(No Model.)

G. W. SMILLIE.

CAR COUPLING.

No. 560,823. Patented May 26, 1896.

Fig. 1.

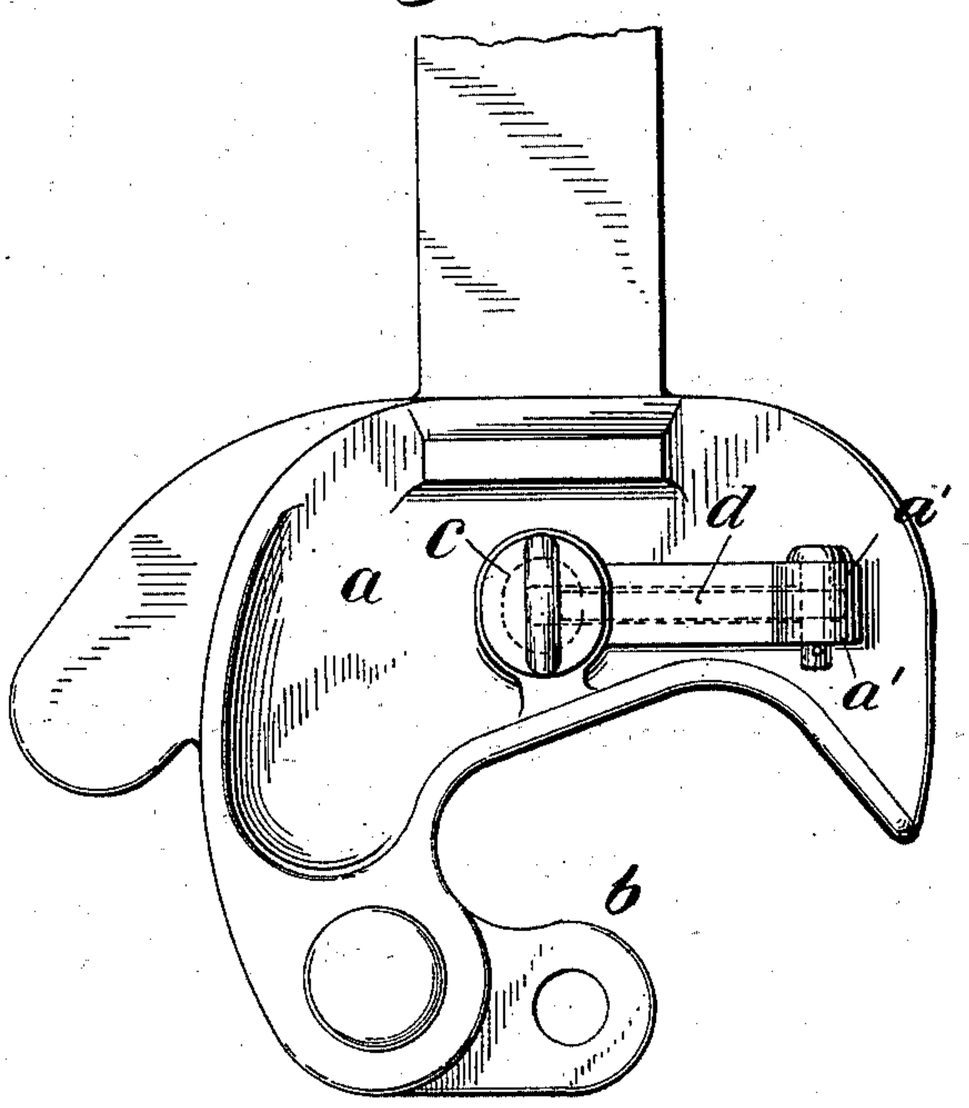
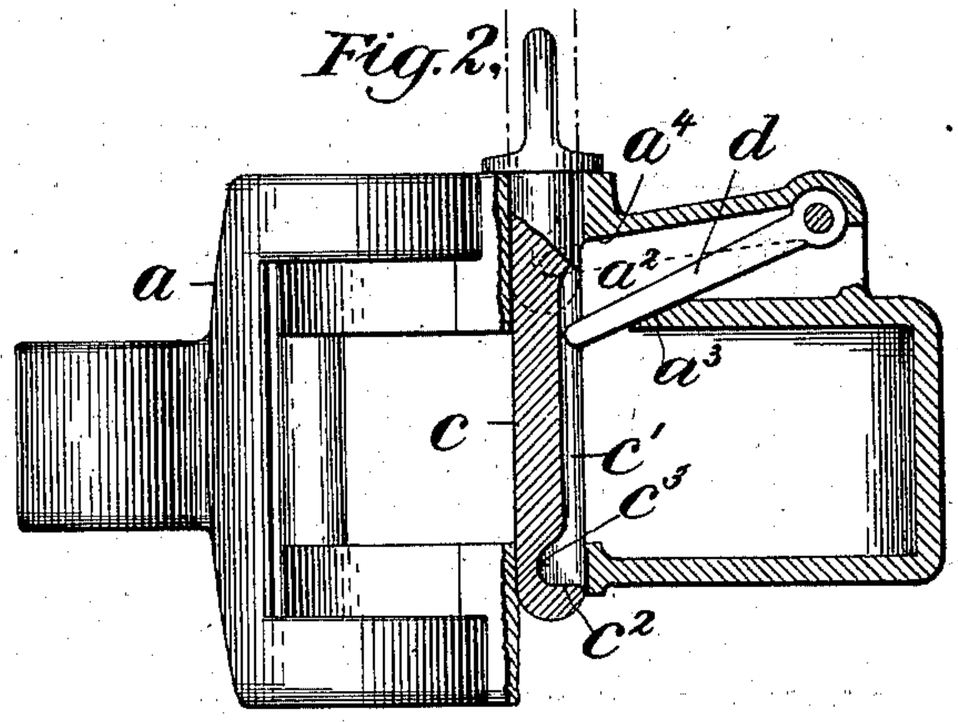


Fig. 2.



WITNESSES:

C. N. Haywood

A. L. Hayes.

INVENTOR

George W. Smillie

BY

Chas. F. Dane

his ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE W. SMILLIE, OF NEWARK, NEW JERSEY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 560,823, dated May 26, 1896.

Application filed July 19, 1895. Serial No. 556,486. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SMILLIE, a citizen of the United States, and a resident of Newark, Essex county, 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 particularly to that class of car-couplers employing a vertically-operating pin as the means for engaging with the inner arm of the coupling hook or knuckle to hold the latter in a closed position when in engagement with a connecting-coupler, and has for its object to provide means for engaging with said pin, after it has been raised, to release the coupling hook or knuckle to prevent its withdrawal or disconnection from the draw-head of the coupler, which object I secure by the means forming my invention, as hereinafter set forth in detail, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a plan view of a coupler embodying my invention; and Fig. 2, a face or front elevation of the same with the knuckle removed, the draw-head partly broken away, and the locking-pin in vertical section to clearly show my improved means for limiting the upward movement of the pin.

To explain in detail, *a* represents the draw-head of the coupler, *b* the pivoted horizontally-moving coupling hook or knuckle, and *c* the vertically-moving locking-pin, which latter is supported in a suitable opening in the draw-head and adapted for engaging with the inner arm of the said hook or knuckle to lock the latter in a closed position in the usual manner.

In the present instance shown and according to my invention the pin *c* is provided with a longitudinal groove *c'* in one side thereof, which terminates at a point above the lower end of the pin to form a projection or bearing-surface c^2, and immediately above said bearing-surface and adjacent thereto the said groove is deepened, as at c^3 in Fig. 2, whereby the bearing-surface c^2, with which a stop device *d* is adapted to engage, is greatly enlarged in order that the engaging stop device may have an increased surface with which to engage, as will be described.

The stop device *d* consists of a bar or lever which is pivotally secured at one end between the side walls a' a' of a box-like casing formed on the upper surface of the draw-head, and at its opposite end projects through an opening a^2 in the wall of the latter and into the said groove *c'* in the locking-pin, as clearly shown in Fig. 2. The free end of the lever is movably supported in position when not in engagement with the locking-pin by resting upon the lower wall a^3 of the said opening a^2 in the draw-head. When the pin is raised to release the knuckle, the lever or stop device *d* remains stationary until it is engaged by the projection c^2 on the locking-pin, at which time and upon the continued upward movement of said pin the engaging end of the lever *d* is carried upward thereby, and moving in the arc of a circle by reason of its pivotal support is thereby caused to move into the deepened portion c^3 of the groove *c'* until the lever contacts with the upper wall a^4 of the opening a^2 in the draw-head, as clearly shown by dotted lines in Fig. 2, which wall forms the stop to limit the movement of the same and thereby the engaging pin. The lever or stop device *d* being thus supported to cause its engaging end to move laterally or horizontally onto the projection or bearing-surface c^2 of the pin *c* when raised by the latter, and said pin being constructed with its enlarged bearing-surface to receive the end of the stop-lever thereon, as described, whereby such a strong and positive engagement or connection is secured between the pin and its stop device as to obviate any possibility of the pin becoming disconnected from the latter and withdrawn from the draw-head on account of wearing of the engaging parts, forms the essential feature 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. In a car-coupler, the combination with the draw-head and the horizontally-moving coupling hook or knuckle having an arm extending within said draw-head, of a locking-pin for engaging with the arm of said hook or knuckle provided with a projection or bear-

ing-surface thereon, and a stop device for limiting the movement of said pin, consisting of a pivoted lever having one end supported normally in a position above the path of said knuckle-arm so as to engage with said projection on the locking-pin only when the latter has been raised above and from engagement with the knuckle-arm, and be moved horizontally into said projection when the pin is elevated, and means for limiting the movement of said stop device, substantially as described and for the purpose set forth.

2. In a car-coupler, the combination with the draw-head and the horizontally-moving coupling device or knuckle having an arm extending within said draw-head, of a locking-pin for engaging with the arm of said knuckle, provided with a projection or bearing-surface adjacent to its lower end, formed by a recess or depression in one end thereof, a pivoted lever having one end supported normally in a position above the path of said knuckle-arm so as to be engaged by said projection or bearing-surface only when the pin has been raised above and from engagement with the knuckle-arm, and be moved thereon into the recess forming the same, and means to limit the movement of the stop device, substantially as described and for the purpose set forth.

GEORGE W. SMILLIE.

Witnesses:

CHAS. F. DANE,

A. L. HAYES.