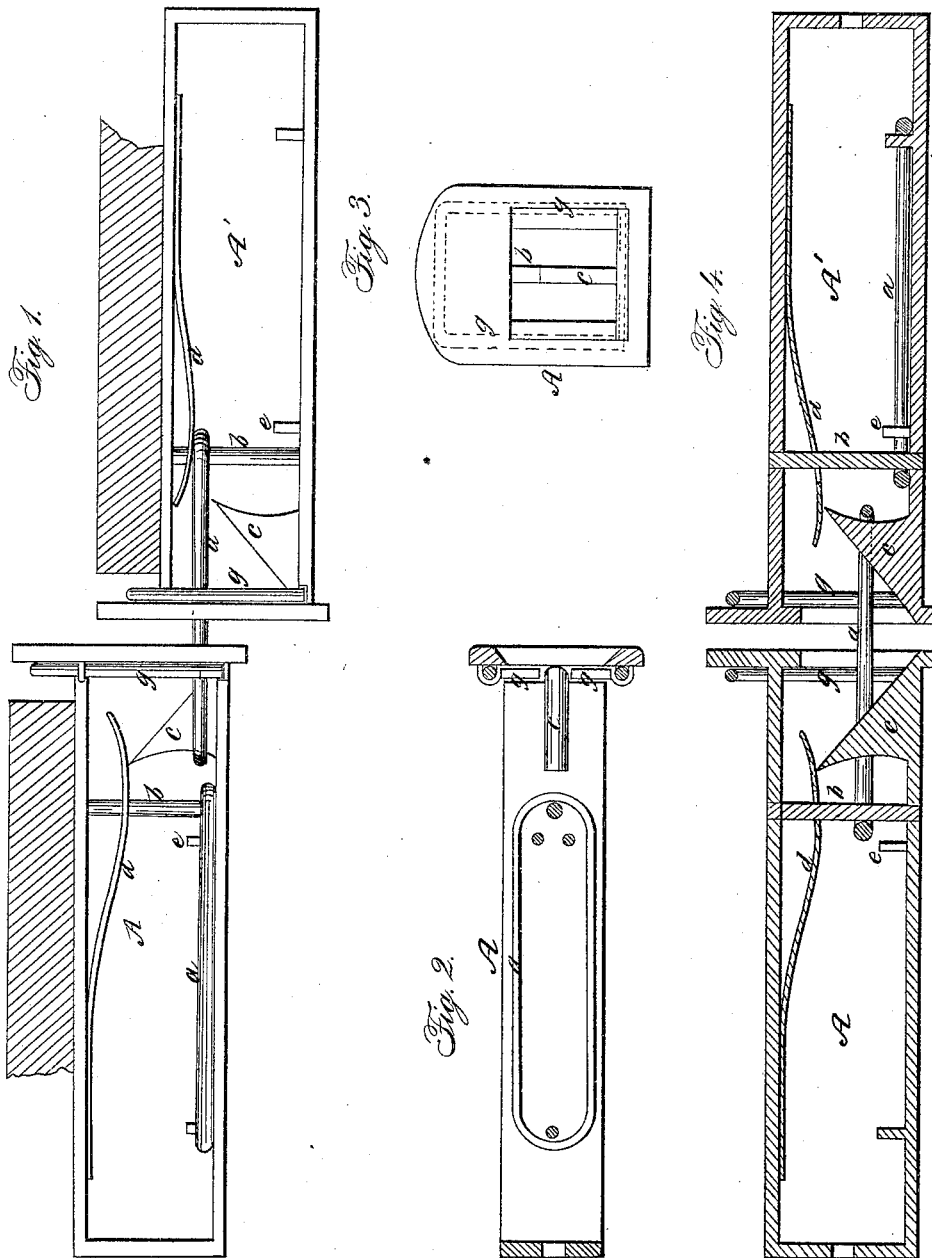


A. ROLL.  
Car Coupling.

No. 51,223.

Patented Nov. 28, 1865.



Witnesses:

*W. H. Campbell*  
*Col. L. Chapin*

Inventor:

*Albert Roll*  
*by his atty*  
*Mason, Fannell & Harmon*

# UNITED STATES PATENT OFFICE.

ALBERT ROLL, OF SOUTH AMBOY, NEW JERSEY.

## IMPROVEMENT IN RAILWAY-CAR COUPLINGS.

Specification forming part of Letters Patent No. 51,223, dated November 28, 1865.

*To all whom it may concern:*

Be it known that I, ALBERT ROLL, of South Amboy, in the county of Middlesex and State of New Jersey, have invented a new and Improved Self-Coupling for Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my improved coupling applied to cars of different heights. Fig. 2 is a horizontal section through one of the coupling-boxes. Fig. 3 is a front view of the coupling-box. Fig. 4 is a vertical longitudinal section through two coupling-boxes, which are connected together in the same plane.

Similar letters of reference indicate corresponding parts in the several figures.

The object of my invention is to construct a self-coupling for railroad-cars which is adapted for forming secure connections between cars of different heights, or between cars of the same height of platform, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A A' represent two coupling-boxes, which are constructed precisely alike. Each box is provided with a coupling-link, *a*, which is permanently attached by means of a vertical bar, *b*, that is arranged in rear of the coupling-hook *c*. This link *a* should be so constructed that its rear end will preponderate, which may be done by loading such end, for the purpose of causing the link to lie flat upon the bottom of the coupling-box when it is thrust out in a position to enter a coupling-box on another car. In rear of the bar *b* is a stud, *e*, against which the link *a* abuts when in the act of forming a connection between two cars. This stud *e* prevents the link *a* from being thrust backward when its outer end rises and passes over the hooked coupling-piece *c*. In rear of the stud *e* is another stud, which serves, in conjunction with the bar *b*, to receive and keep the link *a* in place when it is not in use, as shown in Figs. 1 and 2.

The coupling-piece *c* has its forward edge inclined toward the forward opening of the coupling-box, and its inner or rear edge curved, so

as to form a hook, as shown in Figs. 1, 2, and 4. This hook prevents the coupling-link from becoming casually detached from it; but as a further security against a detachment of cars by accident, I provide the hooks *c c* on both coupling-boxes with springs *a a*, which press down upon the upper ends of these hooks and serve as guards to prevent the coupling-links from casually slipping off of them. The forward ends of said springs curve upward, so that they form no obstruction to the passage of the coupling-links over the ends of the hooks as the free end of one or the other link is forced up the inclined edge of a hook.

To provide for uncoupling the links readily, I employ stirrups *g g*, one for each coupling-box. These stirrups are arranged just behind the head of the coupling-boxes, and are so applied that they can be moved upward by a person standing on the platform of a car. Their lower ends, which act upon both sides of a link simultaneously, fit into recesses in the bottoms of the coupling-boxes, so as to allow the links to rest flatly upon the boxes, as shown in the drawings.

The operation of my invention is as follows: It will be seen from the above description that each coupling-box is provided with a coupling-link which is permanently attached to it. Only one of these links can be used at a time. If the platform to which the box A' is applied should be lower than the platform to which the coupling-box A is applied, the link of the box A is moved back out of the way, and the link *a* of the box A' is moved out, so as to effect the coupling of the two cars together, as I have represented in Fig. 1. In this case it will be seen that one end of the link may rise above the end of the hook C of the box A' without disconnecting the cars, as it is permanently held by the bar *b* of this box. That end of the link which is connected to the hook *c* of the box A will not have a tendency to rise above the end of this hook, for the reason that this box A is so much higher than the box A'. On the other hand, if the coupling-box A is lower than the box A', the coupling-link of the former box is employed to effect a connection, for the reason that this link is permanently attached at its inner end to the box A.

When the platforms of two cars having my invention applied to them are of the same

height either one of the coupling-links may be used.

From this description it will be seen that my invention consists in so constructing a car-coupling, and providing it with a supplemental coupling-link, that the link which connects two cars together shall be attached permanently at one end to its coupling-box, while at the same time that end of the link which is not permanently attached to the coupling-box may be safely held in place by the coupling on the opposite car.

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

1. Providing each one of the coupling-boxes of a car-coupling with a permanently-attached coupling-link, in combination with the fixed self-acting catches C C, substantially as described.

2. Attaching the links *a a* to their coupling-boxes by means of vertical rods *b b*, in combination with the catches *c c* and fixed studs *e e*, substantially as described.

3. The stirrups *g g*, in combination with the coupling-links *a a*, substantially as described.

4. Loading the rearends of the permanently-attached coupling-links in such manner that when these links are moved in a position to form a connection they will remain in said position until the connection is made, substantially as described.

Witness my hand in the matter of my application for a patent on my improvement in car-couplings this 11th day of October, 1865.

ALBERT ROLL.

Witnesses:

R. T. CAMPBELL,  
EDW. SCHAFER.