(No Model.) 2 Sheets—Sheet 1.

J. A. WILLIAMSON, Jr.

CAR COUPLING.

No. 360,546. Patented Apr. 5, 1887.

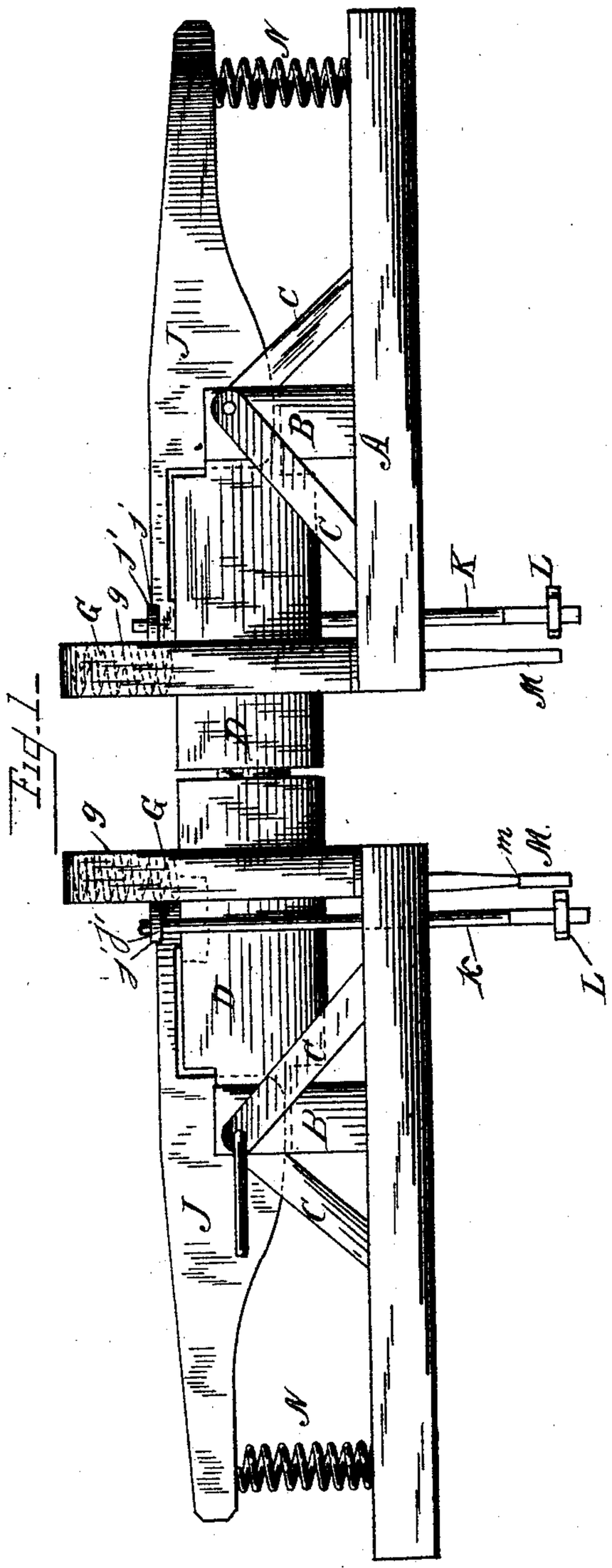

FIG. 1.

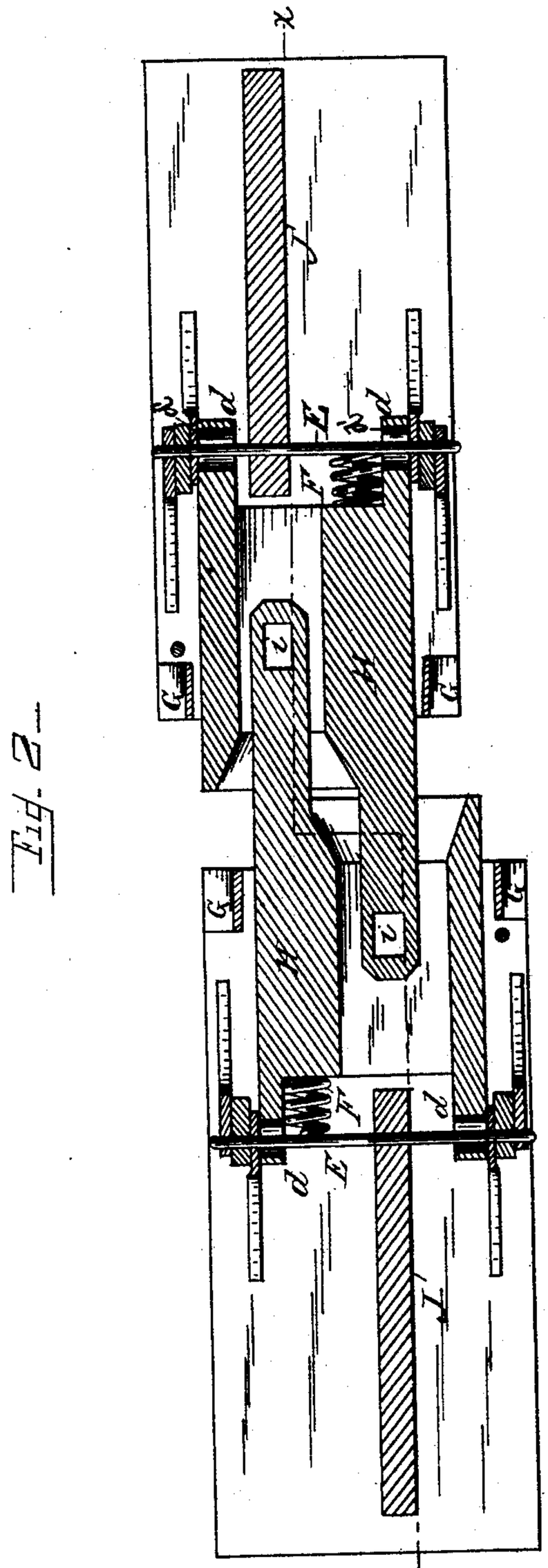

FIG. 2.

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(No Model.) 2 Sheets—Sheet 2.

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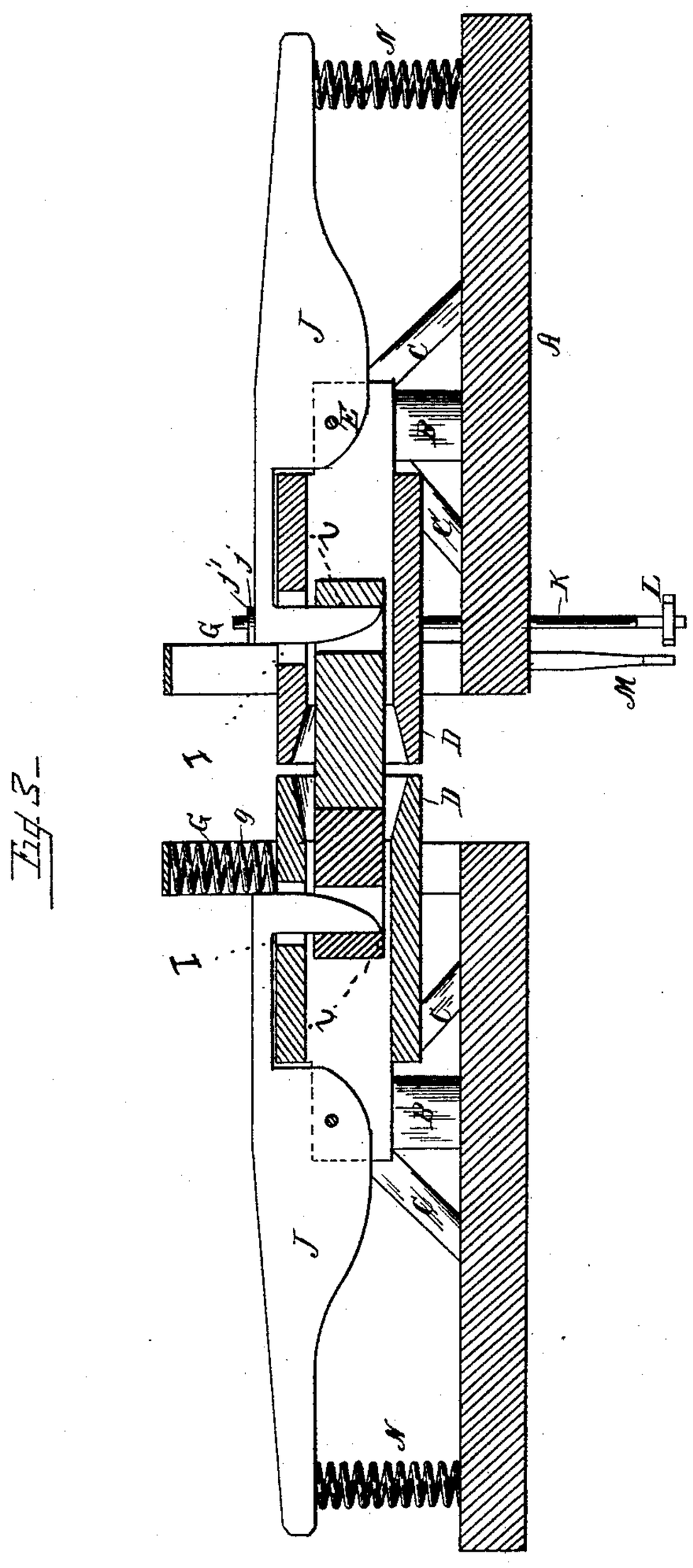

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN A. WILLIAMSON, JR., OF RUPEE, TEXAS, ASSIGNOR OF ONE-HALF TO LITTLE B. CHAPMAN, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 360,546, dated April 5, 1887.

Application filed October 7, 1886. Serial No. 215,558. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WILLIAMSON, Jr., a citizen of the United States, residing at Rupee, in the county of Falls and State of Texas, have invented certain new and useful Improvements in Car-Couplings; 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.

This invention relates to improvements in car-couplings, and has for its object a safe, convenient, and expeditious means for readily coupling and uncoupling sections of cars without the danger incurred of getting between them.

To this end the invention consists in the novel construction and arrangement of the several parts, as will be hereinafter more particularly described, and specifically pointed out in the claims.

In the accompanying drawings, to which reference is had, and which fully illustrate my invention, Figure 1 is a longitudinal side elevation of my improved coupling. Fig. 2 is a sectional plan view of the same; and Fig. 3 is a vertical longitudinal section thereof, taken on the line *x x*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

The letter A represents the lower part or bottom of a section of cars. Upon the top sides, and near the forward end of this section, are mounted and permanently secured to said bottom, in any suitable manner, standards B B, in this example the standards being re-enforced or braced at their tops and upon each side by braces C C, the lower ends of said braces being secured to the bottom of the car-section A.

D indicates a draw-head, having rear extensions, *d d*, provided with perforations *d' d'*, through which a crank-rod, E, passes, which secures the draw-head to the standards B B and braces C C. The rod, passing through perforations in the upper part of said standards and braces, acts at the same time as a fulcrum, which gives the draw-head a slightly-vertical movement at the forward or free end, the opposing draw-head having a corresponding movement when the two contact with each other in the standards and braces and slots in the extension-pieces. The rear end of the draw-head is pivoted to the standards B B, the rod E being the fulcrum upon which the draw-head moves longitudinally, and the free end of the same vertically, in a slight degree, a coiled spring, F, having one end secured to the rear of the draw-head and the other to the rod E, being interposed between the draw-head and rod for the purpose of relieving the former from all jarring incident to contact with the opposing draw-head, and at the same time allow for a gradual and easy movement longitudinally which is given to the draw-heads when the two contact.

Secured to the bottom of the forward end of the car-section A is a guide, G, which encompasses the forward or free end of the draw-head and prevents lateral movement of the same, one end of a coiled spring, *g*, being secured to the top of the draw-head, and the other end of said spring passing through a hole in the top of the guide G, where it is also secured to the top of the guide. The purpose of this spring is to prevent too great a movement being given to the draw-head in a vertical direction, and also to suspend the forward end of the draw-head from the guide during the operation of closing together of the draw-heads, a certain necessary and relative position of one of the draw-heads to the opposing draw-head being thereby steadily maintained, which enables the beveled end of a coupling-link or draw-bar, H, to pass freely and accurately within the draw-head, the draw-heads being also beveled off upon their inner sides and forward ends in the usual manner, as shown in Fig. 2.

It will be observed that the coupling-links or draw-bars H, which enter the draw-heads, are made integral with or form a part of the draw-head D, and consequently have the same or corresponding movement given them as the free ends of the draw-head receive, whereby the coupling and uncoupling is very accurate.

Cut in the top of the draw-head D, near the forward end thereof, is a slot, I, within which enters, and is withdrawn alternately as the cars are coupled or uncoupled, the forward end

of a coupling-hook, J, the end or point of the hook also passing into a slot, *i*, in the coupling-link H, which couples and uncouples the cars. This coupling-hook has rigidly secured to it, directly over the point that enters the slot in the top of the draw-head and slot in the link or draw-bar, one end of a laterally-projecting bar, *j*, the free end of said bar having therein a hole, *j'*, which receives the upper or tenoned end of a vertical rod, K, said rod passing also through a hole in the bottom of the car-section A at the side and near its forward end, and has secured upon its lower and free end a cross-piece or latch, L, which, when the coupling-hook is in a raised position before coupling, will rest upon a notch or shoulder, *m*, made in the lower end of a depending stationary bar, M, rigidly secured underneath and at the forward end and near the side of the car-section A, which securely holds and retains the hook in its raised position ready for coupling when the links or draw-bars enter the draw-head.

The rod E, heretofore described, passes through a hole in the cam-shaped center of the coupling-hook near the periphery, and from which point the hook also articulates or moves upon the rod E as a fulcrum in coupling and uncoupling the cars.

To the opposite end of the coupling-hook to that which enters the draw-head is secured the upper end of a coiled spring, N, the lower end of said spring being secured to the bottom and near the rear end of the car-section A. The object of this spring is to raise the forward end of the coupling-hook and release it from the link when uncoupling, by means of a pressure downwardly upon it (the spring) of the end of the hook to which it is secured, and when the spring is relieved from said pressure the forward or hooked end of the hook enters the slot within the top of the draw-head and end of the draw-bar, and thus couples the cars.

The operation is as follows: The operator couples and uncouples the cars through the medium of the latch upon the lower end of the movable latch-bar and the notch or shoulder cut upon the lower end of the stationary bar depending from the forward end and underneath the section of the car engaging with each other. By disengaging the movable latch-bar from the shoulder or notch upon the lower end of the depending bar the hooked end of the hook is forced down within the slot in the draw-head by means of the spring upon the rear end of the hook, when it engages the links or draw-bars and securely holds them coupled. When necessary to uncouple the cars, the movable latch-bar is raised sufficiently high to allow the latch to be again turned and engaged with the notch or shoulder upon the lower end of the stationary depending bar, which releases the hook from the link or draw-bar and uncouples the cars.

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

1. In a car-coupling, the combination, with the standard secured to the car-section and braced upon each side, as shown, of the draw-head provided with the rear slotted extension-pieces pivotally secured to the standard, and a spring interposed between the rear of the draw-head and the pivotal or fulcrum rod, substantially as described.

2. In a car-coupling, the combination, with the devices above described, of the coupling-hook provided with a laterally-projecting bar at its forward end, having a hole in its free end, through which the upper end of a movable latch-bar is inserted and secured, and a coiled spring secured to its rear end, whereby the coupling and uncoupling of the cars are accomplished, substantially as described, and for the purpose set forth.

3. In a car-coupling, the combination, with the section A and standard B, braces C, and draw-head D, of the coupling-links secured to or made integral with the draw-head, the slotted extension-pieces, also forming a part of the draw-head and fulcrum-rod, and spring secured to the rear of the coupling-hook, and the lateral cross-bar supporting the upper end of the movable latch-bar at its forward end, and depending stationary bar and guide with interposed spring between it and the top of the draw-head, substantially as described.

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

JOHN A. WILLIAMSON, JR.

Witnesses:
W. N. VAUGHN,
H. M. CHAPMAN.