C. C. DOW.

CAR-COUPLING.

No. 189,710. Patented April 17, 1877.

Fig 1

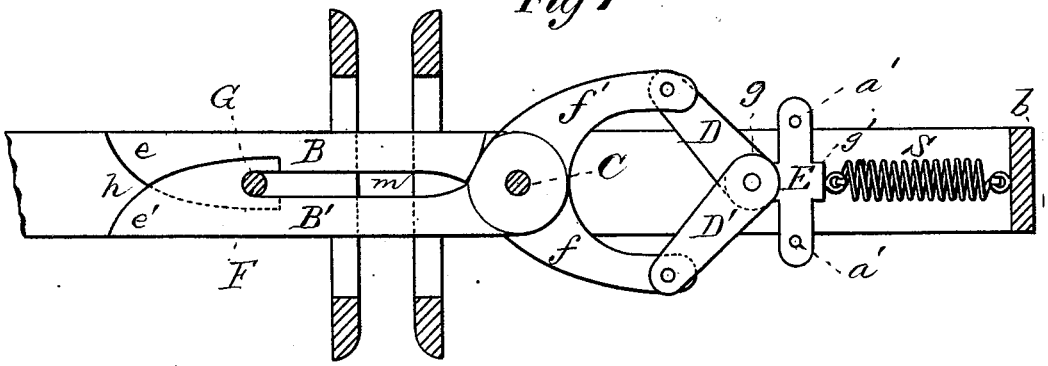
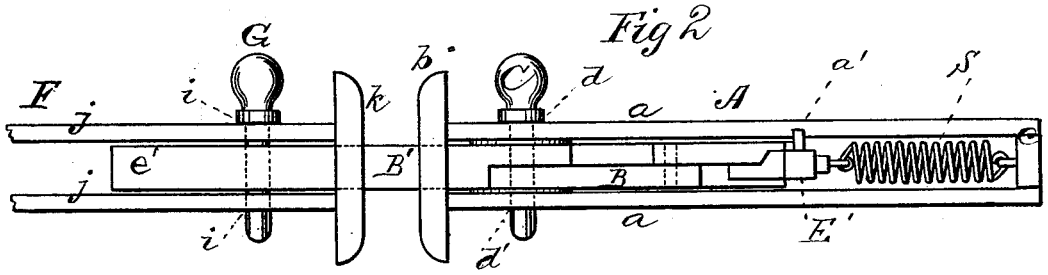


Fig 2



WITNESSES

M. F. Utley.

W. C. Mast

INVENTOR

C. C. Dow.

by Ellis Anderson.

ATTORNEY

UNITED STATES PATENT OFFICE.

CHRISTOPHER C. DOW, OF BRIDGEBOROUGH, NEW JERSEY, ASSIGNOR OF ONE-HALF HIS RIGHT TO SAMUEL C. UPHAM, OF PHILADELPHIA, PA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **189,710**, dated April 17, 1877; application filed March 24, 1877.

To all whom it may concern:

Be it known that I, CHRISTOPHER C. DOW, of Bridgeborough, in the county of Burlington and State of New Jersey, have invented a new and valuable Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of my improved coupler, the draw-box being in section; and Fig. 2 is a side view of my coupler with the coupling attachments applied to draw-boxes.

My invention has relation to improvements in car-couplings.

The object of my invention is to devise an automatic coupling which shall be capable of being applied to an ordinary open-sided draw head or box without requiring any alteration therein.

The nature of my invention will be fully understood from the following description and claims appended thereto.

In the accompanying drawings, the letter A designates an ordinary draw-box, composed of two spaced metallic plates, *a*, rigidly secured at their front ends to the usual slotted flaring head *b*, and connected at their rear ends by a strong metallic plate, *c*, to one of the transverse sills of the car-body. As shown in the drawings, the sides of the draw-box are open, and the upper and lower faces thereof are provided with the usual coupling-pin holes *d d'*. In these respects there is no material difference from the usual open-sided draw-boxes. In this relation we propose to illustrate my invention, though there are many other descriptions of draw-boxes to which my invention is applicable.

The draw-irons B B' are each provided, at their projecting ends, with hooked barbed heads *e e'*, and at their rear ends with outwardly-curved shanks *f f'*, and they are connected together, after the manner of a pair of tongs, by means of an ordinary coupling-pin, C, which is engaged in the holes *d d'* aforesaid, and passes through registering perforations in the said irons.

The heads *e e'* are halved into each other, the former being rabbeted on one side and the latter on the other, so that the upper and lower surfaces of the said heads are flush with each other. The curved shanks *f f'* are similarly rabbeted, so that they may lie the one upon the other, and present the appearance of ordinary tongs. The irons B B' move to and from each other freely on pin C as a pivot, but are incapable of endwise displacement relative to the draw-box or to each other. The shanks or power-arms *f f'* of the draw-irons B B' extend out through the open sides of the draw-box A, and are pivoted at their rear ends to short metallic arms D D', whose rear ends converge, and are secured to an offset, *g*, at the middle of a transverse guide, E. The ends of this guide extend out between plates *a*, and are provided with pins *a'*, extending above or below the plates *a* aforesaid, and serving to guide the said bar E in its movements to the front and rear, under circumstances that will hereinafter become apparent. Bar E is provided upon its rear with an offset, *g'*, by means of which it is connected to a strong spring, S, the rear end of which is secured, in any suitable manner, to plate C, connecting the rear ends of plates *a* aforesaid, or to any suitable part of the car-body, frame, or truck. The heads *e e'* aforesaid are held into engagement with each other by spring S, and their front convex edges form with each other a concave angular recess, *h*. The draw-bar of the car to be coupled (lettered F in the drawings) is precisely of the same construction as draw-box A above described, and is provided with the usual pin G, extending through perforations *i* in the spaced horizontal plates *j*, of which it is formed.

When the cars to be coupled are brought together, the draw-irons B B' will enter the slotted head *k* of draw-box F, and pin G of the latter will be received in the angular recess *h* of heads *e e'*. As the cars come closer together draw-irons B B' will move outward, under the impact of pin G, and spring S will be distended or stretched through the separa-

tion of the shanks *f f'*, the outward movement of short connections D D', and the consequent forward movement of the transverse guide E. When pin G has been forced between draw-irons B B', beyond their heads *e e'*, until it enters the space *m* between the said irons, spring S will react, and, through the rearward movement of guide E and the toggle-joint action of arms D D', and the shanks *f f'* of the draw-irons B B', cause heads *e e'* to interlock and inclose pin G between the said irons, and a reliable coupling will be effected.

To uncouple the cars, it will be only necessary to remove the pin G from draw-box F.

It will be observed, the sides of the draw-boxes being open or slotted, that the coupling above described readily adapts itself to the position of cars in rounding a curve, and as boxes A F will have a certain vertical movement, all exigencies in railway transportation connected with couplings are perfectly provided for.

What I claim as new, and desire to secure by Letters Patent, is—

The guide E, having the pins *a'* and spring S, in combination with the crossed pivoted draw-irons B B', and a lazy-tongs connection between said irons and guide, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHRISTOPHER C. DOW.

Witnesses:

ALLEN H. GANGEWER,

GEORGE W. SELTZER.