

(No Model.)

B. ROPER.
CAR COUPLING.

No. 455,258.

Patented June 30, 1891.

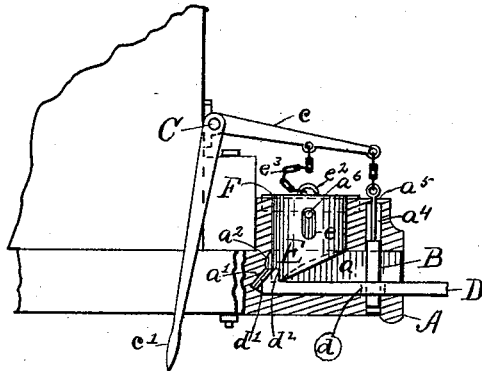


Fig. 1

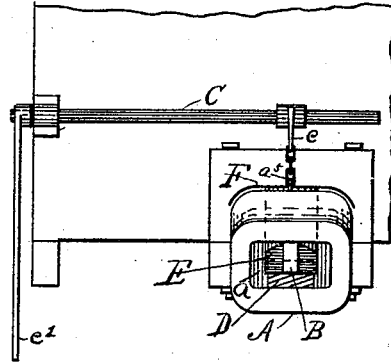


Fig. 2

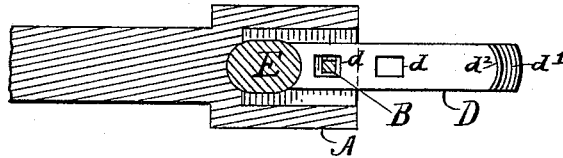


Fig. 3

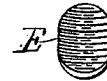


Fig. 4

Witnesses
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UNITED STATES PATENT OFFICE.

BEVERLY ROPER, OF ATLANTA, GEORGIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 455,258, dated June 30, 1891.

Application filed March 19, 1891. Serial No. 385,668. (No model.)

To all whom it may concern:

Be it known that I, BEVERLY ROPER, a citizen of the United States of America, and a resident of Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in 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 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.

This invention, as above stated, relates to car-couplings having particular reference to that class of such devices as employ a gravity block or latch in conjunction with a pin and coupling-bar, the object of the invention being to provide a device of this class which will be durable and easy and efficient of operation, and at the same time convenient of construction, the details of all of which are hereinafter fully specified, and the parts for which special novelty is claimed are hereinafter claimed.

In the accompanying drawings, Figure 1 is a side elevation of the device, the draw-head proper being in longitudinal central section, a rock-shaft and levers being shown, whereby the coupling may be operated from the side of the car without the necessity of going therebetween. Fig. 2 is a front elevation of a car, showing the present invention attached, illustrating its appearance as seen when looking in at the mouth of the draw-head. Fig. 3 is a horizontal section through the draw-head on the line of the top side of the opening in the draw-head, showing the form of said bar and the correlative construction and operation of the gravity latch and pin. Fig. 4 is an inverted plan view of the gravity-latch, showing the concaved under side thereof for guiding the coupling-bar into coupling position.

In the figures like reference-marks are employed in the designation of corresponding elements of construction in all the views.

The draw-head A may be of any form exteriorly, but should have upon its upper side an abundance of metal for sake of strength. A recess a , as usual, is provided in the said

draw-head, having, however, two backward extensions a' and a'' , as will be hereinafter specified. Two holes are cast in the upper half of the draw-head, the larger one being near the back end of the recess a and the smaller one a^4 being near the front end of said recess and extending through both top and bottom of the draw-head, being smaller at its top end. An annular flange a^5 projects thereinto at that point, thus reducing the hole. The pin B is set in said hole a^4 , being introduced by way of the bottom thereof, after which an eye is bent upon the reduced upward extension of said pin to prevent its dropping out, and to this eye is secured the chain which connects with the lever c , secured to the rock-shaft C, which is provided with a downwardly-projecting handle c' . The coupling-bar D is formed of a single piece of metal having punched therein, near its middle portion, two holes d for the pins B of the two connecting draw-heads, the ends of said bar being provided with upwardly-projecting flanges, curved, as shown in Fig. 3, in order to center upon the gravity-block E, which will be presently described. The end of said bar D is provided with a rounded or beveled portion d' , and is curved transversely to about the same curve as the flange d^2 . When pressed into place in the draw-head recess, this rounded or beveled end d' enters and fits within the extension a' , as shown in Fig. 1, and so prevents the depression or drooping of the distant extremity of the coupling-bar, holding it in such a position as will enter the approaching draw-head, the lower portion of the beveled end d' assisting therein by guiding said bar upon the floor of the draw-head recess. It is evident that the seating of the inner end of the draw-bar within the recess a' will also prevent the displacement thereof in such a manner as would lift the gravity-block E, which block is oblong in form of cross-section, its front and back sides being rounded or oval, and its lower end is beveled so as to be longer at the back, and the surface of said bevel is concaved, as shown in Figs. 1 and 4, in order to guide the coupling-bar into the recess a' when said bar is pressed into the recess a lifting said gravity-block. To assist in guiding the block in its vertical movement and to prevent the dis-

placement thereof, a slot *e* is cast therein and a pin *a*⁶ is passed through holes in the sides of the draw-head and through this slot, being riveted at its end for security. With this pin and slot it is immaterial how hard the draw-bar is pressed against the under side of the block E, as said block cannot be thrown out of its seat in the recess. In case there is danger of the block E being burred on its lower back edge by long-continued service a recess *a*² is provided for such burr; but said recess is simply a precaution against the block sticking in case burring should take place, inasmuch as said block should be made of a material that will not upset or burr. An eye *e*² is set in the upper end of said block, and to this eye is secured the chain *e*³, which connects at its other end with the lever *c* on the rock-shaft, said chain being somewhat longer than a direct line between the points of connection, so that the pin B may be raised and release the bar first, which will allow said bar to be passed under the end of said pin B in coupling and force the block upwardly.

Secured to the block E by the eye *e*², passing through a hole therein, is a water-shed F, which is curved downwardly at its edges and performs the function of keeping water and snow from the block E, which might otherwise freeze therearound and interfere with the proper operation thereof.

The operation of this device is as follows: To uncouple, the elements being in the position shown in Fig. 1, the lever *c*' is rotated in the direction which will move the lever *c* upwardly, which will obviously lift both the gravity-block and the pin and release the coupling-bar. To couple, the lever *c*' is partially rotated in the direction to lift the pin, said rotation stopping at the time said pin is lifted, and as soon as the chain on the gravity-block becomes taut and when the ap-

proaching draw-head carrying the coupling-bar passes said bar into the recess *a*, forcing it home under the gravity-block, being guided into the recess *a*' by the concave on the under side of said block, and upon reaching its ultimate limit of introduction, the block will descend in front of the flange on the bar by its own gravity, and so grasp and hold the said bar, after which the locking-pin is engaged by allowing it to fall, the rock-shaft being rotated for that purpose. The pin B may be used for coupling to the ordinary link, and in case of the breakage of the flange *d*² said pin will act as a safeguard against uncoupling.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a car-coupling, a coupling-bar having upwardly-extending curved flange on each end, and a draw-head provided with a chamber, and a gravity-block adapted to engage said flange, for the purpose specified.

2. In a device of the class specified, the gravity-block E, in combination with an end flanged bar, said block being grooved longitudinally on its under side for the purpose of guiding said bar thereunder, for the purpose specified.

3. In a device of the class specified, the draw-head A, having recess *a* and extension *a*' thereof, the draw-bar D, having an upwardly-projecting flange and an end conformation adapted to enter said extension, and the gravity-block E, adapted to drop in front of said curved upwardly-extending flange, substantially as and for the purpose specified.

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

BEVERLY ROPER.

Witnesses:

A. P. WOOD,

A. A. WOOD.