

(No Model.)

C. H. TAYLOR.
CAR COUPLING.

No. 517,670.

Patented Apr. 3, 1894.

Fig. 1

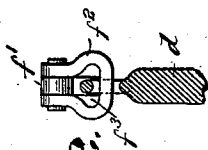
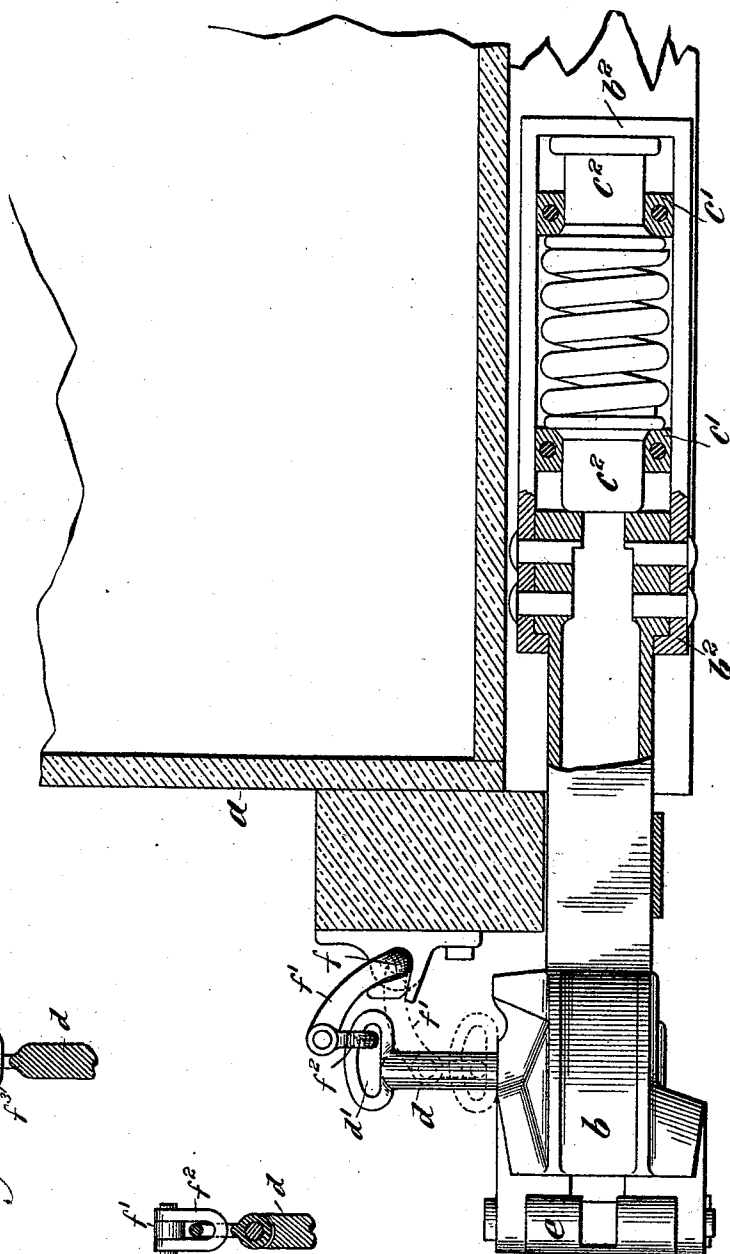


Fig. 2.

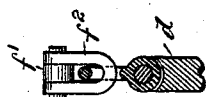


Fig. 3.

Attest:
Geo. H. Potts.
Annie L. Hayes.

Inventor
Chas. H. Taylor
Chas. P. Dane
his Atty

UNITED STATES PATENT OFFICE.

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

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 517,670, dated April 3, 1894.

Application filed January 25, 1892. Serial No. 419,129. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. TAYLOR, a citizen of the United States, residing in South Orange, in the county of Essex and 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 that class of car-couplers which are provided with a vertically operating pin or bolt supported in an opening therein, to serve as the means for adjustably locking the knuckle or link, according to the character of the coupler, which forms the means for connecting the couplers; and which said pin or bolt is adapted to be operated or raised and lowered from or into engagement with the said knuckle or link, by means of an operating lever pivoted upon the face of the car and connected with the said pin or bolt, to operate the same, through the medium of a connecting link.

It has been found in practice that the full longitudinal or outward movement of the coupler in its relation to the car, allowed by the compression of its buffer spring, is sometimes prevented by reason of the connection between the locking pin or bolt and its said operating lever located on the car, which causes the pin or bolt to bind against the sides of the opening in the draw-head and thereby limit the movement of the coupler and also prevent the free operation of the pin or bolt; and it has been the object of my present invention to provide for the full longitudinal movement of the coupler and for the lateral movement of its outer end, in a manner to prevent liability of any undue friction or strain upon any of the connecting parts and insure the free operation of the same. This object I attain by means of the peculiar construction and arrangement of the head of the locking pin or bolt and the operating lever connecting link, in a manner as will hereinafter be described in detail and pointed out in the claims.

Referring to the drawings:—Figure 1, represents a side view of a coupler and its connecting operating lever in position upon a

car, with the car and the inner end of the draw-bar and the supporting "draw-bar attachment" in section. Fig. 2, represents a front view of the upper end of the pin or bolt in section and broken away, and the connecting link, showing the form of the latter, and Fig. 3, represents a modification in the construction of the pin as will hereinafter be referred to.

To explain in detail,—*a* represents a section of a car, *b* a coupler of the "vertical-plane" type, *d*, the vertically operating pin or bolt for adjustably locking the hinged hook or knuckle *e* of the coupler in a closed position, and *f* the operating lever for raising and lowering the said locking-pin or bolt. This lever is pivoted upon the face of the car or part thereof in suitable bearings and is provided with an outwardly extending arm *f'* which has connection at its outer end with the locking pin or bolt *d* through the medium of a connecting link *f''* in a manner as will hereinafter be more fully set forth.

The draw-bar, in the present instance illustrated, is supported beneath the car and connected therewith through the medium of a "draw-bar attachment" so-called, which consists of a frame or case *c'* (shown in section in the drawings) which is adapted to be secured in a fixed position beneath the car, and is provided with buffer-heads *c''* projecting each end of the same through openings therein which are elastically supported in their extended position by a coiled spring located within the said frame or case *c'*, acting against the inner ends of said buffer-heads as shown. The draw-bar is adapted to be connected with said attachment in a manner to act upon the said buffer-heads *c''* when moved in either direction longitudinally, by means of a strap *b''* which embraces the said attachment to engage with one of the buffer-heads and connects with one end of the draw-bar to hold the latter in contact with the adjacent buffer-head in a manner as clearly shown in the drawings. A longitudinal movement of the coupler is thus provided for equal, or nearly so, to the distance between the end of the draw-bar and frame or case *c'* in one direction, and the distance between the end of

the strap b^2 and the frame or case c' in the opposite direction as will be readily understood. In order to allow for the longitudinal movement of the coupler thus provided for, and more especially the outward movement of the same, without its being limited or checked in its movement by reason of the connection of the stationary operating lever with the locking-pin or bolt which is supported in the movable draw-head, I have provided the head of the said locking-pin or bolt with an elongated, horizontally arranged slot or opening d' of sufficient length or dimensions to allow for or equal the full longitudinal movement of the coupler without liability of any strain or check being produced by the connecting link f^2 . The center of this slot or opening is located at one side of the central line of the coupler-pin and on that side nearest the car as shown, in order that the greatest length of movement may be secured to the coupler in its outward movement from the car with a minimum length of slot. This construction also insures the free operation of the locking pin or bolt at whatever position of the draw-bar, as any undue friction of the said pin or bolt against the sides of its opening in the draw-head is thus prevented as will appear obvious.

To allow for the lateral movement of the front or outer end of the draw-bar in its relation to the car, at the point of connection between the locking pin or bolt and the connecting link, and for the purpose as set forth in relation to the longitudinal movement of the draw-bar, I have formed the link f^2 with a broadened or elongated opening at its point of connection with the locking pin or bolt as shown at f^3 , in Fig. 2, of sufficient width to allow for the travel of the connecting head of the locking pin or bolt therein to the extent of the lateral movement of the draw-head without liability of checking or limiting the latter in its said lateral movement.

Referring to Fig. 3, of the drawings, I have shown another and somewhat modified means for allowing for the lateral movement of the draw-bar at the point of connection between its locking pin or bolt and the link f^2 , from that shown in Fig. 2. In this instance, the link has the usual straight slot or opening therein, and the connecting head of the locking pin or bolt is pivoted or hinged on the shank or pin proper in a manner to move or swing laterally thereon to allow for the lateral movement of the draw-bar as will be readily understood.

Having thus set forth my invention, it will be obvious that the form or style of the coupler employing the pin or bolt as the locking device does not effect the spirit of my invention, neither do I wish to be understood as confining myself to the buffer-device as shown, as any suitable form may be employed in combination with the coupler without departing from the spirit of my invention.

Having thus set forth my invention, what I

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

1. The combination with a car-coupler adapted to be supported in a longitudinally movable position in its relation to the car, of a vertically moving locking pin or bolt supported in said coupler, provided with an elongated horizontally arranged slot or opening in its upper end, extending in the direction of movement of the coupler, and having its center arranged at one side of the central line of the coupler-pin, substantially as described and for the purpose set forth.

2. The combination with a car-coupler adapted to be supported in a laterally movable position in its relation to the car, of a vertically moving locking pin or bolt supported in said coupler, provided with an elongated opening in its upper end; and an operating lever adapted to be supported on the car, having connection with the slotted head of said pin or bolt through the medium of a connecting link; having an elongated opening therein arranged at right angles to the opening in said pin, substantially as described and for the purpose set forth.

3. The combination with a car-coupler, of a vertically moving locking pin or bolt supported therein provided with a horizontally arranged slot or opening in its upper end, and an operating lever supported on the car, provided with an arm having connection with the slotted head of said pin or bolt through the medium of a connecting link; having an elongated opening therein extending at right angles to the opening in the connecting pin or bolt head, substantially as described and for the purpose set forth.

4. The combination with a car-coupler adapted to be supported in a longitudinally movable position in its relation to the car, of a vertically moving pin or bolt supported in said coupler, provided with an elongated horizontally arranged slot or opening in its upper end extending in the direction of movement of the coupler, and having its center located at one side of the central line of the pin, and an operating lever supported or pivoted upon the car and having connection with said pin or bolt through the horizontally arranged slot therein, through the medium of a connecting link, substantially as described and for the purpose set forth and an operating lever supported or pivoted upon the car and having connection with said pin or bolt through the horizontally arranged slot therein, through the medium of a connecting link, substantially as described and for the purpose set forth.

5. The combination with a car-coupler adapted to be supported in a longitudinally movable position in its relation to the car, of a vertically moving pin or bolt supported in said coupler, provided with an elongated horizontally arranged slot or opening in its upper end having a curved upper side, and having

its center located at one side of the central line of the pin, and an operating lever supported upon the car and having connection with the said pin or bolt through the medium of a connecting link, in a manner substantially as described and for the purpose set forth.

CHAS. H. TAYLOR.

Witnesses:

CHAS. F. DANE,
ANNIE L. HAYES.