(No Model.)

2 Sheets—Sheet 1.

L. T. NICHOLS.

CAR COUPLING.

No. 339,071. Patented Mar. 30, 1886.

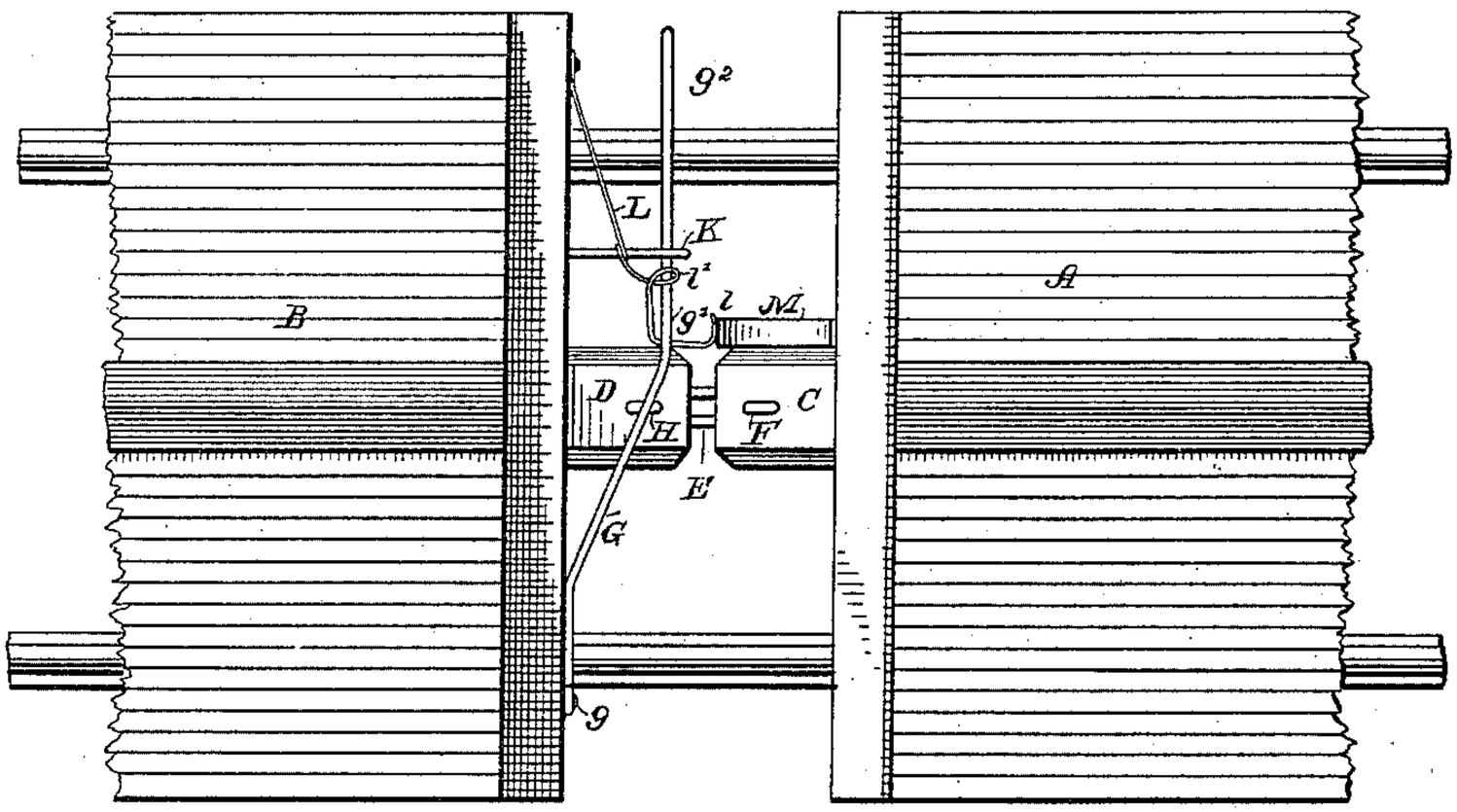


Fig. 1.

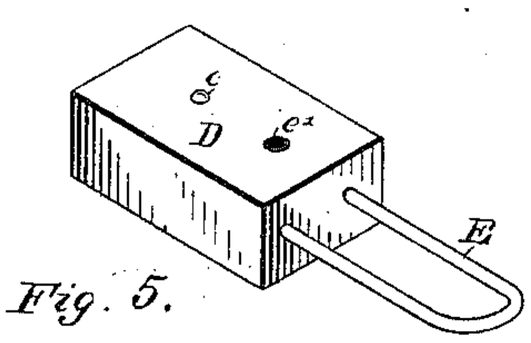
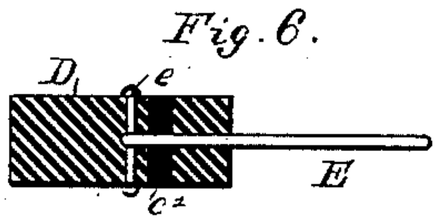


Fig. 5.

Fig. 6.



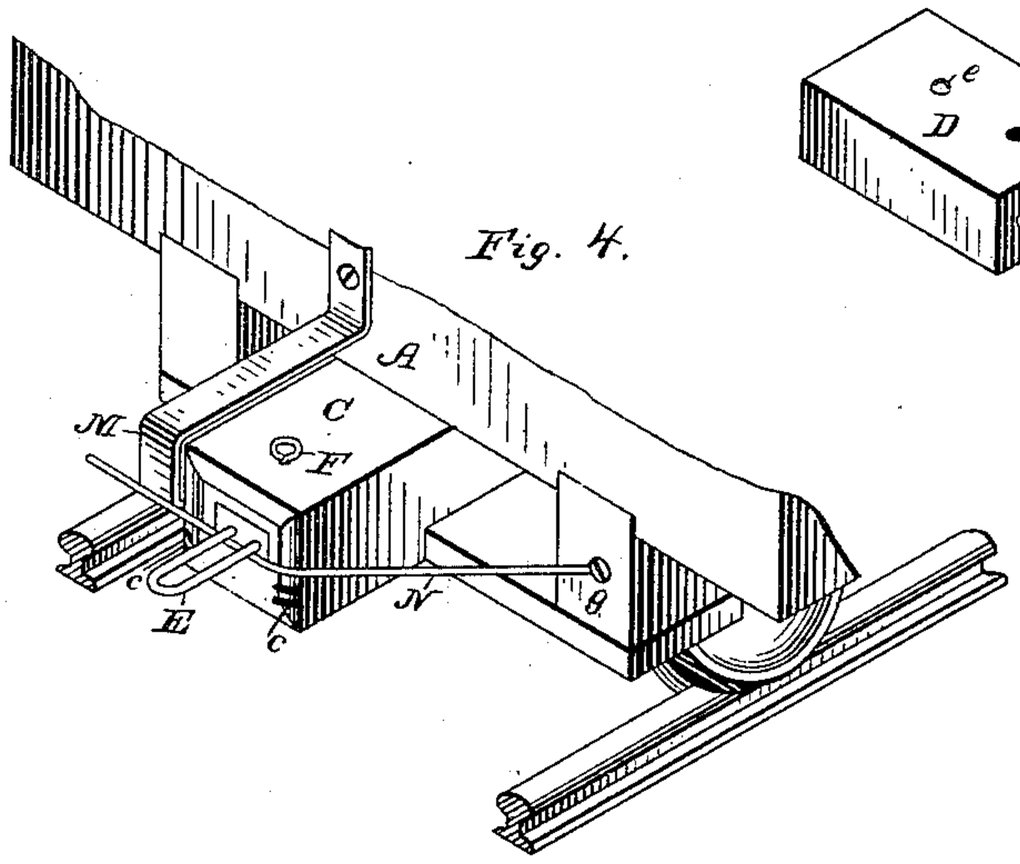


Fig. 4.

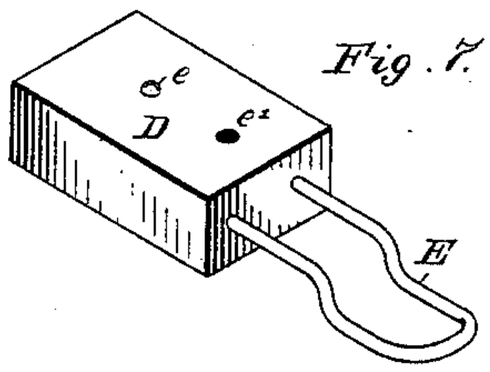


Fig. 7.

Witnesses
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(No Model.) 2 Sheets—Sheet 2.

L. T. NICHOLS.

CAR COUPLING.

No. 339,071. Patented Mar. 30, 1886.

Fig. 2.

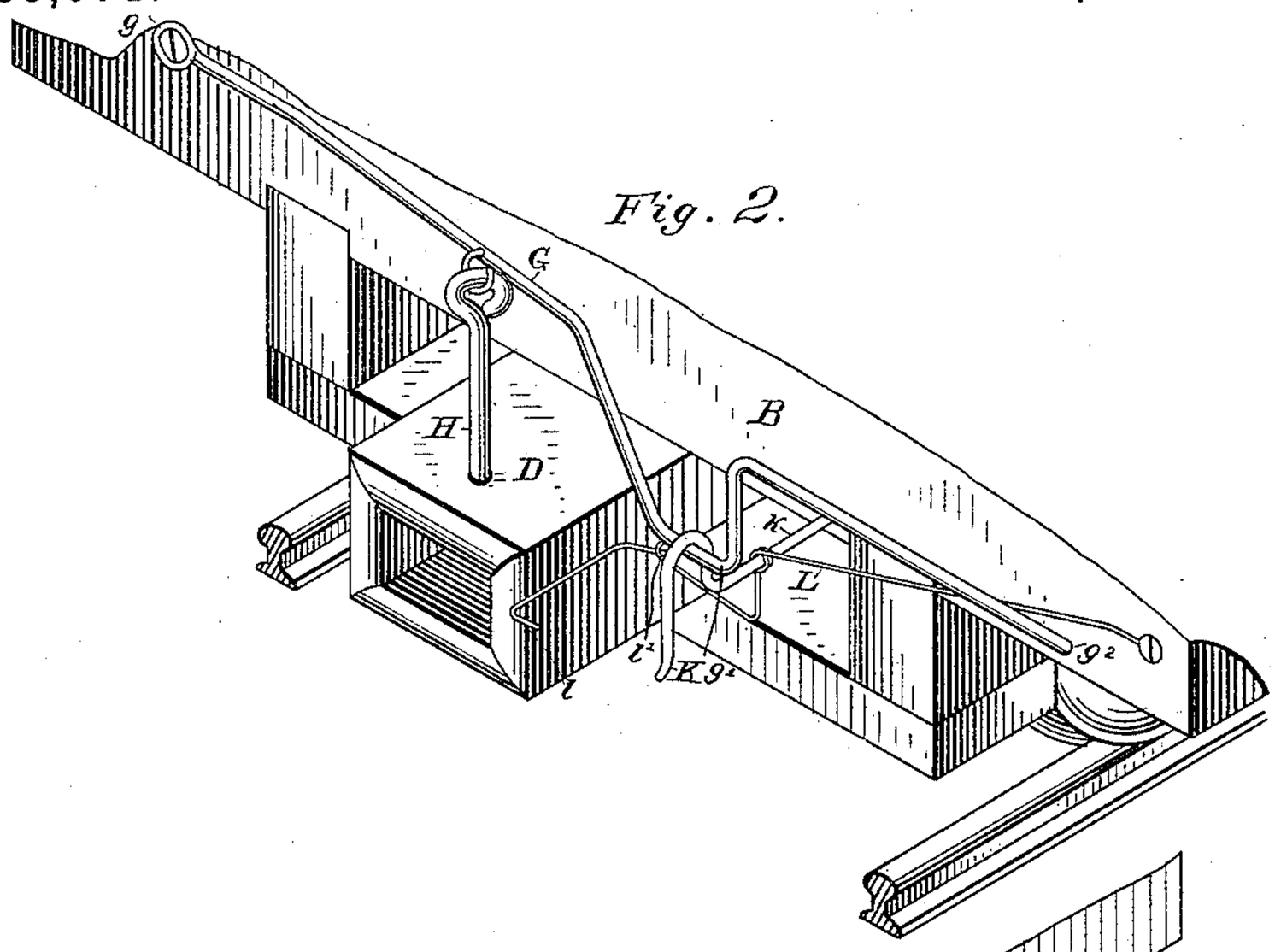
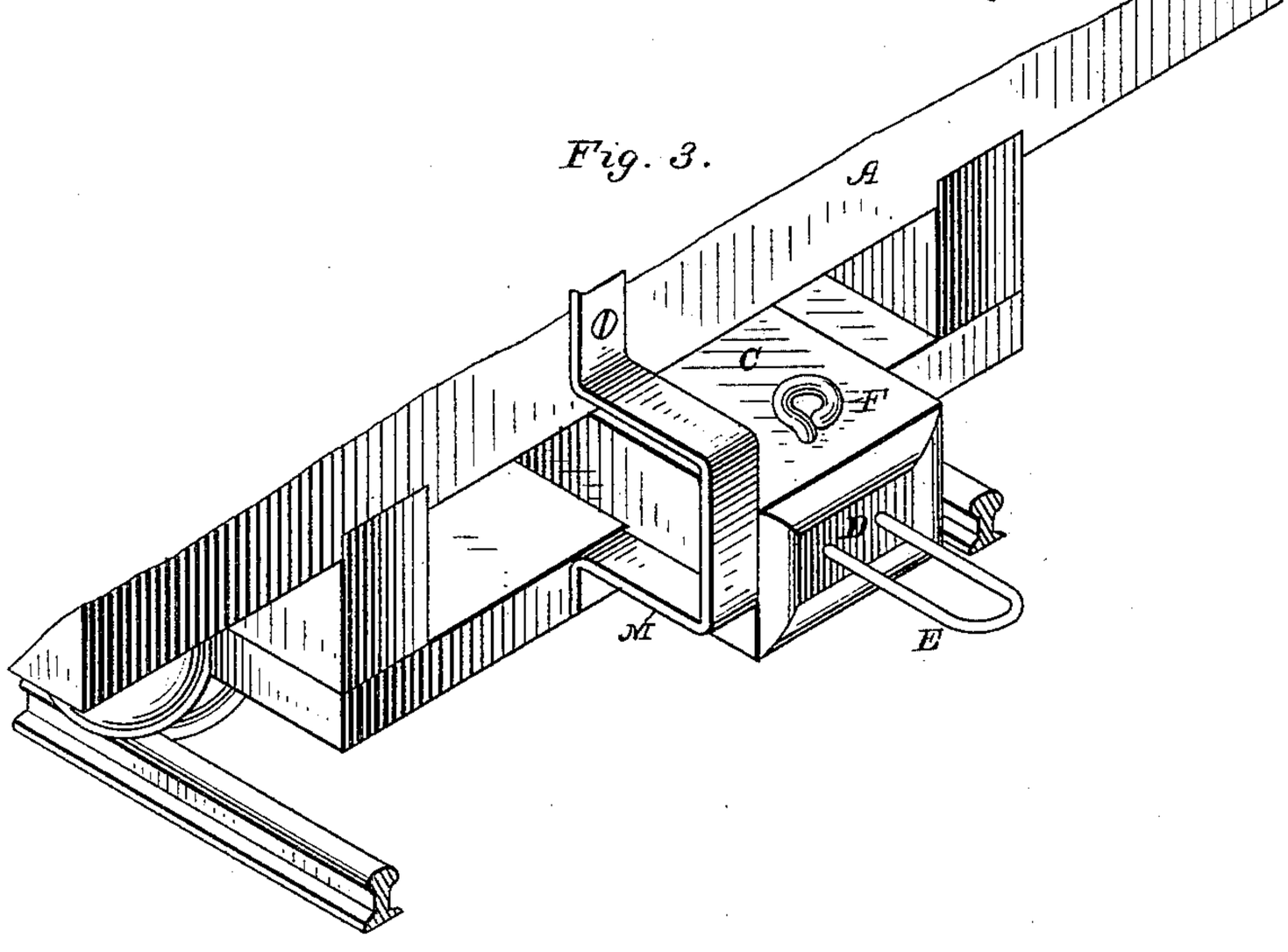


Fig. 3.



Witnesses

F. G. Fischer

H. B. Wyman

Inventor

L. T. Nichols

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L. Deane

UNITED STATES PATENT OFFICE.

L. T. NICHOLS, OF CLAREMONT, MINNESOTA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 339,071, dated March 30, 1886.

Application filed February 17, 1886. Serial No. 192,246. (No model.)

To all whom it may concern:

Be it known that I, L. T. NICHOLS, a citizen of the United States, residing at Claremont, in the county of Dodge and State of Minnesota, have invented certain new and useful Improvements in Railroad-Car Couplers, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a plan view showing the coupler as in use. Fig. 2 is a perspective view showing the draw-head having the coupling-pin and its connection. Fig. 3 is a perspective view showing the draw-head which has the link. Fig. 4 is a perspective view showing the link adapted to be adjusted up or down. Fig. 5, a detail in perspective of the link and its rubber; Fig. 6, a longitudinal section of Fig. 5; Fig. 7, a detail in perspective, showing the bent link.

This invention belongs to that class of devices called "car-couplers."

Heretofore there has been excessive danger of accident, even under the exercise of the utmost care, from the use of any car-coupler that I am aware of, and in consequence there is a demand for a device that shall be exceedingly simple in construction, as near as possible automatic in its operation, and that in use can be manipulated either in coupling or uncoupling with the least possible exposure of the train-hands. It has consequently been the object in the present invention to answer all these conditions; and to this end the novelty consists in utilizing the well-known pin-and-link coupler by means of suitable connections, so that a very cheap and simple structure or device is produced, that can be readily and safely operated, is sure in making connections, in a large detail of its functions is automatic, is durable, and not at all liable to get out of order either by the moving of the cars, the action of ice or snow, or by use.

Having now in a general way stated the nature and scope of this invention, I will proceed to describe how the above ideas are put into a usable form.

In the accompanying drawings, A B denote freight-cars, and C D the ordinary draw-heads attached, respectively, to the abutting ends of the two cars. In the draw-head C is fitted the rubber packing D, in which is embedded one end of the coupling-link E, as shown in Fig. 5, whereby it is kept at a fixed horizontal level. In addition to the confining or retaining power of the rubber, a pin, *e*, is passed through the rubber and link at the inner end and headed down at both ends. The hole *e'* in the rubber is for the passage of the coupling-pin F, by means of which the link and packing are retained in the draw-head. In the abutting end of the car B there is provided the horizontal metallic rod G, pivoted at one end, *g*, to the face of the car or truck and extending over the draw-head D and bent at *g'* nearly to the opposite side of the car, its outer free end, g^2, there serving as a handle by which to raise it. By suitable swivel or link connection, *h*, the upper end of the coupling-pin H is connected to this rod G, and so can be readily moved by or in conjunction with it. When the cars are to be coupled, the pin H is raised by means of the rod G, the upward movement of said rod being properly limited by the hook or stop K, in which the bend G' of said rod plays. Said stop also serves as a guide for the movement of said rod. When this rod reaches the limit of its upward movement, the bend *l'* of the spring L comes under it and supports it in this position. This spring is attached at one end to the face of the car or truck frame, and is preferably bent in its middle about the shaft *k* of the hook or stop K, so as to move back and forth thereon. The outer free end, *l*, of this spring will, when the two draw-heads are being brought close to each other, be impinged upon by the boss or bent metal strip M on the truck-frame of the other car and near its draw-head, and being thus pushed back will cause the bend *l'* of the spring to be moved away from the rod G. As this movement is taking place the link E has fully entered the draw-head D, and the rod G falling the pin H passes through the link, and the cars are coupled.

To uncouple the cars, it is only necessary for the train-hand to lift the rod G, and then the pin H is released from the link.

It will be noticed that there is no need at all for the train-hand to stand between the two cars as they are being coupled, because the link E is always in position in cars where the draw-heads are of the same heights to enter the open mouth of the abutting draw-head; but in case the car with the link has a

higher draw-head than the other car there is provided a bent link, as is shown in Fig. 7, and when the car with the link has a lower draw-head than the other the link can be turned over, and is then ready to fit exactly.

Under some conditions it may be desirable to use, instead of the rubber packing about the link, a positive but adjustable support, as is now shown in Fig. 4, where a horizontal rod, N, is fixed at one end by a screw to the car or frame of the truck, while near its other it is adapted to fit under the link in the slots *c*, on each side of the mouth of the draw-head C. By this means the horizontal height of the link E can be regulated up or down at pleasure, so that it can be adapted for the mouth of any abutting draw-head.

When the cars get turned round end for end, as not unfrequently happens, any train-man of ordinary mechanical skill can quickly adapt the link so as to be in readiness for use. When used on a box-car, a rope, rod, or chain connection can be readily made with the coupling-pin, so that the brakeman can operate the pin from above, if desired.

The advantage of this coupling device is that it is very simple in its parts and in their structure, and is sure and effective in its operations under any and all the conditions of use.

This invention will be applicable to any ordinary freight-car, box or platform, as it is adapted for any draw-head, and as it does not require any skilled workman to adjust its parts any train-hand can readily apply it in place. When two cars are loaded with heavy timber, the coupling device between them can be operated without the least difficulty. In a word, all the advantage of the old link and pin are fully preserved in all their simplicity and durability, while the additional elements of sure action and safety are secured.

In the size, arrangement, and adaptation of the parts of this device it will be evident that many merely mechanical changes can be made without in the least departing from the nature and scope of my invention.

Having now described my invention, what I consider new, and desire to secure by Letters Patent, is—

1. In a car-coupling device, a pin supported by means of a horizontal rod and spring underneath the same, substantially as shown and described.

2. In a car-coupling device, the combination of a draw-head, a coupling-pin, a horizontal rod connected to said pin and pivoted at one end and having a handle at the other, a spring-support under said rod, and a stop to limit the movement of said rod, all as shown and described.

3. In a car-coupling device, the combination of a draw-head having a link supported at any desirable horizontal height or level and a spring-operating boss with a draw-head having a pin and horizontal connecting-rod and spring-support under the same, all substantially in the manner shown.

4. In a car-coupler, a link embedded at one end in rubber and secured thereto by a pin, substantially as described.

5. A car-coupling link embedded at one end in rubber, substantially as and for the purposes described.

6. In a car-coupling device, the combination of the link E and rubber D with the draw-head C and pin F, substantially as and for the purposes set forth.

7. In a car-coupling device, the combination of the draw-head C, having therein the link E, supported at the proper level, the pin C, and boss M with the draw-head D, pin H, rod G, and spring L, substantially as and for the purposes described.

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

L. T. NICHOLS.

Witnesses:

R. C. TODHUNTER,

B. LEWIS BLACKFORD.