(No Model.)

# C. H. TAYLOR.

## CAR COUPLING.

No. 579,503. Patented Mar. 23, 1897.

*Fig. 1.*

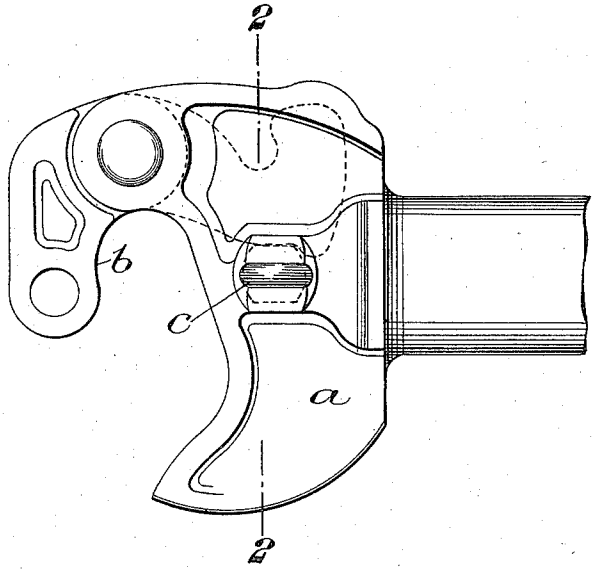
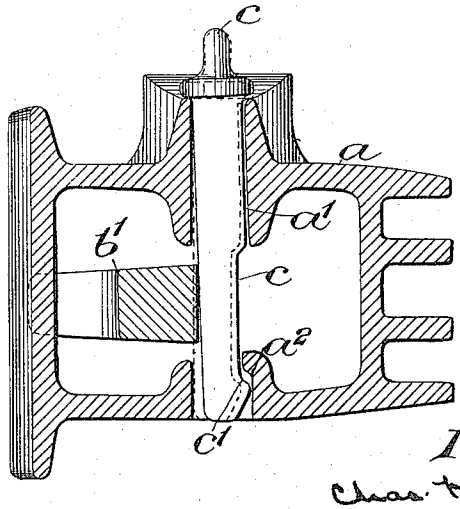



*Fig. 2.*

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# UNITED STATES PATENT OFFICE.

CHARLES H. TAYLOR, OF SOUTH ORANGE, NEW JERSEY.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 579,503, dated March 23, 1897.

Application filed August 24, 1896. Serial No. 603,719. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. TAYLOR, a citizen of the United States, and a resident of South Orange, Essex county, State of New Jersey, have invented new and useful Improvements in Car-Couplers, of which the following description, taken in connection with the drawings herewith accompanying, is a specification.

My invention relates to car-couplers. It has been found in practice that the locking-pin or other locking device for holding the hook or knuckle in a closed coupling position has a tendency, when the cars are in service, to work or jolt upward from their locking position and release the hook or knuckle held thereby. The trouble, inconvenience, and danger arising from such unlocking of the coupling-hook when the cars are in service, whereby the cars or portions of the train will become disconnected and separated, will be obvious; and it has been the object of my present invention to provide means whereby the pin or other locking device will be held in a locked vertically stationary position when the cars are in service, and thereby avoid the results attending the unlocking of the hook at such time. This object I secure by the means forming my invention, as hereinafter set forth in detail, and pointed out in the claims.

Referring to the drawings, Figure 1 represents a plan view of a coupler embodying my invention; and Fig. 2 represents a cross-section of the same through line 2 2, also showing in full and dotted lines different positions of the pin to be hereinafter referred to.

To explain in detail, $a$ represents the draw-head of a coupler, $b$ the pivoted horizontally-moving coupling hook or knuckle, and $c$ the vertically-moving locking-pin, which is supported within an opening $a'$ in the draw-head and adapted to engage with the inner arm $b'$ of the knuckle to hold the latter in a closed coupling position in the usual manner, as well understood by those skilled in the art.

The coupling-pin $c$ engages upon one side thereof with the inner arm $b'$ of the knuckle to hold the latter in a closed position, as described, and during service, when an outward strain is applied to the coupling-jaw of the knuckle by the weight of the connecting car or cars, the inner arm of the knuckle is held against the pin and forces the latter against the opposite or opposing wall of the opening $a'$ in the draw-head in which the pin is supported, as will be readily understood. Now according to my present invention, and in order to prevent the said locking-pin from being raised or thrown upward by the jolting movement of the car during such time as the car is in service, I have provided the locking-pin with a projection $c'$ upon that side thereof opposite which the knuckle-arm engages and provided the adjacent wall of the pin-opening $a'$ with a stop projection $a^2$, which latter is located in a position relative to the projection on the pin so as to engage with the latter projection only when the pin is in a lowered locking position and the car is in service, in a manner as follows: The pin-opening $a'$, also according to my invention, is of somewhat greater width at a point below its upper end than the diameter of the pin, whereby the lower end of the latter may be laterally movable in said opening, so as to be moved to bring the projection thereon into position to engage with the stop projection $a^2$ or be moved back from such position to allow its projection $c$ to pass said stop projection when the pin is raised.

By means of the above construction, when the coupler or the car on which it is attached is in service and a strain is applied upon the coupling-jaw of the knuckle, the inner knuckle-arm acts against the locking-pin and moves the same laterally against the opposing wall of the pin-opening with the projection $c'$ thereon immediately below and in position to engage with the stop projection $a^2$, as shown in Fig. 2. The pin is held in this position so long as the car is in service and while the knuckle-arm is held against the same and is prevented by the stop projection $a^2$ from being moved from such locking position. When the car is stopped and the pressure of the knuckle against the pin is thereby removed, the said pin then swings or moves to its normal vertical position, as shown by dotted lines in Fig. 2, in which position the pin may be readily raised from locking position to release the knuckle, as the width of

the pin-opening is sufficient to allow the projection $c'$ on the pin to readily pass the stop projection $a^2$.

The engaging surfaces of the projection on the pin and the stop projection in the draw-head, as herein illustrated, are formed at a slight angle, as shown, whereby the pin may be readily drawn past and above the said stop projection $a^2$ after the pressure has been removed from the knuckle in case the inner arm of the latter has not been moved sufficiently far from the pin to allow the latter to drop to its normal vertical position by gravity, as will be understood. In some instances it might be desirable to locate a spring between the pin and the wall of its opening in the draw-head to movably hold the pin in its normal vertical position.

Having thus set forth my invention, it will be obvious that the particular construction and arrangement of the several parts as illustrated and described may be more or less materially modified without departure from my invention. For instance, the locking-pin may be of sufficient length to extend below the lower edge of the draw-head and have the projection $c'$ thereon arranged to engage with the latter at the under side thereof, and thus avoid the necessity of forming the projection $a^2$ within the opening $a'$ therein, or the locking-pin constructed and arranged within a draw-head as described would be operated in the same manner to be locked in its lowered position and be released from such position when used in connection with an ordinary coupling-link as with the pivoted knuckle, as described; or, again, the locking device may be of some other and different form from that of the long pin, as shown. These and other like changes may be made without departure from the scope of my invention as set forth in the accompanying claims.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a car-coupler, the combination with the draw-head and the coupling device, of a locking device supported within an opening in the draw-head for engaging with said coupling device, and provided with a projection thereon for engaging with a part of the draw-head when the locking device is in a lowered position, the said opening in the draw-head being of sufficient width or size as to allow of a lateral movement of the locking device therein to release its projection from engagement with the draw-head, substantially as and for the purpose set forth.

2. In a car-coupler, the combination with the draw-head and the coupling device, of a vertically-movable locking-bolt supported within an opening in the draw-head for engaging with said coupling device, and provided with a projection thereon for engaging with a stop projection in the draw-head, the said opening in the draw-head being of sufficient width or size as to allow a lateral movement of the locking-bolt therein, whereby the projection thereon may be moved to and from a position for engaging with the stop projection on the draw-head, substantially as and for the purpose set forth.

3. In a car-coupler, the combination with the draw-head and a pivoted coupling hook or knuckle, of a vertically-movable locking-bolt supported within an opening in the draw-head and provided with a projection thereon for engaging with a stop projection within said opening in the draw-head, the engaging surfaces of said projections being formed at an incline, and the said opening in the draw-head being of sufficient width as to allow of a lateral movement of the locking-bolt therein, whereby the projection thereon may be moved to and from a position for engaging with the said stop projection, substantially as and for the purpose set forth.

CHAS. H. TAYLOR.

Witnesses:
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