

J. C. McCONNELL.

Car-Couplings.

No. 148,485.

Patented March 10, 1874.

Fig. 1.

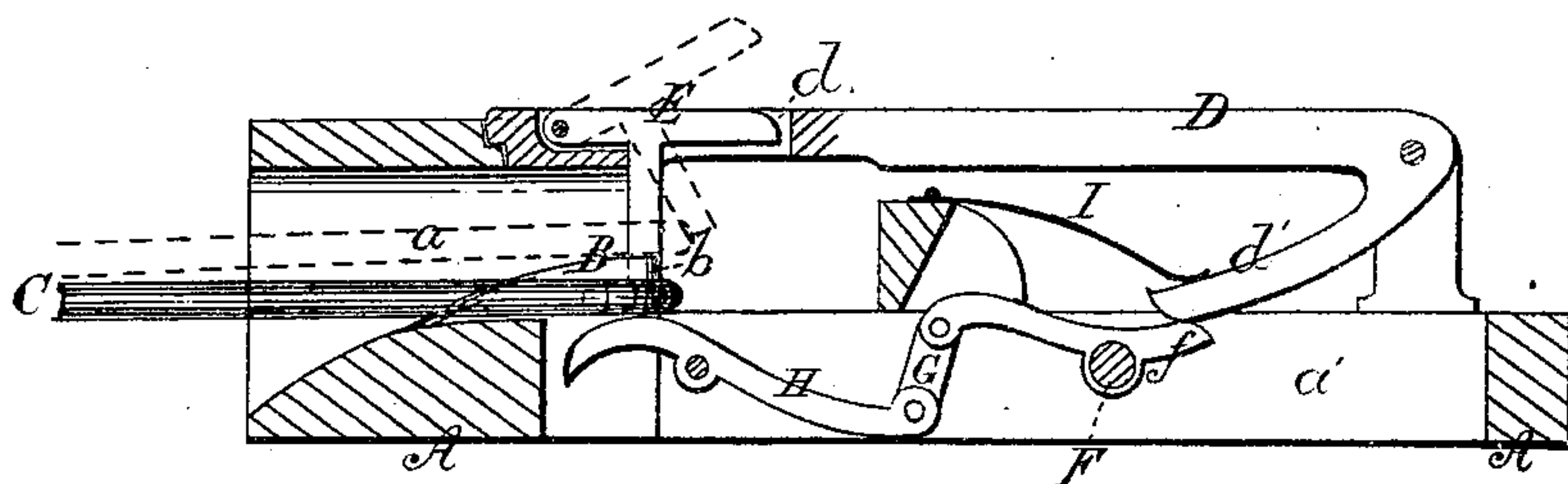
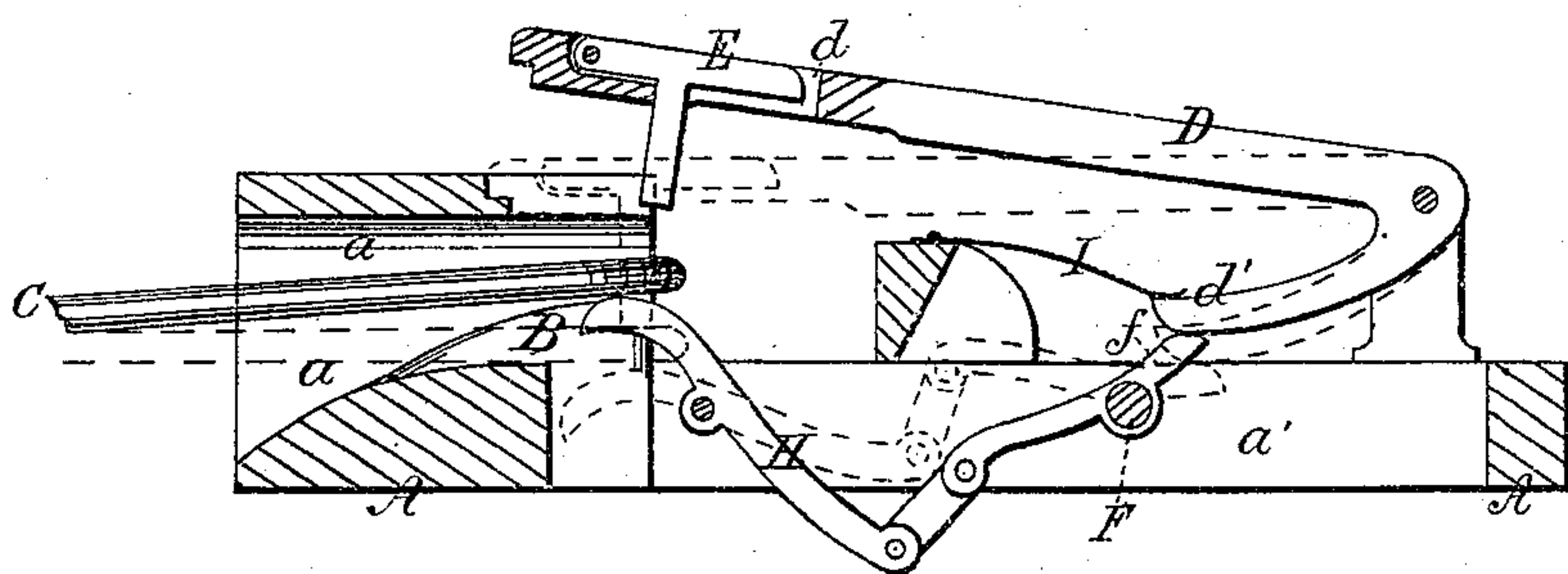


Fig. 2.



WITNESSES,

Geo. T. Smallwood  
Helo Hazard.

INVENTOR,

James C. McConnell,  
by Prindle & Seam, his Attys.

# UNITED STATES PATENT OFFICE.

JAMES C. McCONNELL, OF WASHINGTON, DISTRICT OF COLUMBIA.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 148,485, dated March 10, 1874; application filed February 18, 1874.

*To all whom it may concern:*

Be it known that I, JAMES C. McCONNELL, of Washington, in the county of Washington and in the District of Columbia, have invented certain new and useful Improvements in Car-Couplings; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a vertical central section of my improved coupling upon a longitudinal line, the link being shown in engagement with the draw-head; and Fig. 2 is a like view of the same, with said link released from engagement, and in a position for withdrawal.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to increase the efficiency and ease of operation of a class of car-couplings which are known as "self-operating"; and it consists, principally, in the peculiar construction and operation of the devices employed for locking the coupling-link in place, substantially as and for the purpose hereinafter specified. It consists, further, in the means employed for releasing the link from engagement with the draw-head, substantially as and for the purpose hereinafter shown.

In the annexed drawing, A represents a draw-head having the usual bell-shaped opening *a* in and through its forward end, and provided with a vertical longitudinal slot, *a'*, which extends from a point near said forward end rearward nearly to the opposite end, as shown. Within the lower side, and at the transverse center of the opening *a*, is provided an enlargement or tongue, B, which has a transverse width somewhat less than the corresponding dimensions of the opening within a coupling-link, C, and, from its forward end, inclines upward and rearward to its rear end, at which latter point it terminates in a vertical shoulder, *b*, such construction enabling said link to be moved longitudinally inward, over said inclined surface, until its inner end passes beyond and falls in rear of said tongue, and is thus locked in place. In order that the motion of the cars may not release the link from engagement with the draw-head, a bar, D, is pivoted at one end within the rear end and

upper side of the slot *a'*, and, extending forward within said slot, has its opposite end contained within a suitable recess, *a''*, provided at the forward end of the same. Within the upper side, and near the front end of the bar D, is formed a longitudinal groove, *d*, the rear half of which extends downward through said bar, which groove contains a T-shaped bar, E, that is pivoted at the forward end of its horizontal portion within the corresponding end of said groove, the rear side of the vertical portion of said bar, when in its normal position, being upon a line with the rear end of the tongue, and its lower end contained within a corresponding notch in the same.

As thus arranged, it will be seen that the bar E forms a continuation of the shoulder *b*, and prevents the link C from being drawn outward; while, from its pivotal connection with the bar D, said bar E is permitted to move freely rearward when said link is inserted, and, after the latter is in place, the former will automatically drop to position.

In order that the link C may be released from engagement with the draw-head A, it is requisite that the end of the former should be raised above the tongue B, and the bar E raised until its lower end is upon a line with the upper side of the opening *a*, which operations are effected by means of the following-described mechanism: A shaft, F, is journaled horizontally and transversely within the lower side of the draw-bar, midway between the rear end of the tongue B and the pivoted end of the bar D, and is provided, within the slot *a'*, with a wiper, *f*, that extends rearward, and bears against the lower side and front end of an arm, *d'*, which forms a part of, and extends forward and slightly downward from, the rear end of said bar D, the arrangement being such as to enable the front end of the latter to be raised by partially rotating said shaft forward.

The forward end of the wiper *f* is connected, by means of a short bar, G, with the rear end of a lever, H, which latter is pivoted, in front of its longitudinal center, within the slot *a'* of the draw-bar, in such position as to cause its forward bifurcated end to embrace the rear end of the tongue B immediately below the link C. The partial rotation of the shaft F will now cause the rear end of the lever H to be depressed,



and its forward curved end to be raised, and, with it, the link C, which latter, when in the position shown by the full lines in Fig. 2, is entirely released from engagement, and may be withdrawn.

It is intended that the shaft F shall be provided with suitable attachments, so as to enable it to be operated from either the top of a car, or by a person between the ends of two cars, when it is desired to uncouple the same.

To couple two or more cars, it is only requisite that one of each pair of couplings should contain a link, and that the cars should move together, when said link, entering the mouth of the opposite draw-head, will automatically pass over and engage with the tongue of the same.

It is believed that the weight of the bar D will be sufficient to cause it to maintain its position; but, as an additional safeguard, a spring, I, is secured at one end to or upon the draw-bar, and, at its opposite or free end, bears upon the forward end and upper side of the arm *d* of said bar.

The device described is simple in construction, efficient in operation, durable, and not li-

able to get out of order, and, from the ease with which it may be manipulated, will materially decrease the danger to which train men are ordinarily exposed when engaged in coupling cars.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. The draw-head A *a a'*, provided with the tongue B and pivoted bars D and E, in combination with the link C, substantially as and for the purpose specified.

2. In combination with the draw-head A *a a'*, provided with the tongue B, the pivoted bars D, *d, d'*, and E, and the link C, the shaft F, wiper *f*, connection G, and lever H, all constructed to operate in the manner and for the purpose substantially as set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 17th day of February, 1874.

J. C. McCONNELL.

Witnesses:

GEO. S. PRINDLE,

H. C. HAZARD.