(No Model.)

C. A. RATCLIFF.

CAR COUPLING.

No. 419,555. Patented Jan. 14, 1890.

Fig. 1.

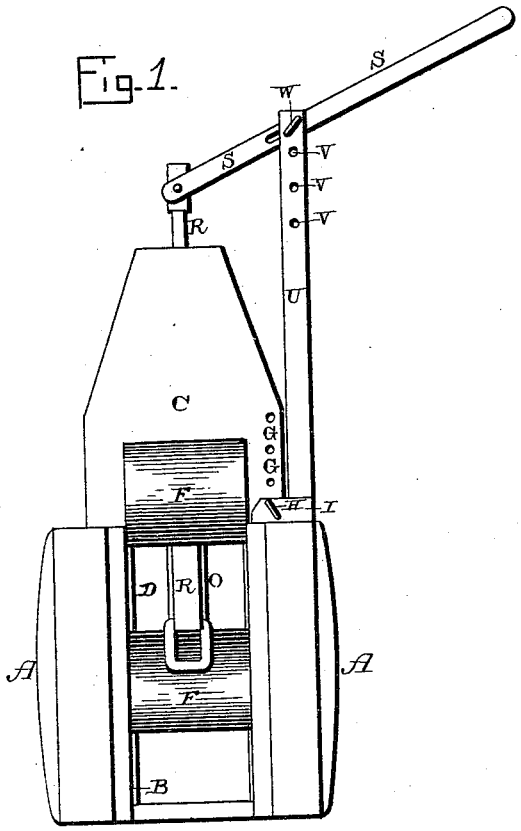
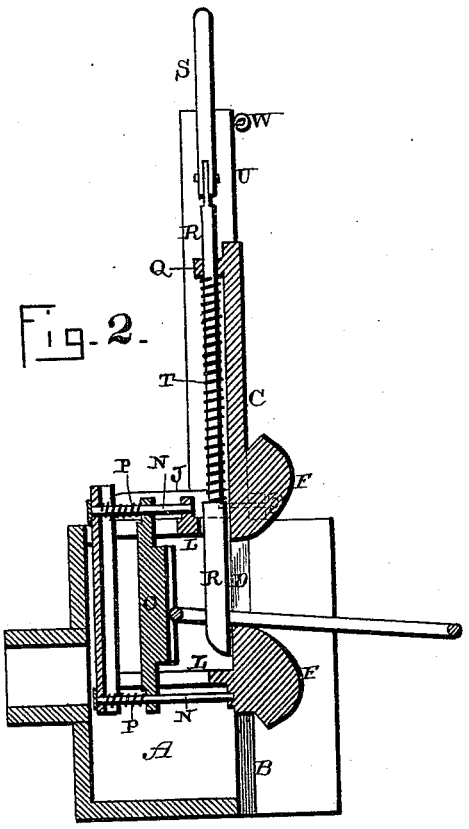


Fig. 2.



Witnesses:
E. P. Ellis,
E. E. Hart.

Inventor:
Chas. A. Ratcliff
per
F. A. Lehmann,
Atty.

UNITED STATES PATENT OFFICE.

CHARLES A. RATCLIFF, OF GILMAN, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 419,555, dated January 14, 1890.

Application filed November 15, 1889. Serial No. 330,381. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. RATCLIFF, of Gilman, in the county of Marshall and State of Iowa, have invented certain new and useful Improvements in Automatic 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in automatic car-couplings; and it consists in the combination of the draw-head having a suitable opening and guides or ways formed therein, with a vertically-adjustable link-support, a lever for adjusting it and operating a spring-actuated coupling-pin at the same time, and a means for holding the link-support at any desired elevation, as will be more fully described hereinafter.

The object of my invention is to make the link vertically adjustable in the draw-head, and thus adapt it to be used in connection with cars of different heights, and to attach the spring-actuated coupling-pin to the same lever by which the link-support is made vertically adjustable.

Figure 1 is a front elevation of a car-coupling which embodies my invention. Fig. 2 is a vertical section of the same, taken at right angles to Fig. 1.

A represents the draw-head, which will be made of any shape or construction which may be preferred, and which has vertical guides B formed in its front end to receive opposite edges of the vertical slide C. Through this slide C, which is made sufficiently long to extend a suitable distance above the top of the draw-head A, is made a suitable opening D, sufficiently large to allow the end of the coupling-link to pass freely through, and above and below this opening to the slide are secured or formed blocks F, which are rounded upon their inner sides or edges, so as to conduct the coupling-link into position to be coupled. The slide C and the blocks F will be cast or made in a single piece, and when the slide is raised or lowered these blocks are raised and lowered correspondingly. Upon opposite edges of the front side of the slide C is formed a series of openings G, which are arranged one above the other, and which may be numbered for the sake of convenience, and through these openings the pin H is passed for the purpose of holding the slide in any desired position into which it may be adjusted. This pin H passes through a projection or block I, formed upon the top of the front end of the coupling-head, through the slide, and into a block J, placed back of the slide, as shown. This slide C and the blocks F form a link-support, by means of which the link can be raised or held in any desired position, and thus made to couple freely with cars of different heights, and which allows the link to be adjusted by the brakeman without the necessity of having to venture between the cars as they run together. Secured to or cast with the slide C is the supporting-frame L, which is provided with slots or openings at its top and bottom and with the guide-rods N, which pass correspondingly through the frame, as shown. Upon these guide-rods is placed the pin-support O, which has its ends to project through the slots and through which ends the guide-rods N pass. In order to hold this pin-support N always pressed forward, so as to automatically snap under the lower end of the pin as soon as it is raised, the springs P are placed upon the rods and made to bear against the rear sides of the support, so as to force it forward under the lower end of the pin as soon as it is left free to move. This frame L, being secured to or cast with the slide C, is made vertically adjustable with it.

Upon the rear side of the slide C at its top is formed a guide Q for the pin R, which is fastened to the slotted lever S at its upper end. Around this pin, between the guide Q and the shoulder upon the pin, is placed the spiral spring T, which causes the pin to instantly drop as soon as the coupling-link forces the pin-support N backward. The lever S is pivoted in the standard U, which rises from one edge of the draw-head A and is provided with a series of perforations V at its upper end, through which the pivotal pin W is passed. The lever S is provided with a slot where the pivotal pin passes through it, so as to allow the lever an endwise movement as the pin R rises and falls. When the pin is raised, the

pin-support N snaps under its lower end and holds the pin in a raised position. When the cars run together and the link enters and strikes against the support, it is forced backward and the spring instantly depresses the pin, so as to couple the cars together. Should it be desired to hold the link ready for coupling, it has only to have its end inserted, so as to bear against the front edge of the pin-support, and then allow the pin to descend upon it, when the link will be supported at any desired angle.

As above stated, it is only necessary to adjust the slide vertically to raise and lower the coupling-link, so as to cause it to freely couple cars of different heights. The outer end of the lever S projects outward toward the side of the car, where it can be freely operated for the purpose of raising the pin and setting the coupling without the necessity of the brakeman having to venture between the cars for the purpose of coupling them. After the slide has been adjusted to the desired elevation and then fastened in position by a pin H the slide remains stationary, and then the lever operates the coupling-pin R only. When the pin H is removed, so as to leave the slide free to be moved vertically, the lever serves to adjust the slide without operating the coupling-pin R. Thus it will be seen that the same lever adjusts the slide vertically when it is free to move, and when the slide is lowered in position it operates the pin, and the pin only.

The main head is solid to within three or four inches of its mouth, so as to stop the link before the springs are coiled too tight and so as to be sure of pressing the link into the next draw-head.

Having thus described my invention, I claim—

1. In a car-coupling, the combination, with the draw-head having vertical guides formed inside thereof, of a vertically-adjustable slide moving therein, a coupling-jaw secured to the slide, and a lever for vertically adjusting the slide and jaw, whereby the height of the coupling-jaw is regulated.

2. The combination of the draw-head having vertical grooves or guides formed therein, a vertically-moving slide placed in the grooves or guides, a frame secured to the slide, a spring-actuated pin-support moving in the frame, a spring-actuated pin, and a lever for operating the pin, substantially as described.

3. The combination of the draw-head, a vertically-moving slide placed therein, a spring-actuated pin-support, a spring-actuated pin, a pivoted lever, and a standard in which the lever is supported, the lever being adapted both to raise the pin and to adjust the slide, substantially as set forth.

4. The combination of the draw-head provided with grooves or guides therein, the vertically-moving slide provided with an opening through which the end of the coupling-link passes, and the blocks or projections upon opposite sides of the opening, the frame on the rear side of the slide, the spring-actuated support moving in the slide, a spring-actuated pin, a lever connected to the pin, a standard for supporting the lever, and a pin H, for locking the slide in position, substantially as specified.

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

CHARLES A. RATCLIFF.

Witnesses:
HENRY ENSMINGER,
F. F. PATTERSON.