C to position at the proper time. Springs D are secured to the toggle-lever H near the centers of its arms, and are also secured to the top of the draw-head A, for the purpose of causing the toggle-lever H to move forward to the position shown in Fig. 1, both after the introduction and withdrawal of the link B from the jaws C.

A curved stop, N, is provided on the face of the draw-head A, to prevent the toggle-lever H from being thrown toward the car-body during the operation of coupling and uncoupling. A chain, P, connected to the joint of the toggle-lever H, passes under the curve of the stop N and up through a guard, S, where it joins two short chains connected to the ends of levers F F, fulcrumed to the car-body, and extending to the sides of the car, so that the levers F F may be operated to open the jaws C without passing between the cars for the purpose of uncoupling them.

The link B is provided with slots *x*, in order that it may be coupled to any ordinary draw-head by a coupling-pin.

The heads of the link B are made rounding, as shown, instead of being made angular, as is customary, in order that when being withdrawn from the draw-head they will impinge against the faces *b* of the jaws C and force them outward to set them, and yet pass between them. If these heads were angular the jaws C would need to be opened to permit the heads to clear the said jaws. Besides, with the curved heads the link is permitted to sway within the draw-head to accommodate the link to the curves of the track. The pivoted jaws C yield to this swaying, and yet do not permit the link to be withdrawn from between them.

When it is desired to uncouple a car from the train the switchman, as the train passes down, grasps one or the other of the levers F and opens the jaws C by pulling down upon the lever he grasps. The link B, however, still remains between the jaws, as a binding force is still exerted upon the head of the link, even when the jaws C are open. The train is run down to the point where it is desired to uncouple the car and stopped. As soon as the engineer starts up, the weight of the car to be uncoupled is exerted upon the link, and it slips between the jaws C, and in passing impinges upon the surfaces *b* with sufficient force to close them in its escape therefrom, so that they are set for the next car.

In order to couple the cars it is only neces-

sary to set the link in its appropriate indentation and shelf, which can be done by drawing one of the levers F to open the jaws C, and turning the link B edgewise, when it may be raised or lowered to the center shelf, and again close the jaws C, after which, when the head of the link B strikes the jaws C, it will open them, pass between them, and again close them. This dispenses with the trouble of sending a man with each car to be uncoupled, as the switchman or any other employé may, when the train is passing, grasp one of the levers F and open the jaws C, and the car will be uncoupled, as before described. When the levers F are operated the toggle-lever H passes beyond a straight line, and is stopped by the stop N. The springs D operate to bring the jaws C back to their normal position after they have been struck by the link B.

It will be observed that the jaws C after having been opened will stand open until the link B is withdrawn.

Having thus fully described my invention, what I claim as new and useful is—

1. In a car-coupling, the draw-head A, provided with the pivoted L-shaped jaws C, having arms *i*, in combination with the toggle-lever H, springs *a*, and springs D, stop N, and chain P, connected to the levers F F, substantially as and for the purposes set forth.

2. In a car-coupling, the L-shaped jaws C, having indentations *c c* in their faces *b*, in combination with toggle-lever H. stop N, spring D, and chain P, connected with the levers F F, substantially as and for the purposes set forth.

3. In a car-coupling, the link B, having its heads bounded by curved lines, as shown, in combination with a draw-head having pivoted jaws C, provided with indentations *c* in its curved face *b* and operated by springs *a*, and a toggle-lever, H, connected to a hand lever or levers, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE W. BOLTON.

Witnesses:

A. I. AMBLER,

R. W. BRETT.