(No Model.)

S. & S. CROCKER.

CAR COUPLING.

No. 295,985. Patented Apr. 1, 1884.

Fig. 1.

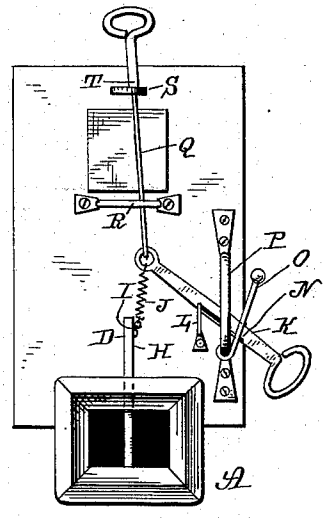

Fig. 2.

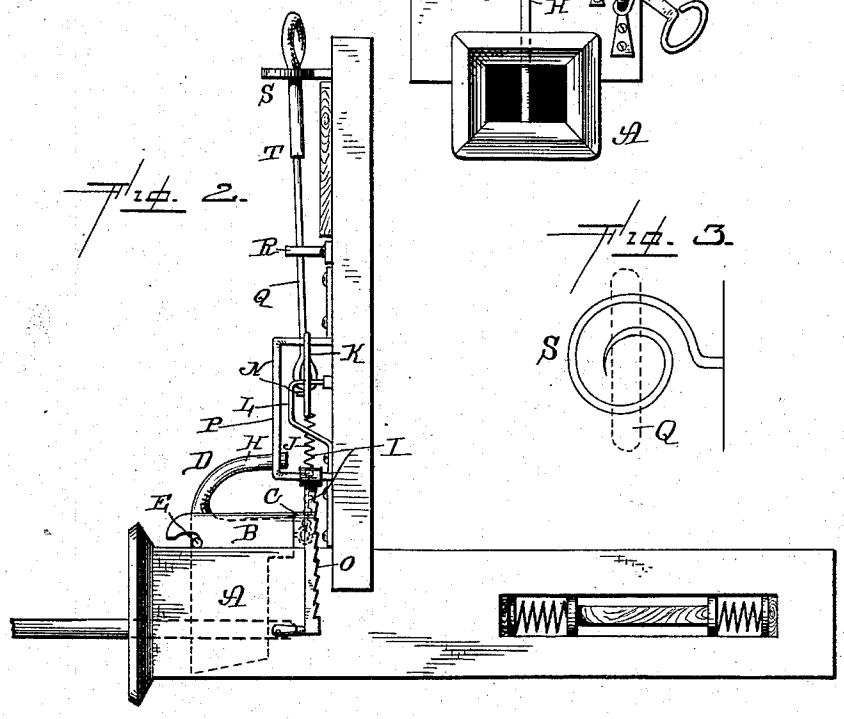

Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

SAMUEL CROCKER AND STEPHEN CROCKER, OF COLUMBUS JUNCTION, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 295,985, dated April 1, 1884.

Application filed January 16, 1884. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL CROCKER and STEPHEN CROCKER, of Columbus Junction, in the county of Louisa and State of Iowa, have invented certain new and useful Improvements in Car-Couplings; and we 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in car-couplings; and it consists, first, in the combination of the draw-head, a pivoted pin, a suitable means for connection with the pin, the spring-operated levers, and a means for holding one of the levers in such a position as will cause the spring to exert a pull upon the coupling-pin; second, the combination of the rod which extends to the top of the car, a suitable means for connection with the coupling-pin, with a scroll or supporting device by means of which the pin can be held in a position that will not allow the cars to couple; third, in the arrangement and combination of parts, which will be more fully described hereinafter.

The object of our invention is to produce not only an automatic coupling, which will do away with all necessity of the brakemen risking their lives and limbs in coupling the cars together, but it can be set so as to automatically uncouple at any time it may be desired.

Figure 1 is a front elevation of a car-coupling embodying our invention complete. Fig. 2 is a side elevation of the same. Fig. 3 is a detail view of the spiral support for one of the levers.

A represents the draw-head, which has cast with it upon its top the two flanges B, which extend parallel with each other, and a third flange, C, which extends across the top of the head at right angles to the other two, as shown. In between these two flanges B is formed an opening upon the draw-head for the coupling-pin D to pass through, and through the bottom of the draw-head is formed a corresponding slot, in which the lower end of the coupling-pin catches, in the usual manner. The front ends of the two flanges B are raised above the top of the draw-head, as shown, leaving sufficient room to allow the pivotal points E upon the coupling-pin to pass freely under them. These pivotal points serve not only as pivots upon which the coupling-pin turns, but also serve as a support to hold the coupling-pin in position. By turning the pin into a horizontal position these pivotal points E can be moved from under the front ends of the flanges B, and then the pin can be entirely detached from the draw-head. This coupling-pin is made broad and flat, and has formed upon its outer end the curved handle or lever H, by means of which the pin can be operated or carried about when the pin is detached from the draw-head. Upon the rear edge of this coupling-pin is formed an extension or shoulder, and to this extension or shoulder is fastened the chain I, and to the upper end of the chain I is fastened the spring J. The upper end of the spring J is fastened to the inner end of the slotted pivoted lever K, which both turns pivotally and moves back and forth upon the support L, which is provided for it. Near the outer end of this lever is formed the flange N, which is intended to engage with the ratchet-bar O, which is pivoted upon the frame P. This frame P is preferably of the shape shown, and serves simply as a support for the ratchet-lever, and has a guard or protector for the outer end of the lever. When the ratchet-bar is not needed, it can be dropped down alongside of the car; but when it is to engage with the lever, it is raised upward in the position shown. This ratchet-bar is brought into use when it is desired to set the coupling-pin so that it will automatically uncouple the cars whenever so desired. Also connected to the inner end of the lever K is the lever Q, which extends vertically upward to the top of the car, for the purpose of enabling the coupling-pin to be operated from this point. This pin passes through the slotted guiding-frame R and through the spiral guide and support S, and is provided with the shoulder T near its upper end. The support S is made of a spiral form, as shown, so that the lever K, when raised upward sufficiently high to bring the shoulder T above the support, can be made to catch between the inner end of the spiral and the outer portion of the support, and thus

hold the lever in a raised position. While this lever is thus held in a raised position a constant and steady pull is exerted upon the coupling-pin, so as to hold it raised up into that position where it will not couple with the link of another car. As soon as it is desired to bring the pin into use again it is only necessary to move the lever so that its shoulder will drop off from the spiral support and let the pin drop down into position.

In case it is desired at any time to have the cars automatically uncouple when a certain point is reached, the lever K is made to engage with the ratchet-bar in such a manner as to cause a steady pull to be exerted upon the rear edge of the coupling-pin. The draft of the other car or cars upon the coupling-pin, while the train is in motion, prevents the pin from freeing the link; but should the engineer at any time slacken up the train so that the coupling-link would be forced inward to its full extent into the draw-head, the pull-spring upon the rear end of the car would cause the lower end of the pin to be raised upward, so as to free the link, and then that car or cars will be left behind when the train is again started in motion. By means of this automatic detaching apparatus it will be seen that a portion of a train can be set to uncouple at any desired point, without the necessity of the brakemen having to be on hand to uncouple the cars when the desired point is reached. This lever K can also be made to operate the coupling-pin from one side for any desired purpose, either in the way of holding the pin so that it will not couple or for the purpose of coupling the cars. By this means a train can be run with a smaller number of brakemen than can be done where no detaching apparatus is used.

To the rear end of the draw-head will be attached suitable springs for the purpose of easing the jar and concussion when the cars run together.

Having thus described our invention, we claim—

1. The combination of the draw-head, a pivoted coupling-pin, the spring J, the slotted lever K, lever Q, and a means of supporting the lever in position, substantially as shown.

2. In a car-coupling, the combination of the draw-head, the pivoted coupling-pin, the spring, the frame P, the ratchet-bar O, which is pivoted upon the frame, and the lever K, which engages with the ratchet-bar, substantially as described.

3. The combination of the draw-head, the coupling-pin, a means of connection, the lever Q, provided with a shoulder, and a support for the shoulder to catch over, and thus hold the pin in a raised position, substantially as set forth.

4. The combination of the lever Q, a suitable means of connection at its lower end, and the pivoted coupling-pin, with a spiral support at its upper end for its shoulder T to catch upon, substantially as specified.

5. In a car-coupling, the combination of the frame P and the ratchet-bar O, which is pivoted thereon, the bar O being adapted to drop down out of the way when not needed to hold the lever K in position, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

SAML. CROCKER.
STEPHEN CROCKER.

Witnesses:
P. H. FORBES,
G. S. ERWIN.