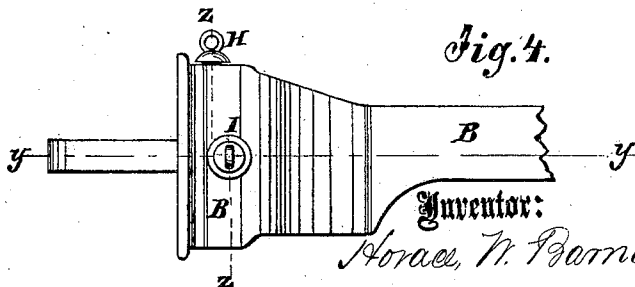
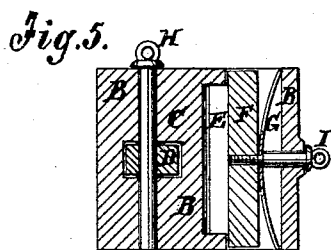
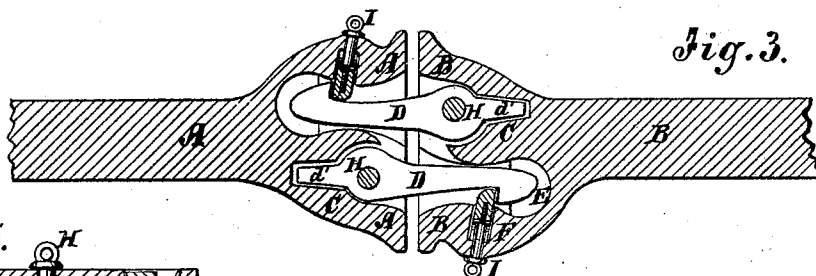
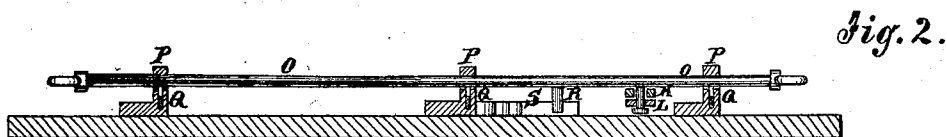
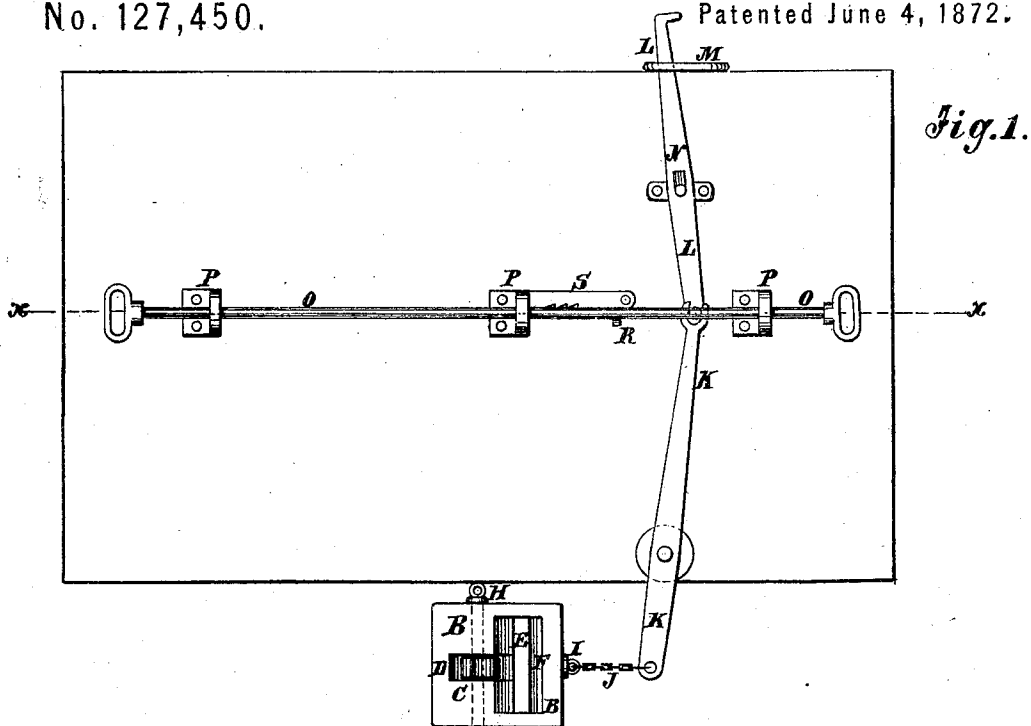


H. W. BARNUM.
Improvement in Car-Couplings.

No. 127,450.

Patented June 4, 1872.



Witnesses:

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UNITED STATES PATENT OFFICE.

HORACE W. BARNUM, OF OMAHA, NEBRASKA.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 127,450, dated June 4, 1872.

Specification describing a new and useful Improvement in Car-Couplings, invented by HORACE W. BARNUM, of Omaha, in the county of Douglas and State of Nebraska.

Figure 1 represents the end of a box-car with which my improved coupling has been connected. Fig. 2 is a detail horizontal section of the same taken through the line *x x*, Fig. 1. Fig. 3 is a horizontal section of my improved coupling coupled, taken through the line *y y*, Fig. 4. Fig. 4 is a top view of one part of the coupling. Fig. 5 is a detail vertical cross-section of the same taken through the line *z z*, Fig. 4.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved car-coupling, simple in construction, safe and reliable in operation, which will couple itself as the cars are run together, which will uncouple itself should one of the cars turn over in either direction, which will couple cars of different heights with the same facility as though they were of the same height, and which may be coupled with the ordinary coupling link and pin when required; and it consists in the construction and combination of the various parts of the couplings, as hereinafter more fully described.

A and B represent the adjacent bumper-heads of two cars. The rear parts of the bumper-heads A B are constructed and secured to the cars in the ordinary manner. The forward ends of the bumper-heads A B are made deeper and wider than ordinary bumper-heads, and in them, near one side, is formed a cavity, C, to receive the base ends of the hooks D. The inner part of the cavity C is made narrow to receive the toe *d'* of the hooks D, and hold said hooks in proper position for coupling when the cars are run together. In the faces of the bumper-heads A B, near the other side, are formed long vertical slots E to receive the heads of the hooks D, the inner parts of said cavities E being made larger than the heads of the hooks to give the necessary play for passing around curves, &c. F are the catch-plates, which are set in vertical slots in the sides of the bumper-heads so as to catch upon said hooks and hold them, whatever part of the cavities E they may enter.

The catch-plates F are held forward by springs G, and are pushed back by the heads of the hooks D as they enter the cavities E. The bars of the hooks D are secured in the cavity C by the pins H, which pass down vertically through the bumper-heads A B and through the said hooks D. The catch-plates F are drawn outward to release the hooks D and uncouple the cars by pins I, to the outer ends of which are attached, by means of short chains or rods J, the lower ends of the levers K. The levers K are pivoted to the body of the car, whether passenger or freight car. In the case of freight-cars there is pivoted to the upper ends of the levers K the lower ends of the levers L, which are pivoted to the ends of the box of the car, and their upper ends pass up through long keepers M and project a little above the said box, so that they may be conveniently operated from the top of the car. The pin or bolt that pivots the lever L to the box of the car passes through a slot in the said lever L, and the lever L is held up by a rubber block, N, or other spring placed in the upper part of said slot, above the said pivot, so that the lever N may be pushed downward a little when required for the purpose hereinafter set forth. To the levers K L, at the point at which they are pivoted to each other, is pivoted the rod O, which extends horizontally across the ends of the car-box and works in bearings P attached to said box, and in which are placed small springs Q to prevent the said rod O from rattling. To the inner side of the rod O is attached a rigid arm or pawl, R, which takes hold of the teeth of the horizontal rack-bar S attached to the end of the car-box to hold the rod O, and consequently the levers K, in position, when holding the catch-plates F drawn out. By this arrangement the catch-plates F are drawn out to uncouple the cars by moving the upper end of the lever L outward from the top of the car, or by pulling or pushing upon the rod O from one or the other side of the car. By pushing down upon the lever L or by slightly turning the rod O the pawl R will be removed from the teeth of the rack-bar S, and the spring G will at once throw the catch-plate F inward, ready for catching upon and holding the hooks D when the cars are run together.

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

1. The bumper-heads A B provided with the cavities C E, the hooks D provided with the toes *d'*, the pins H, catch-plates F, springs G, pins I, chains or rods J, and levers K, in combination with each other, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the levers L, springs

N, sliding rod O, pawl P, and rack-bar Q with the levers K, chains or rods J, pins I, springs G, catch-plates F, hooks D *d'*, and bumper-heads A B provided with the cavities C E, substantially as herein shown and described, and for the purpose set forth.

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