(No Model.)

F. A. HOTCHKISS.

CAR COUPLING.

No. 480,584. Patented Aug. 9, 1892.

Fig. 1.

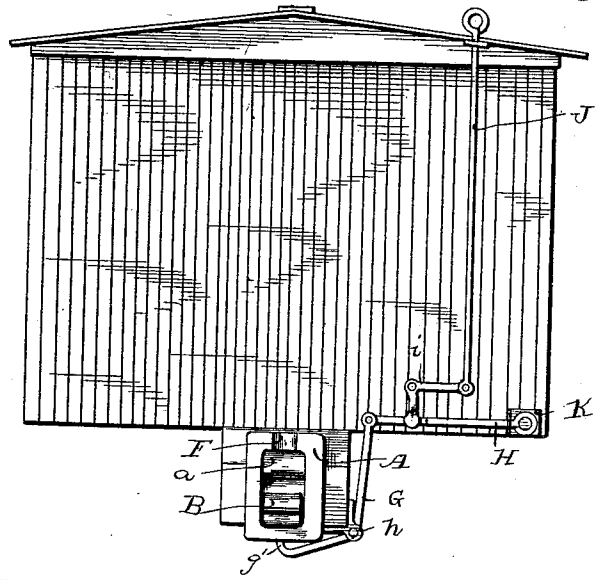


Fig. 2.

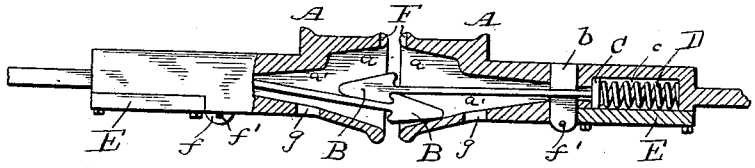
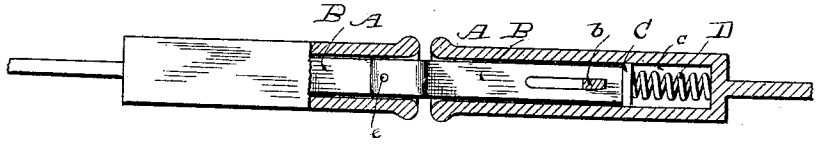


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANCIS A. HOTCHKISS, OF CEDAR FALLS, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 480,584, dated August 9, 1892.

Application filed November 30, 1891. Serial No. 413,570. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS A. HOTCHKISS, a citizen of the United States, and a resident of Cedar Falls, in the county of Black Hawk and State of Iowa, 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 letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is an end view of the coupling. Fig. 2 is a side view, partly in section; and Fig. 3 is a plan, partly in section.

This invention has relation to certain new and useful improvements in car-couplings; and it consists in the novel construction and combination of parts, as hereinafter specified.

In the accompanying drawings the letters A A designate two opposing draw-bars. Each of said bars, with their coupling and uncoupling devices, being the exact counterpart of the other, a description of one will suffice for both. In the forward portion of the draw-bar is formed a chamber *a*, having a contracted or throat portion *a'*, in which is secured a coupling-bar B by means of a pin *b*, which passes loosely through an oblong slot in the coupling-bar and through the walls of the draw-bar. This coupling-bar is of arrow-head form, as shown, and forms the coupling by passing the head of the opposing coupling-bar. The inner end of said coupling-bar works against a buffer-plate C, behind which is seated in a chamber *c* a spring D, having sufficient recoil to allow the coupling-bar to be pressed back the length of its head in case the point comes in contact with different draw-bars, thus sheathing and protecting said point. Upon being released, said spring will throw the bar immediately back to its place. It also serves to take up the jar of contact. It also affords sufficient slack or play when a coupling is effected with a car having the ordinary pin-and-link coupling, for the purpose of which a pin-aperture *e* is formed in the head of the coupling-bar. The bottom of the spring-seating chamber *c* is formed by a removable plate E, permitting the spring to be replaced in case of breaking without necessitating the removal of the draw-bar from the car.

f is a lug cast on the draw-bar, one on each side of the slot for the pin *b*, and holding a pin *f'* horizontally under the lower end of said pin *b*, keeping it to its place and allowing it to be removed, if desired.

F is an opening in the face of the draw-bar, through which it may readily be determined which bar is uppermost.

g is a slot through the bottom of the draw-bar, communicating with the chamber *a*, and through which passes an arm *g'* of an angular uncoupling shaft or lever G into engagement with the coupling-bar. Said lever is pivoted at its angle in the boxes *h*, and at its upper end connected to a horizontal pull-rod H, which projects into position to be operated from the side of the car. When said rod is pulled, the lever G will be operated to cause its arm *g'* to come into engagement with the coupling-bar to lift it sufficiently to pass the opposing head. Said rod H has bearings in plate K, secured to the car-frame.

I is an angular lever fulcrumed to the car at *i* and having a lower forked end in engagement with a shoulder on the pull-rod H. The free end of the upper arm of this lever is connected to a vertical rod J, which extends into position to be operated from the roof of the car. When a vertical pull is given the rod, the fork of the angular lever bearing against the shoulder on the horizontal pull-rod will operate the lever G to raise the coupling-bar to effect the uncoupling.

In practice each draw-bar will be provided with two of the lateral uncoupling-levers, one on each side, thus making provision for effecting uncoupling from either side or from the roof. The action of coupling, as will be seen, is entirely automatic. For convenience of operation the vertical rod J will be located on the same side as the brake-shaft.

Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is—

1. In a car-coupling, the combination, with the draw-bar having the chamber therein, of a headed coupling-bar secured in a throat portion of said chamber by a removable pin passing loosely through an oblong slot in said coupling-bar and through the walls of said

chamber, the buffer-plate at the rear of said coupling-bar, the spring therefor, and the removable wall of the spring-chamber, substantially as specified.

2. The combination, with the draw-bar having the loosely-held coupling-bar therein and the slot in the wall of the chamber thereof, of the pivoted angular lever having an arm adapted to project through said slot into engagement with said coupling-bar and means for operating said lever to effect such engagement, substantially as specified.

3. The combination, with the draw-bar having the coupling-bar loosely held therein, said bar having a slot through its wall, of the angular lever having an arm adapted to project through said slot into engagement with said coupling-bar and the pull-rods connected to said lever, substantially as specified.

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

FRANCIS A. HOTCHKISS.

Witnesses:
C. F. HOTCHKISS,
WILLIAM RAAB.