

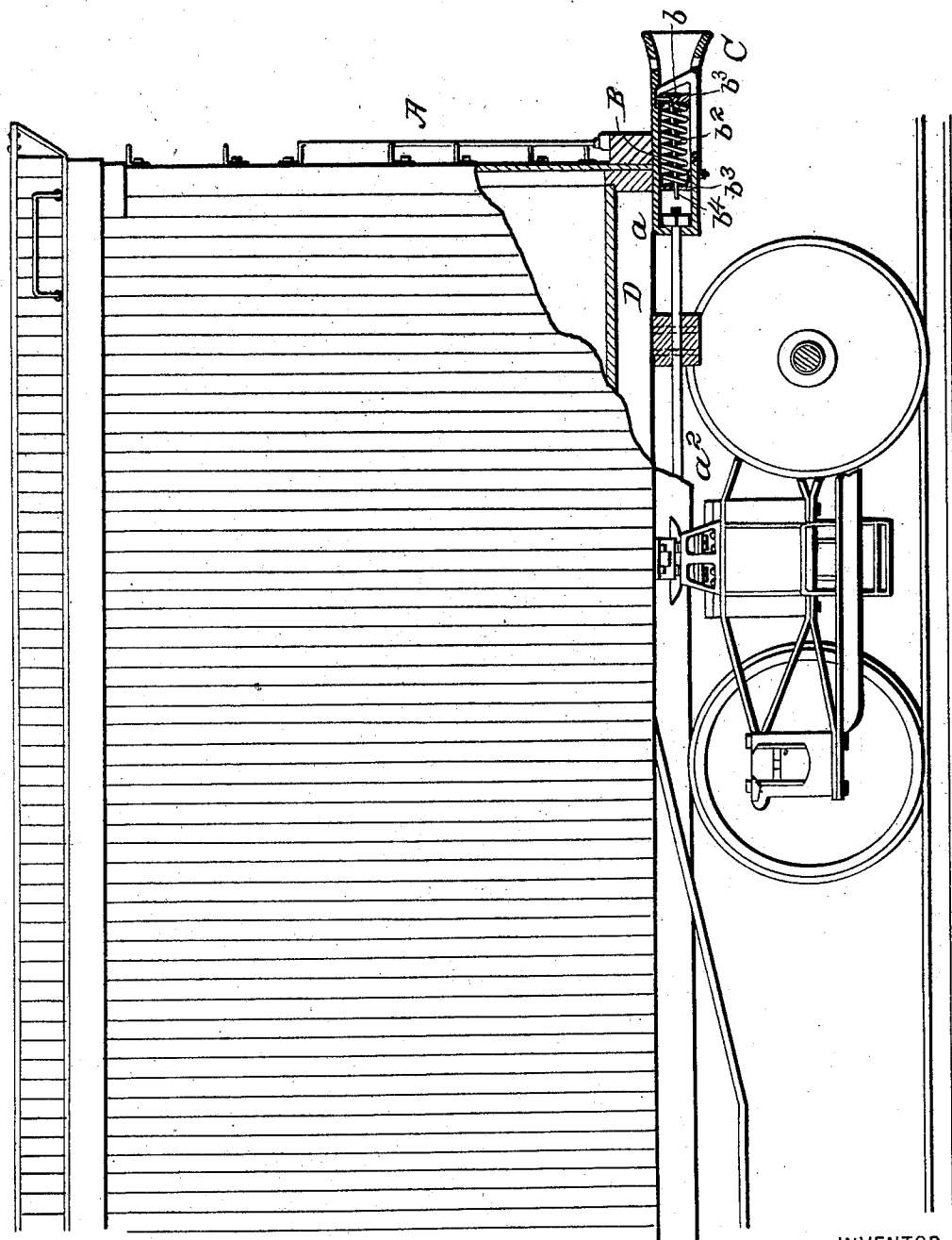
(No Model.)

2 Sheets—Sheet 1.

J. M. McMILLAN.
CAR COUPLING.

No. 580,887.

Patented Apr. 20, 1897.



WITNESSES:

H. L. Everett
J. Green

Fig. 1.

INVENTOR

James M. McMillan,

BY

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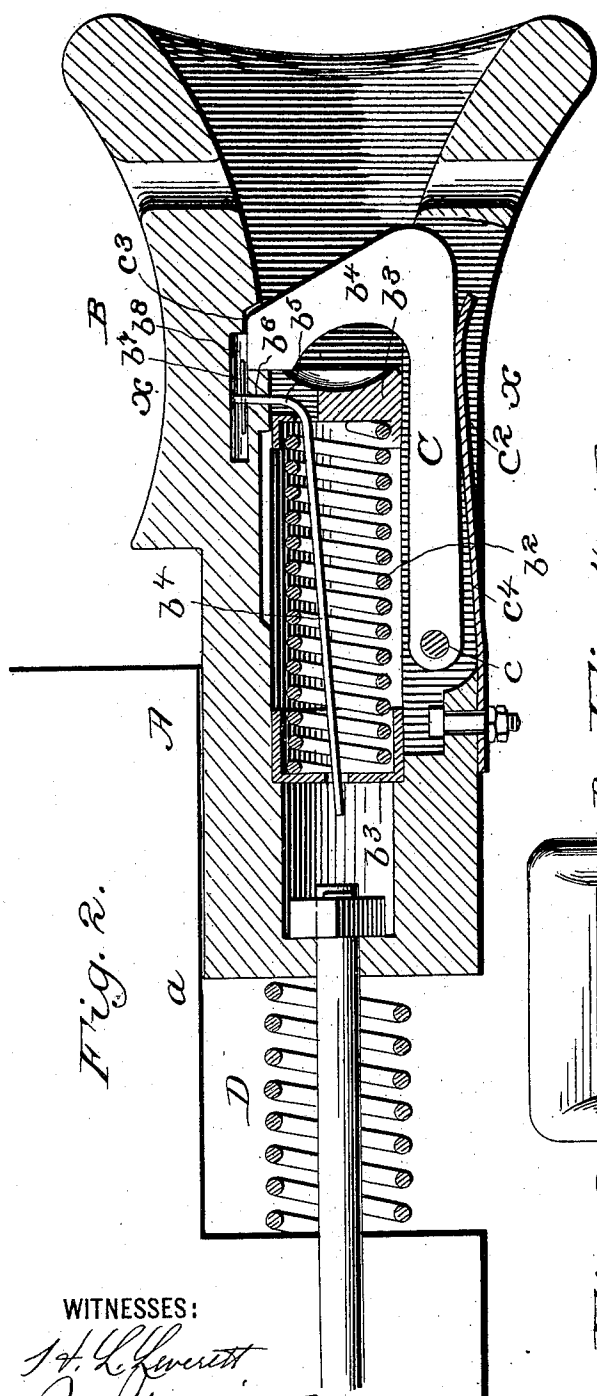
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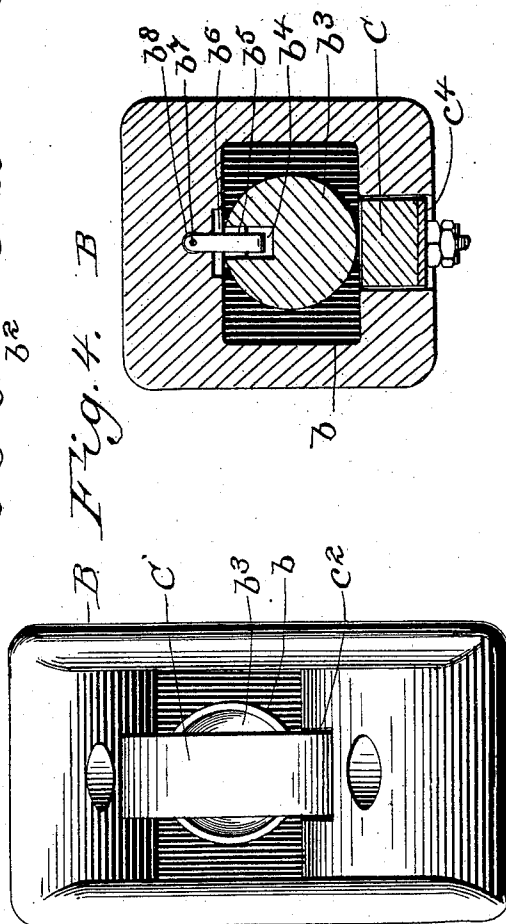


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES MILFORD McMILLAN, OF GLOSTER, LOUISIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 580,887, dated April 20, 1897.

Application filed August 11, 1896. Serial No. 602,441. (No model.)

To all whom it may concern:

Be it known that I, JAMES MILFORD McMILLAN, a citizen of the United States, residing at Gloster, in the parish of De Soto and State of Louisiana, have invented certain new and useful Improvements in Automatic Couplings for Cars or other Vehicles, of which the following is a specification.

The invention relates to automatic couplings for cars or other vehicles.

The constant danger menacing trainmen and the risk of life and limb incident to the employment of manually-operated couplings have become noticeably prominent, owing to the many fatal accidents resulting therefrom. So far as can be learned, such happenings occur during the time the trainman stands between the cars for the purpose of adjusting or guiding the coupler-pin to insure a proper engagement of the members, and this being so with the old form of device protection against injury is at least improbable, if not impossible.

It is the object of the present invention to produce a coupler of a form adapted to normally present an automatically-operating device by which the link of an approaching car will be guided and positively engaged upon its entrance into the mouth of the draw-head; and, furthermore, the object is to provide a comparatively simple and inexpensive construction, the members constituting the device being readily accessible and capable of removal singly for repairs, &c.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view in sectional elevation of one embodiment applied. Fig. 2 is an enlarged view, in vertical longitudinal section, of the coupler detached. Fig. 3 is a view in front elevation thereof; and Fig. 4 is a view in cross-section, taken on the line *xx* of Fig. 2.

In the drawings, A represents the car, *a* the draw-head supports, and *a*² the truck adjacent to the coupler.

B represents the draw-head, which is chambered at *b* for the reception of a helical spring *b*², the latter being designed to receive and absorb the blow of collision upon the entrance of the coupler-link, and thereby relieve the rigid parts from jarring and shocks. This buffer-spring is seated in terminal cups *b*³, the

rearwardly-disposed cup being fixed, while the other, inclosing the forward end, is secured in a manner to move with the spring, it being guided and at the same time checked by frictional contact with an angularly-disposed rod *b*⁴. An one end this rod has a turned-down portion *b*⁵, which projects through a vertical opening *b*⁶ in the upper wall of the draw-head and is apertured to admit a spring-pin *b*⁷, which when in position extends across the opening and serves as a fastening. This pin, lying in a chamber or depression *b*⁸, is readily accessible for insertion or removal.

C represents the link-engaging catch or hook, which is approximately J-shaped and pivoted at *c* in a slot *c*², with the hook-like terminal projecting upward and lying normally in a depression *c*³ adjacent to the mouth of the draw-head. Upon entering, the coupler-link meets the inclined face of the hook or catch and by it is directed upward against the rigid top wall of the draw-head, from which point, under the action of continued pressure, it tends to advance, whereupon the hook yields against the action of its spring *c*⁴ and becomes depressed sufficiently to permit the link to pass beyond it, when the spring reacts and, forcing the hook or catch upward, traps and secures the link, which is thereby locked in engagement. After passing the hook the link encounters the concaved face of the terminal cup of the buffer-spring, by which its movement is checked, and it is thereby rapidly brought to rest. For the retraction of the hook a plate-spring is employed and secured at its rearward end by a T-headed bolt, which latter, after insertion, is secured by being given a quarter-turn.

It will be obvious from the foregoing description that the load or strain is borne jointly by the pivotal bolt and shoulder, forming terminal supports for the link-engaging hook, thus relieving and insuring the latter to a great extent against fracture; also, that being sustained between two practically rigid points the load is thereby caused to become self-centering. As a safeguard against uneven straining the rear face of the hook is curved in a manner to cause the link to pull upward, and thereby more firmly seat the extremity of the hook in the socket or depression in the draw-head.

D represents a second buffer-spring, which is mounted in the rear of that first mentioned and is intended to receive the shock of the blow of collision of the draw-heads proper.

5 It will be understood that in practice the ordinary lever connections may be employed for controlling the hook from either the side or top of the car.

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

10 The combination with a car, of a yielding-mounted draw-head chambered to form an outward-flaring link-receiving cavity having
15 a lower slotted wall, a pivoted arm and its

sustaining-spring lying in the slot, said arm terminating at its forward end in a hook projecting upward into the link-cavity and seating in a depression in the upper wall thereof, said hook being inclined rearwardly, whereby 20 it is rendered depressible upon engagement with the entering link, and a buffer in the rear of the hook, comprising a concaved head, a helical spring seated in a recess in the head and encircling an angularly-disposed rod, as 25 specified.

JAMES MILFORD McMILLAN.

Witnesses:

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