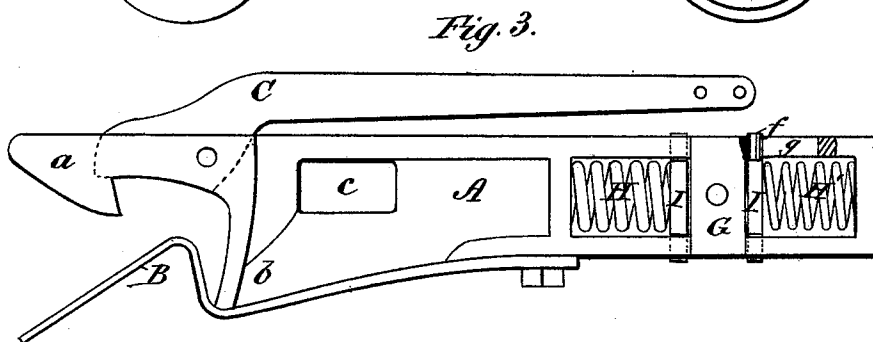
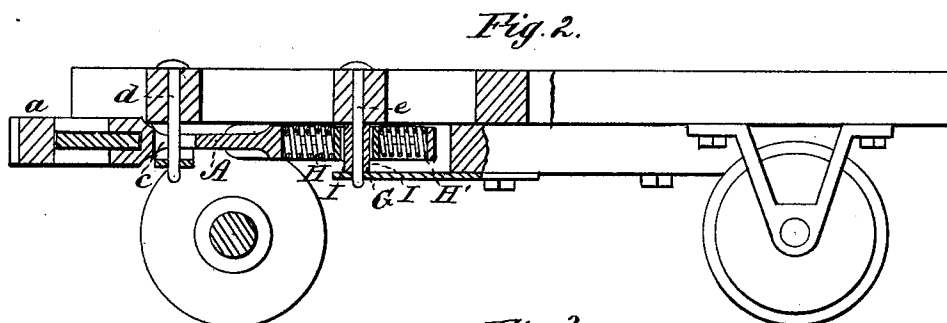
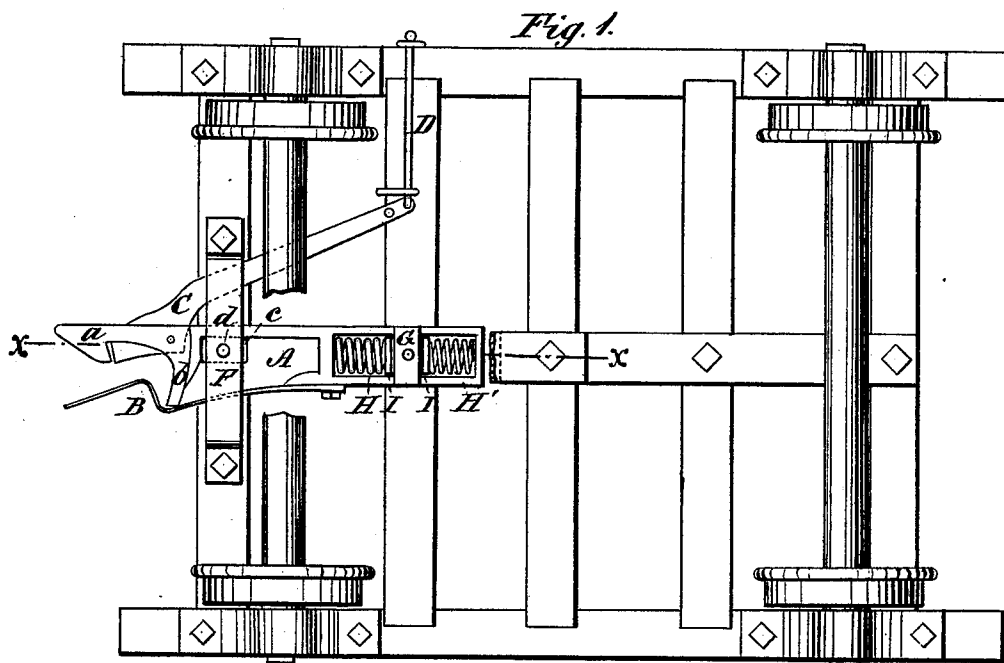


J. B. SMITH.
CAR-COUPLING.

No. 176,369.

Patented April 18, 1876.



WITNESSES:
A. B. Robertson
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INVENTOR:
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BY
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UNITED STATES PATENT OFFICE

JAMES B. SMITH, OF HEPWORTH, CANADA.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **176,369**, dated April 18, 1876; application filed February 29, 1876.

To all whom it may concern:

Be it known that I, JAMES B. SMITH, of Hepworth, Province of Ontario, Dominion of Canada, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is an inverted plan view; Fig. 2, a vertical longitudinal section; Fig. 3, a detail plan of the draw-bar and its attachments.

This invention relates to certain improvements upon the car-coupling for which Letters Patent No. 169,201 were granted me October 26, 1875; and it consists in the improved attachment of the draw-bar to the car. The rear end of the draw-bar is recessed, and in the recess is arranged a box over which the draw-bar slides, which box swings on a vertical pivot, and constitutes the connection with the car. Upon each side of this pivoted box, and arranged in the recessed draw-bar, are disposed independent springs, which enable me to make the buffer spring stronger or lighter than the draw-spring, as may be desired.

In the drawing, A represents the draw-bar having a hooked end or jaw, *a*, a buffer-spur, *b*, and a bent guard-spring, B, to insure the coupling of the jaws, and hold them in place after being coupled. C is the releasing-lever, which is employed for uncoupling the jaws. Said lever is pivoted in one of the draw-bars, so as to bear, when deflected, against the jaws of the opposite draw-bar to throw it out, and has a rod, D, attached to its rear end running to the edge of the car, by means of which the lever is operated.

As thus described, the construction of my coupling does not vary from that described in my previous patent, and I will now proceed to describe the improvements which constitute my present invention.

The rear end of the draw-bar being pivoted so as to swing laterally, the front end of the draw-bar is confined loosely in a keeper, F, attached to the car-frame. This portion of the draw-bar is slotted at *e* longitudinally, and through said slot passes a pin, *d*, which is held stationary in the keeper and car-frame, and limits the lateral movement of the draw-

bar, which movement is equal in degree to the width of the slot, and also limits the longitudinal movement of the draw-bar, which is equal to the length of the slot. The rear end of the draw-bar is recessed, and contains a stationary box, G, over which the draw-bar slides, which box is pivoted to the car-frame by means of a bolt, *e*, passing through the same. Upon each side of this box in the recess of the draw-bar are arranged springs H H'. These springs are fastened at their outer ends to the draw-bar, and their ends adjacent to the box G are fastened in sliding plates I, which bear against the box G, and are guided in their movement by studs *f*, which pass through guide-slots *g* in the side of the draw-bar.

The object of the two springs on opposite sides of the point at which the draft is applied is to make the tension of the buffing-spring independent of the traction-spring, the independent arrangement of the two springs permitting the buffer-spring to be made stronger than the traction-spring, and vice versa, as may be desired.

The attachment as thus described furthermore possesses great advantages over others, in that it is strong, durable, and not likely to get out of order, the connection being free from bolts and nuts, which involve so much trouble and frequent replacement.

Having thus described my invention, what I claim as new is—

1. The draw-bar recessed at its rear end, and combined with the stationary pivoted box G, having independent springs upon each side, as and for the purpose described.

2. The combination of the recessed draw-bar, having guide-slots *g*, the vertically-pivoted box G, the springs H H', and the attached sliding plates I, having studs *f*, as and for the purpose described.

3. The pivoted draw-bar slotted at *e*, in combination with the keeper F and the stop-pin *d*, as and for the purpose described.

The above specification of my invention signed by me this 28th day of February, 1876.

JAMES B. SMITH.

Witnesses:

SOLON C. KEMON,
CHAS. A. PETTIT.