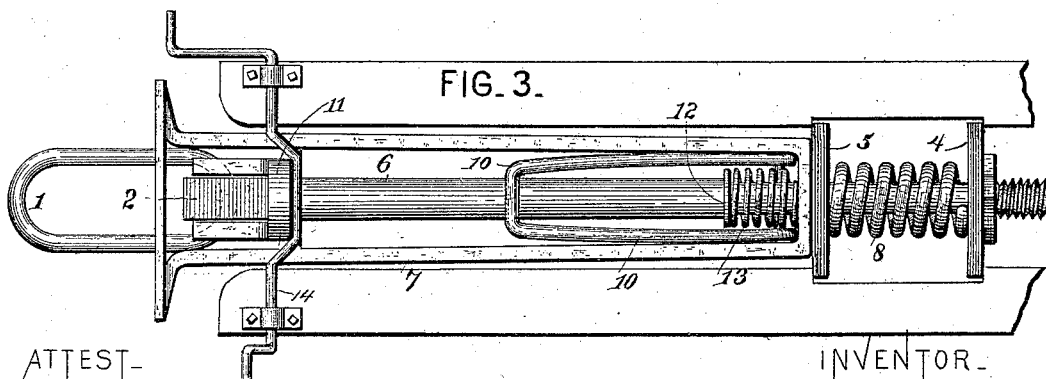
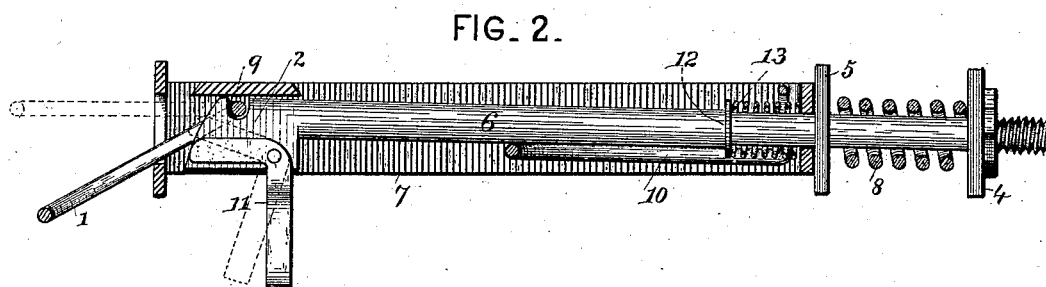
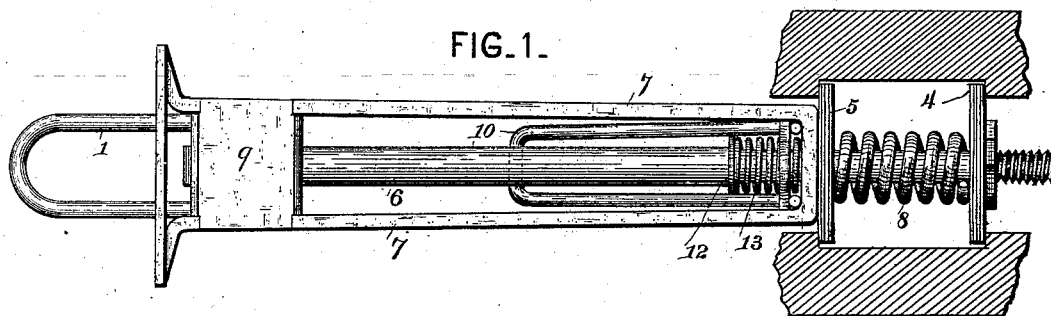


(No Model.)

E. J. ROBERTS.
CAR COUPLING.

No. 307,228.

Patented Oct. 28, 1884.



ATTEST-

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UNITED STATES PATENT OFFICE.

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TO WM. W. CULBERTSON, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 307,228, dated October 28, 1884.

Application filed March 18, 1884. (No model.)

To all whom it may concern.

Be it known that I, EDWARD J. ROBERTS, a citizen of the United States, residing at Ashland, in the county of Boyd and State of Kentucky, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

According to my present improvement the draw-bar of the car is preferably made hollow, and within the same is placed the link-retaining hook or pull-rod, strain on which is transmitted through the medium of a spiral spring directly to the frame or body of the car, the draw-bar itself being employed merely as a buffer, transmitting rearward strain to the frame through the medium of the same spiral spring. The draw-bar or buffer is provided with a plate or block, against which the head of the pull-rod is forced by a stout bar or plate spring. Between this plate or block and the inclined face of the pull-rod the link is forced by the impact of two cars, and, slipping past the notch or hook of the rod, is firmly held in place, the rod being returned to contact with the plate or block by the spring before referred to. An L-lever is pivoted at the forward end of the pull-rod and arranged to be operated by hand directly or through the medium of a lever, to elevate or depress the link when coupling, as well as to force the hook away from its bearing-surface when it is desired to uncouple. The pull-rod is made adjustable by screw and nut on its rear end, and provided with a shoulder, between which shoulder and the end of the draw-bar a spring is interposed, serving the double purpose of taking up slack motion between the pull-rod and buffer and of projecting or permitting the retraction of the pull-rod, thus adjusting the position of the link to effect a coupling under compression of the buffer-spring.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure I is a plan view of a car-coupling embodying my invention. Fig. II is a vertical longitudinal section thereof. Fig. III is an under side view of the same.

In a car-coupling constructed according to my improvement the draft-link 1 is adapted to be retained by the hook-shaped end 2 of a pull-rod or bar, 6, which transmits strain to draft-plates 4 5, capable of forward and rearward movement, respectively, in a socket or yoke in the frame of the car. A draw-bar, 7, preferably of open construction, as here shown, is made hollow for the reception of the pull-rod or hook, and, having bearing at rear against plate 5, is adapted to act as a buffer, transmitting strain through such plate and spring 8 to the plate 4 and frame of the car. It will be seen that both forward strain on the pull-rod and rearward pressure on the buffer will be transmitted through the medium of the plates 4 5 and spring 8 to the frame of the car. Upon the forward end of the draw-bar or buffer is arranged a block or plate, 9, against which the lip of the hook 2 is made to bear by bar or plate spring 10. The front of the hook 2 is inclined, as shown, to direct the link and aid in depressing the hook for coupling. A forked-shaped L-lever, 11, is fulcrumed to the hook 2, and, hanging down from the buffer, is adapted to be operated by hand or through any usual means for this purpose, either to raise and lower the link when coupling, or to force apart hook 2 and block 9, to permit the pulling out of the link when uncoupling. Immediately on the pulling out of the link the L-lever 11 being released, the hook 2 is returned to position against the plate 9 by the spring 10. In Fig. III is shown a crank-shaft, 14, journaled in the draft-timbers, and adapted to be operated to work the lever 11. The bearing ends of the L-lever 11 are preferably curved or beveled to allow it to move more freely over the link when operated.

In order to prevent any loose motion between buffer and pull-rod, a shoulder or flange, 12, is formed upon the latter, and a spiral spring, 13, placed between the same and the rear end of the buffer. This spring serves also the still more important function of lengthening or permitting the shortening of the pull-rod according to need to permit coupling to take place in any condition of the buffer.

The amount of compression of spring 8 and

the relative position of the buffer and the pull-rod are regulated by means of nut or equivalent device adjustable on the inner end of the pull-rod and bearing upon the plate 4.

5 The necessary traverse of the draw-bar when turning curves is afforded by the pressing in of the buffers and pulling out of the rod 3, thus compressing spring 8 from both ends, the buffer and rod being both automatically returned
10 to position when the curve is passed.

It is evident that, if desired, the plate 5 may be discarded, the spring 8 in such case bearing directly against the rear end of the draw-bar; but the arrangement here shown is preferred.

15 Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. The combination of draw-bar or buffer 7, block 9 thereon, and spring rod or bar 2 6,
20 substantially as and for the purposes set forth.

2. The draw-bar or buffer 7, having bearing block or plate 9, the spring pull rod or bar 2 6, and lever 11 pivoted thereto, for the purposes set forth.

3. In combination with draw-bar 7 and pull-rod or hook 2 6, the L-shaped lever 11, pivoted to said hook and adapted to lift the link for coupling with an opposing draw-bar, and to release the link for uncoupling, substantially
25 as shown and described. 30

4. In combination with pull-rod 6 and lever 11, pivoted thereto, the crank-shaft 14, journaled to the draft-timbers for operating such lever, substantially in the manner described.

EDWARD J. ROBERTS.

Witnesses:

H. H. PINNEY,

W. W. CULBERTSON.