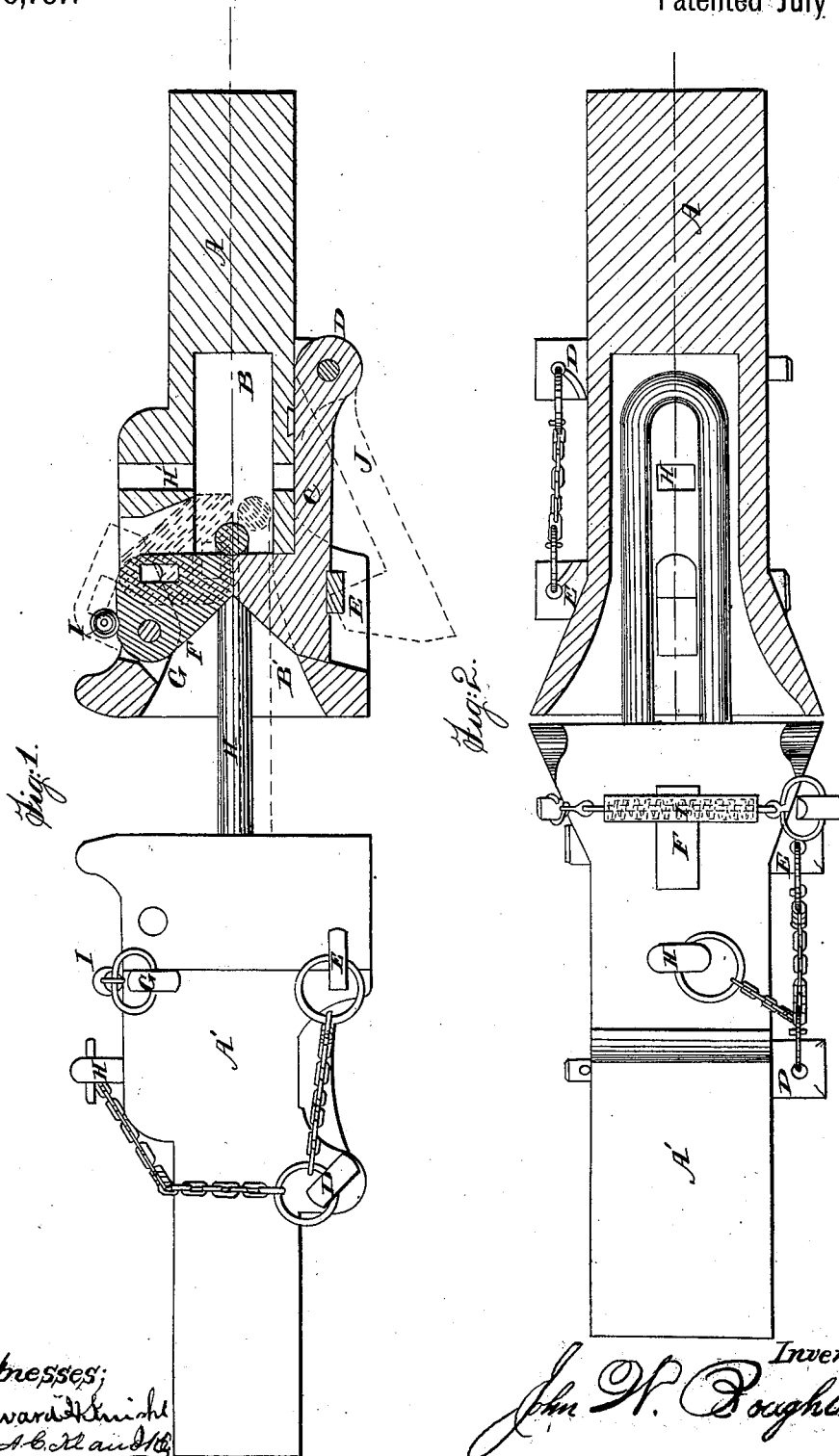


J. W. BOUGHTON.

Car Coupling.

No. 48,787.

Patented July 18, 1865



# UNITED STATES PATENT OFFICE.

JOHN W. BOUGHTON, OF APPLETON, WISCONSIN.

## IMPROVED CAR-COUPLING.

Specification forming part of Letters Patent No. **48,787**, dated July 13, 1865.

*To all whom it may concern:*

Be it known that I, JOHN W. BOUGHTON, of Appleton, in the county of Outagamie and State of Wisconsin, have made new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 represents an elevation and partial vertical section. Fig. 2 represents a plan and partial horizontal section.

Corresponding letters in each figure refer to like parts.

To enable one skilled in the branch of industry to which my invention appertains to construct and use the same, I will proceed to describe it, after stating what I understand to be the requisitions of the case.

Coupling railroad-cars with the ordinary pin-and-link couplings now in use is frequently a difficult and dangerous operation, owing to the different heights of the cars and the difference in the construction of both cars and draw-heads. There have been many attempts to overcome these difficulties by using self-couplings, or coupling which would couple the cars without the assistance of a man going in between them; but, as far as I can learn, there are but few, if any, self-couplings now in use in this country, for the simple reason that all fail in some important particular.

There are so many difficulties to be overcome in order to get a desirable and practicable self-coupling—which would be at the same time cheap, simple, and durable in construction and could likewise be readily used with the common couplings—that nearly if not quite all fail to come up to the required desideratum. Self-couplings should work under all ordinary circumstances as follows—viz., first, should couple with ease and certainty; second, should uncouple readily; third, should couple when cars are of different heights; fourth, should couple readily with the common pin-and-link couplings; fifth, be readily arranged so as not to couple, as is sometimes desirable.

I claim to have invented a self-coupling which will work readily under all of the above circumstances and conditions.

The principle and construction will be seen

by reference to the drawings from the following specification, viz:

A', Fig. 1, represents an outward view of the draw-head, showing the positions of the different pins and how they are fastened to the draw-head. A, Fig. 1, represents a vertical section of the draw-head, showing the tumbler and latch.

B B' represent the hole in the draw-head.

The latch (represented by C) is pivoted on the pin D and held in place against the rubber-spring J by the pin E, the downward and constant pressure of that spring J keeping the pin E from working out by the motion or jolting of the cars.

F represents the tumbler pivoted by the movable pin G, meeting the latch about the middle of the hole in the draw-head.

H represents the link, and H' the hole for the pin R in rear of the link. The link, on entering the mouth of the draw-head, rises and slides over the latch C, lifting the tumbler F and falling over the latch C. The tumbler immediately falls in its place, as shown by F, Fig. 1, thereby holding the link fast in the draw-head; and in order to keep the tumbler from jolting up by the motions of the cars enough to let the link out, and thereby uncouple the cars, a spring box or rod of the shape shown by I A', Fig. 2, and of the following construction—viz., a short hollow cylinder closed at one end with a piston put in, then a spiral spring, then closed at the other end, allowing the piston to work against the pressure of the spring inclosed—is fastened by a ring and short chain to the end of the pin G, and by pulling out the piston a ring or hook fastened to the end of it is passed over the end of the pin G, and the spring in the cylinder keeps the ring or hook firmly on the pin, thereby preventing the pin G from working out and at the same time keeps the tumbler from flying up by the jolting motion of the cars; but the tumbler will rise against the pressure of the spring on the entrance of that link into the mouth of the draw-head, and by its own weight and the pressure of the spring will be certain to fall in its place, as shown by F.

In order to insure a certainty of the link always entering the mouth of the opposite draw-head, it must be kept in a horizontal position in the draw-head holding the link, and

this is done as follows, viz: In A, Fig. 1, take out the pin G, turn the tumbler over, making it assume the position shown by the red section-lines by putting the pin G through the hole in rear of the first in the position as shown by G in Fig. 1, A'. The link, as shown by the red section, cannot fall below a horizontal position, but can be lifted up to the top of the draw-head inside and work sidewise enough for the necessary play. By putting the pin R in the hole H', as shown in A', Fig. 1, in rear of the tumbler and latch, the link is kept from shoving back in the draw-head on meeting with any resistance. The pin R is used in only one draw-head at a time, and then in the draw-head holding the link in rear of the link, for the purpose above stated. In the opposite draw-head the pin is left hanging by a chain on the outside of the draw-head, as if the pin were in the place represented by H', and the cars should come together violently, either the pin or link would be bent or broken.

In order to uncouple the cars, pull out the pin E from under the latch C, and the latch, by the downward pressure of the rubber spring J and by its own weight, falls, as shown by the red lines, under the draw-head. The link will then easily come out of the draw-head. If it is desirable to arrange the draw-head so as not to couple, pull out the pin E, let the latch fall, lift the tumbler, and put the pin E through the square hole in the tumbler and

over the top of the draw-head, or shove the link back in the draw-head and then put the pin R in the hole H', Fig. 1.

The pin D is fastened in its place by a bolt or key in the end of it, and the pins R and E are fastened by chains to the end of the pin D, so as, in case the chains or pins get broken, the pin D can be taken out easily and the whole taken to the shop for repairs.

On adopting this coupling a railroad company should adopt some standard height for putting it on the cars, varying not more than three inches, and by making the opening in the mouth of the draw-head (vertically) eight inches the cars will couple when there is four inches difference in their height.

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

1. The latch pivoted and held in place as shown, and for the purposes set forth.
2. The movable tumbler, working in combination with the latch and pin in the rear in the several combinations, as shown and described, and for the purpose set forth.
3. The spring box or rod I, located above the tumbler, for the purpose set forth.

JOHN W. BOUGHTON.

Witnesses:

EDWARD H. KNIGHT,  
OCTAVIUS KNIGHT.