

(No Model.)

V. B. McDONALD.
CAR COUPLING.

No. 485,969.

Patented Nov. 8, 1892.

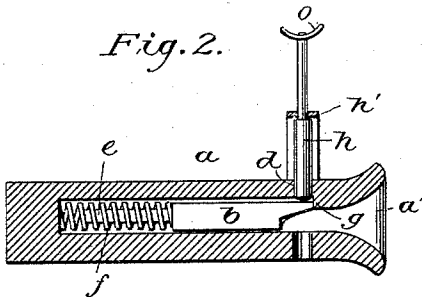
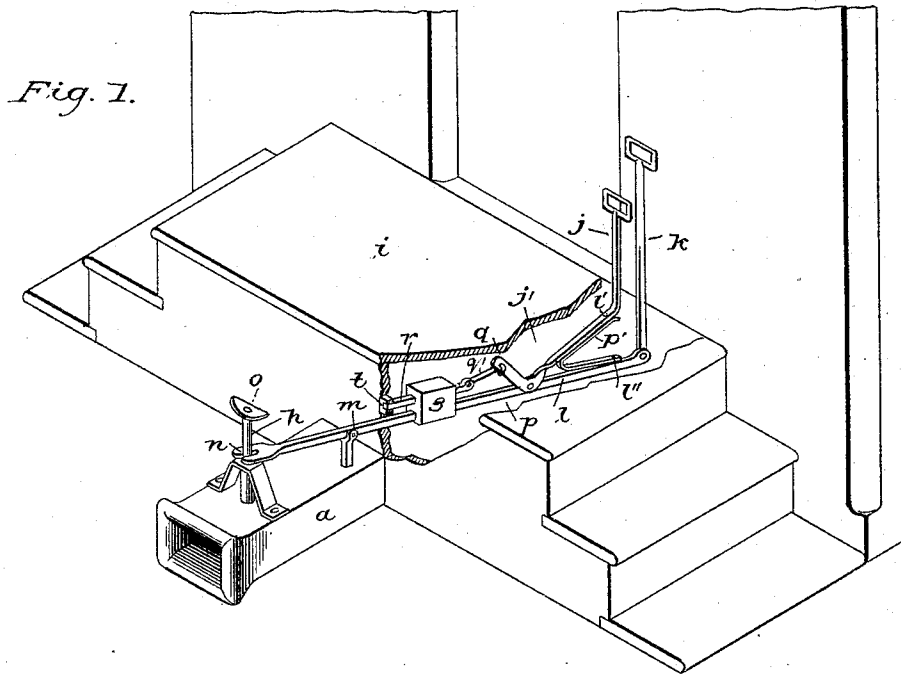


Fig. 4.

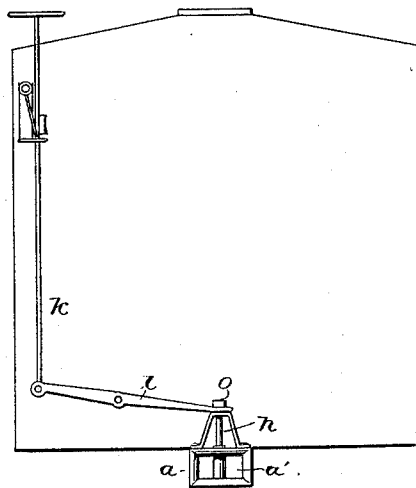
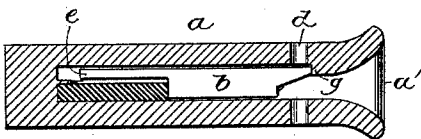


Fig. 3.



Witnesses.
M. L. Matthews
Henry Hoover

Inventor:
Van Buren Mc Donald

UNITED STATES PATENT OFFICE.

VAN BUREN McDONALD, OF COYTEE, TENNESSEE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 485,969, dated November 8, 1892.

Application filed November 25, 1891. Serial No. 413,132. (No model.)

To all whom it may concern:

Be it known that I, VAN BUREN McDONALD, a citizen of the United States, residing at Coytee, in the county of Loudon and State of Tennessee, have invented certain new and useful Improvements in Car-Couplers and Operating Mechanism Therefor; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in car-couplers and operating mechanism therefor; and the objects sought to be attained are to provide a cheap, durable, and effective coupler, to provide suitable means for operating the same from the platform of the car, and locking mechanism which will render it impossible for the cars to become uncoupled except at the will of the attendant.

With these ends in view my invention consists in certain novel features and combinations of parts, more fully described hereinafter, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a perspective view of my complete invention as applied to a passenger-car; Fig. 2, a detail in section of the jaw of the coupler, showing my improved cushion-block and spring for reducing the jar experienced by the coupling operation; Fig. 3, a modification of the same; Fig. 4, a modified view of my operating mechanism as applied to a freight-car.

Referring to Fig. 2, the reference-letter *a* represents the draw-head of a coupler constructed after my invention, having the usual flaring mouth *a'*. The interior of the body is enlarged for the reception of the beveled cushioned block *b*, forming an interior shoulder *g* near the mouth of the body, which is adapted to limit the forward movement of the block. A shank *e* is located on the rear end of the block *b* and extends rearwardly, which shank is adapted to hold the coil-spring *f* in place and to support it by extending back within three-fourths of an inch of the back end when mechanism is coupled. This spring bears against the rear end of the block *b* and serves to hold its forward end in contact with the shoulder *g* and acts as a cushion for the purpose hereinafter explained. The block *b*

in its normal position bears against the shoulder *g* of the body of the coupler, with the end of the pin *h* resting upon its top, said pin being supported by the brackets *h'*. As the link of the coupler enters the jaw, generally with great force, it strikes the beveled end of the block *b*, which being cushioned by the spring *f*, tends to reduce the jar which must necessarily ensue. The link then pushes the block back into the body, compressing the spring *f*. As the beveled end of the block passes the hole *d*, in which the pin *h* is located, the latter falls by gravity into the link and the coupling operation is effected. It will be easily seen that the beveled end of the block *b* confines the link in one position and prevents the usual rattling common in couplers of this class.

In Fig. 3, which is a modification of Fig. 2, the shank *e* projects from the upper portion of the block and co-operates with a rubber spring, which takes the place of the coil-spring heretofore described.

I will now proceed to describe the mechanism which I have devised for operating the link, which forms an essential feature of my invention.

The reference-letter *i*, Fig. 1, represents the platform of a passenger-car, having the two operating-levers *j* *k* projecting vertically therefrom. The first named of these levers is preferably a foot-lever; but this is not essential. The lever *k* extends through and below the platform on a level with the draw-bar of the coupler and has a horizontal arm *l* secured to its lower end. This arm is pivoted at *m* near the body of the coupler and has a forked end *n*, which embraces the pin *h* and engages the enlarged head *o* of the pin for preventing the lever from slipping off the pin. To the first or foot-lever *j* is secured a rigid arm *j'*, which is pivoted to the lever *h* at *p*. A strap-spring *p'*, secured to the arm *j'* and lever *l* at *l'* and *l''*, tends to push the arm *j* upward. To the arm *j* is rigidly secured a pin or link *q*, to which is pivoted a connecting-rod *q'*, which is in turn pivoted to the bar *r*, said bar performing the functions of a bolt, as will be hereinafter described. To the horizontal lever *l* is rigidly secured a block *s*, which is provided with a lateral slot, through which the bar *r* passes, the free end of the

said bar being adapted to engage in its normal position a hole *t* in the framework of the car. Suppose the coupling, heretofore described, has been effected and it is desired to uncouple the cars. The foot-lever *j* is depressed, thereby overcoming the spring *p'* and drawing the connecting-rod *q'* and its attachments, the bar *r*, out of engagement with the hole *t*, the bar *r* sliding in the block *s*, which is, as before stated, rigidly secured to the arm *l* of the lever *k*. The lever *k* is then depressed, which causes the arm *l* to swing on its pivot *m*, thereby lifting the pin of the coupler. The spring *e* pushes out the block *b*, which in turn expels the link. The lever *k* is then released and the pin drops by gravity on the top of the block *b*, thus adjusting itself for the next operation. The foot-lever is at last released, the spring *p'* throwing the arm up and bolt *r* into the hole *t*, thus locking securely the entire device, which makes uncoupling impossible.

Fig. 4 shows, as before stated, my coupler applied to a freight-car, with the locking mechanism omitted.

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

1. In a car-coupling, an elevating device for a coupling-pin, consisting of lever *k*, arm *l*, forked at one end and fulcrumed at *m*, in combination with foot-lever *j*, pivoted to lever *h* at point *p*, spring *p'*, link *q*, connecting-rod *q'*, and bolt *r*, all substantially as described.

2. In a car-coupling, the levers *k* and *j*, in combination with the coupling-pin, spring-actuated slide, and the intermediate connections, all substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

VAN BUREN McDONALD.

Witnesses:

J. E. CASSADY.

R. N. RAGAINS.