

(No Model.)

N. NEWMAN.  
CAR COUPLING.

No. 409,420.

Patented Aug. 20, 1889.

Fig. 1.

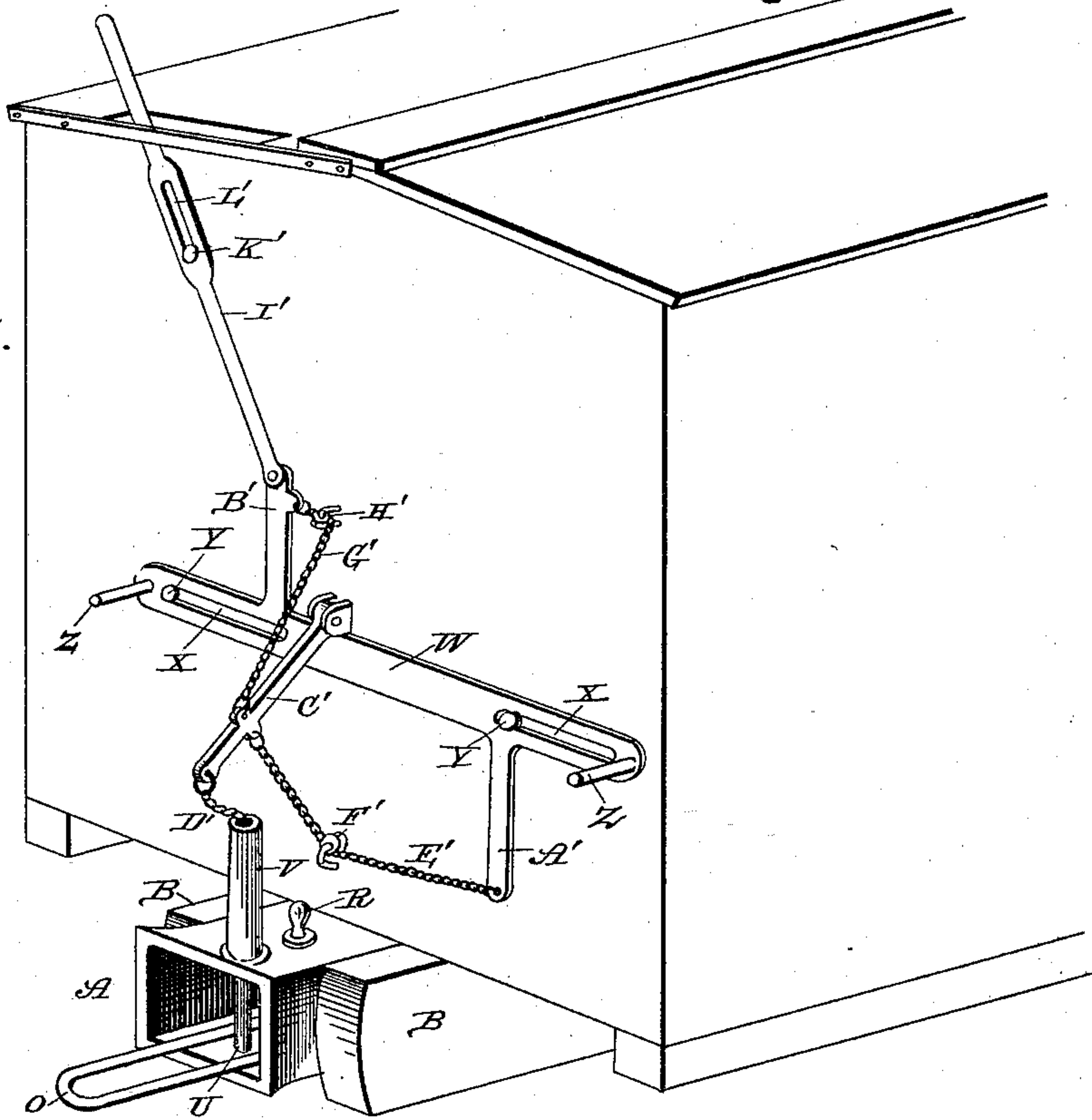


Fig. 2.

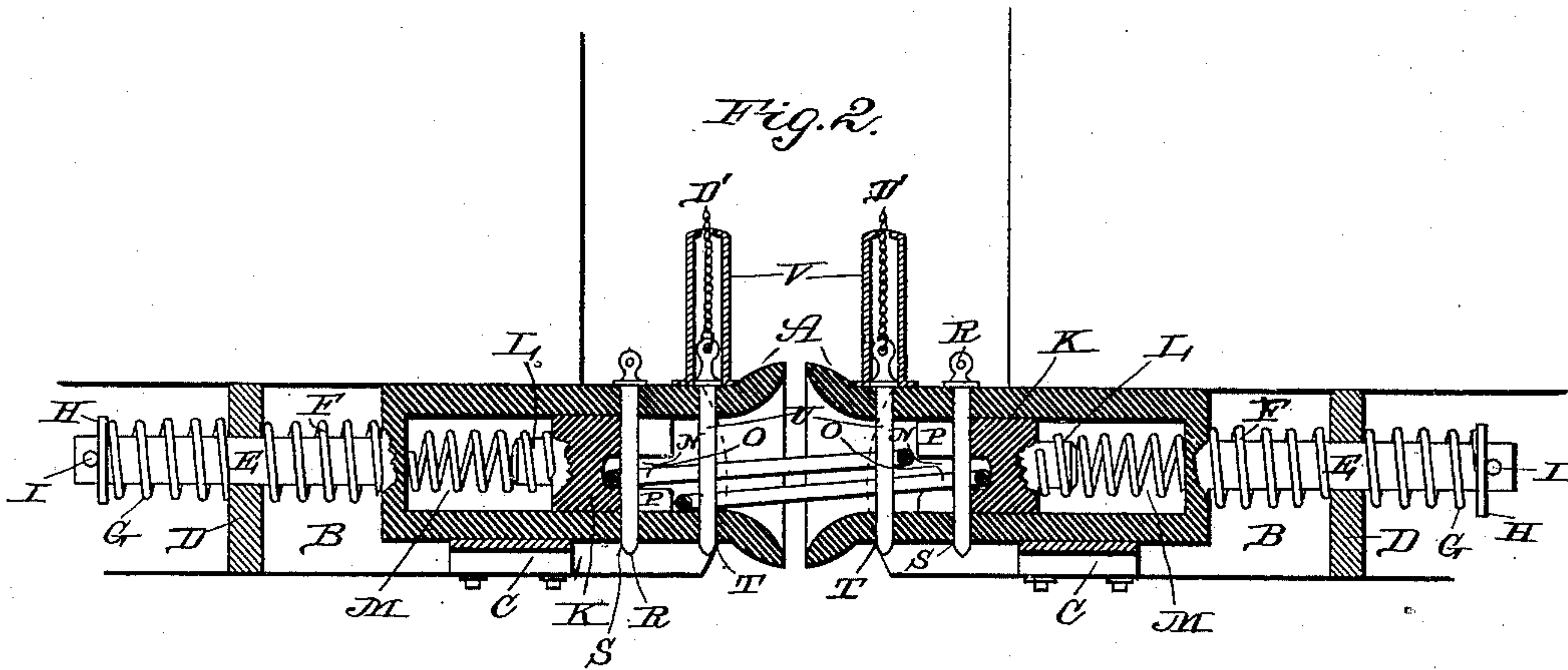
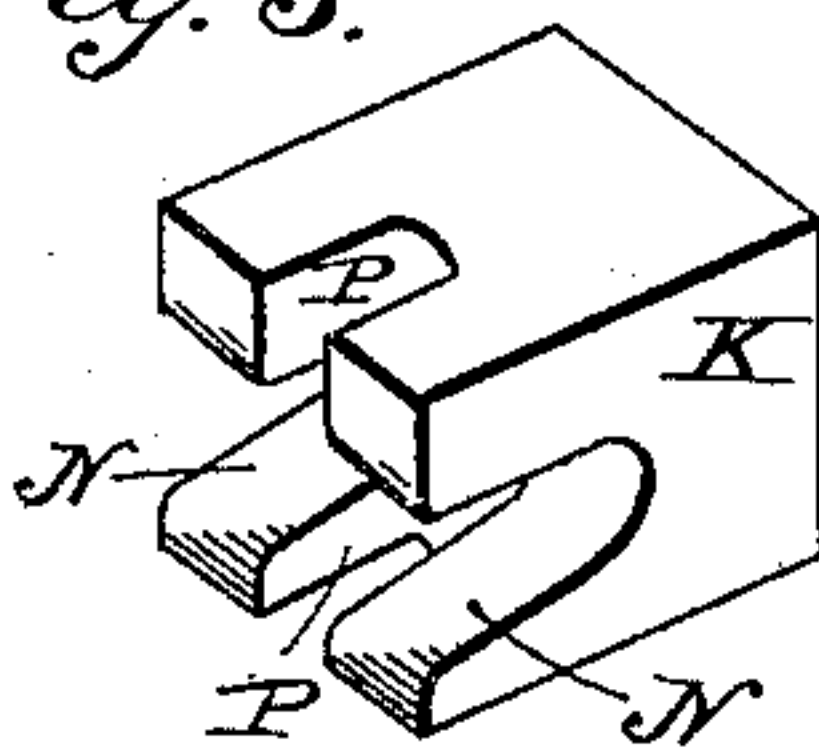


Fig. 3.



Witnesses

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# UNITED STATES PATENT OFFICE.

NELSON NEWMAN, OF SPRINGFIELD, ILLINOIS, ASSIGNOR OF TWO-THIRDS  
TO GEORGE A. SANDERS AND SAMUEL J. WILLETT, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 409,420, dated August 20, 1889.

Application filed April 15, 1889. Serial No. 307,263. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON NEWMAN, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Car-Couplings; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in car-couplings; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a car-coupling embodying my improvements. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a detailed perspective view of one of the link-holders.

The draw-heads A have their outer ends flared, and are arranged and guided between pairs of beams B, which are secured and arranged longitudinally under the end portions of the cars. The upper sides of the draw-heads bear against the lower sides of the cars, and plates C are bolted to the lower sides of the guide-beams B, connect the same in pairs, and extend under the draw-heads. Thereby the latter are adapted to move longitudinally between the guide-beams.

Arranged at a suitable distance in rear of the draw-heads are cross-plates D, which connect the pairs of guide-beams, and from the rear ends of the draw-heads extend shanks E, which pass through and are guided in openings in the cross-plates. Coiled extensile springs F are arranged on the portions of the said shanks E, between the rear ends of the draw-heads and the cross-plates, and similar extensile coiled springs G are arranged on the rear portions of the shanks E and bear against the cross-plates and against washers H, which are retained in place on the shanks by pins I, which extend through transverse openings in the latter. The said springs F G act as buffers

to lessen the shock of concussion when the cars are run together in making up a train, and to cause the cars to move forward easily and without unpleasant jerks and jars when the train starts and is in motion.

Arranged in the throat of each draw-head, and adapted to move longitudinally therein, is a link-holder K, having an inward or rearward extending stud L. Coiled extensile springs M are arranged in the inner ends of the draw-heads and have their front ends fitted on the studs L and bearing against the rear or inner sides of the link-holders, the said springs serving to normally force the link-holders toward the open ends of the draw-heads.

Each link-holder has a horizontal transverse open slot N, adapted to receive one end of a link O, and a vertical longitudinal open slot P, through which and also through the link passes a coupling-pin R. The link-holders are thereby adapted to move longitudinally on the said pins, and one of the links O is at all times ordinarily attached to each draw-head. The said coupling-pins R pass through and are normally retained in vertical openings S in the upper and lower sides of the draw-heads and which register with the slots P when the link-holders are pressed inward against the tension of the springs M. The draw-heads are further provided at a suitable distance in advance of the openings S with vertical openings T, adapted for the reception of coupling-pins U.

On the upper sides of the draw-heads are bolted vertical cylindrical pin-guides V, which are over the openings T, and in which the heads of the coupling-pins U are adapted to play. The upper ends of the said pin-guides are partly closed to prevent the pins U from being entirely disengaged from the openings T, and thereby the said pins are at all times retained in alignment with the said openings, ready for instantaneous operation when coupling or uncoupling the cars. Endwise-moving rods W are provided at their ends with longitudinal slots X, and are arranged transversely on the ends of the cars. Bolts or pins Y work in the said slots, are attached to the ends of the cars, and form guides for the rods, as will be readily understood. At the



ends of the rods are handles Z, by which they may be operated by persons standing on the ground on either side of the train. From the lower side of each rod W, near one end thereof, depends an arm A', and from the upper side of each rod, near the opposite end thereof, extends a vertical arm B'.

A lever-arm C' has its inner end pivotally attached to each end of each car at a slight distance above the rod W, and the outer end of the said lever-arm is attached to the upper end of the proximate coupling-pin U, by means of a chain D', which plays in the upper end of the pin-guide. A chain E' connects the said lever-arm to the depending arm A' of the rod W, and is guided on an anti-friction pulley F', and a chain G' connects the said lever-arm to the arm B' of the rod W and is guided on an anti-friction pulley H'. A hand-lever I' is pivoted on the end of the car by a pin or bolt K', that works in a slot L' of said lever, and the lower end of the latter is pivotally connected to the upper end of the arm A'.

The operation of my invention is as follows: Before running the cars together the levers I' are turned in the direction indicated by the arrow in Fig. 1, which causes the rods W to move in the opposite direction, slacken the chains E', and tighten the chains D' G', and thereby elevate the coupling-pins U. The links enter the opposing draw-heads when the cars come together, and are arranged one above the other, as shown in Fig. 2, and the levers I' being then moved to the position shown in Fig. 1, the chains E' tighten, draw down on the lever-arms C', and cause the pins U to descend and engage the coupling-links and thereby securely connect the cars together. In the event that one link or pin should break, the other link and remaining pins will prevent the train from parting. The spring-pressed link-holders yield when the cars rush together while in motion, and in a great degree relieve the coupling-links of violent strains. By removing the pins R the springs M are caused to force the link-holders outward until the inner ends of their slots P bear against the coupling-pins U, and said link-holders force the links outward a corresponding distance, thus increasing the length of

those portions of the links that project beyond the draw-heads, and hence enabling a car provided with my improved draw-head and coupling devices to be coupled to a car of much greater or less height.

It will be apparent that the coupling devices hereinbefore described may be operated by persons on the tops of the cars or on either side thereof, and without the necessity of risking life or limb by going between the cars.

Having thus described my invention, I claim—

1. The combination of the draw-heads having the pairs of coupling-pins U R, one in advance of the other, the spring-pressed link-holders K, arranged in the draw-heads and having the transverse open slots N, to receive and retain the inner ends of the links, and vertical open slots for the pins R, to enable said pins to retain said inner ends of the links in the holders, said slots N being of greater depth than the said slots P, and the pair of coupling-links O, substantially as described.

2. In a car-coupling, the combination, with the draw-head and coupling-pin, of the longitudinally-movable bar W, the vertically-movable lever-arm C', the chain connecting the latter to the coupling-pin, the hand-lever I', connected to the bar W, and the chains connecting the lever-arm C' to said bar at opposite ends of the latter and at points above and below the lever-arm C', respectively, substantially as described.

3. In a car-coupling, the combination, with the draw-head and coupling-pin, of the lever-arm C', the chain connecting the same to the pin, the longitudinally-movable rod W, having the arms A' B' extending from its lower and upper sides, the chains connecting the lever-arm C' to the extremities of said arms A' B', and the guides for said chains, substantially as described.

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

NELSON NEWMAN.

Witnesses:

WM. R. BOWERS,  
GEO. A. SANDERS.