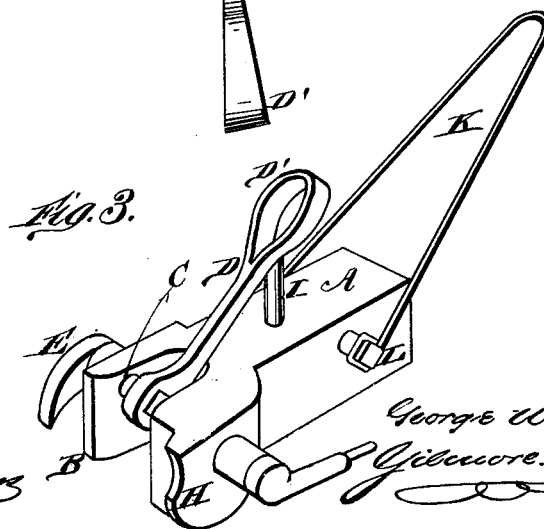
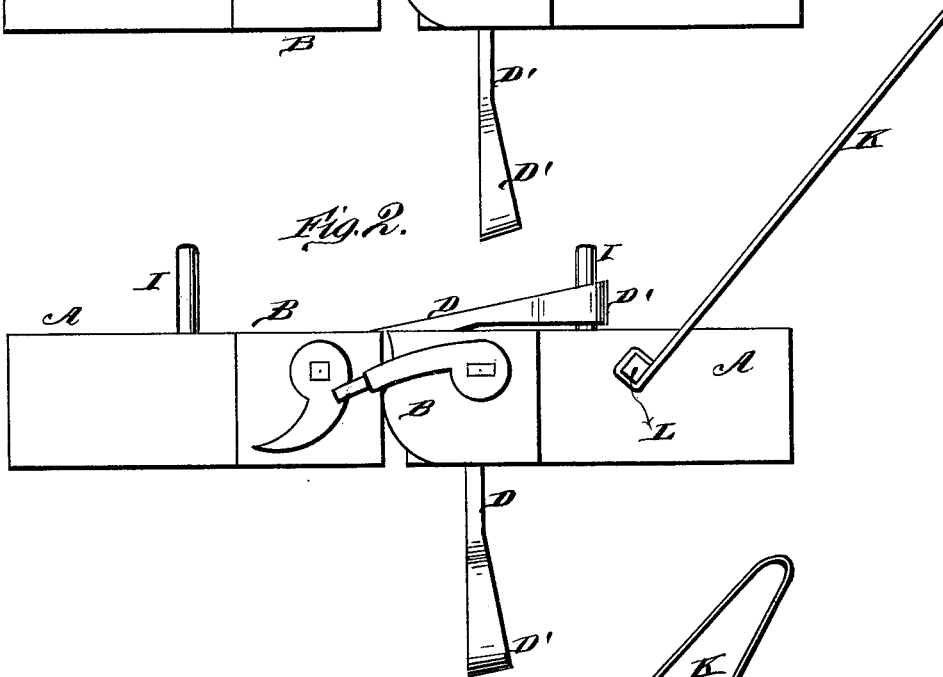
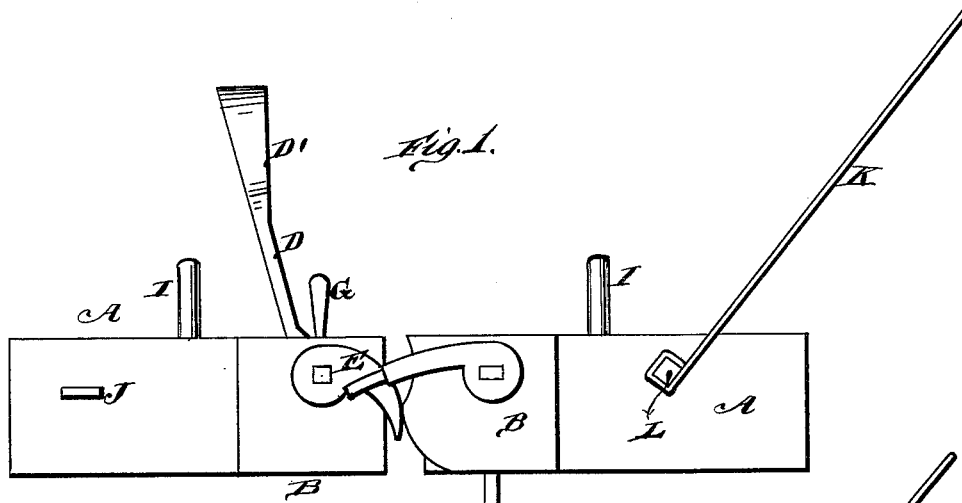


G. W. LIVICK.  
Car-Coupling.

No. 198,399.

Patented Dec. 18, 1877.



WITNESSES  
*Robert Emmett*  
*George C. Upham*

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ATTORNEYS.

# UNITED STATES PATENT OFFICE.

GEORGE W. LIVICK, OF MILL BROOK DEPOT, VIRGINIA.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **198,399**, dated December 18, 1877; application filed November 17, 1877.

*To all whom it may concern:*

Be it known that I, GEORGE W. LIVICK, of Mill Brook Depot, in the county of Augusta and State of Virginia, have invented a new and valuable Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my car-coupling as in the act of coupling. Fig. 2 is a side view as coupled; and Fig. 3 is a perspective view thereof.

The nature of my invention consists in the construction and arrangement of a car-coupling, as will be hereinafter more fully set forth.

The annexed drawings, to which reference is made, fully illustrate my invention.

A represents the draw-bar, with bumper B at the front end. This bumper is open at top and bottom and at the front, and through the same is passed a shaft or axle, C, which is made square in the center between the jaws of the bumper. On this square portion of the shaft C is placed a coupling-bar, D, which is movable laterally on the shaft from side to side of the bumper, as may be required. The outer end of the coupling-bar D forms a link or loop, D', as shown.

On one end of each shaft or axle C is secured a cam, E, and upon the other end is fastened a crank or lever, G.

On one side of the bumper B is formed or attached a concave striking-point, H, which, when the cam E comes in contact therewith, (in the act of bringing two cars together,) causes the shaft C to turn so that the coupling-bar D will fall over the other bumper, and the link D' fall over a pin, I, fastened in the draw-bar A, thus forming the coupling.

The crank or lever G is used for uncoupling from the ground or from the platform or from the top by suitable connections.

This coupling will suit cars of different

heights by enlarging the parts E and H, and making the coupling-bars D longer. On low cars the pin I can be made movable, which will be an advantage in coupling high and low cars, by making two or more holes for said pins in the draw-bars.

J represents a key in the draw-bar, to fasten the draw-bar to the car-body.

It will, of course, be understood that only one coupling-bar D will be used at a time. The other will hang or be dropped down, so as not to be in the way. By having these coupling-bars on both bumpers there will be no difficulty in coupling, and there will at all times be an extra coupling-bar.

This coupling can be used and couple with any pin-and-link coupling by inserting the coupling-bar D and dropping the pin in the same manner as in the old way of coupling, or by using the pin I in the old bumper, and dropping the bar D over said pin.

This coupling can be attached to old coupling, without removing any part of it, by drilling holes through the old bumper to receive the shaft C and attaching parts E H G.

The link K on a shaft, L, in the rear part of the draw-head shows how it may be connected to old bumpers.

In case of accident my coupling will uncouple in turning over, or drop down, as it has only the weight of the coupling-bar to turn off the pin I.

The shaft C may be extended to uncouple outside of the train.

What I claim as new, and desire to secure by Letters Patent, is—

In a car-coupling, the combination, with a bumper, B, of the shaft C with cam E, coupling-bar D with loop D', pin I, and the striking-point H, all constructed substantially as and for the purposes set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE W. LIVICK.

Witnesses:

E. G. PEYTON,  
THOS. D. WOODWARD.