A. L. MILLER.

CAR-COUPLING.

No. 173,229. Patented Feb. 8, 1876.

Fig 1.

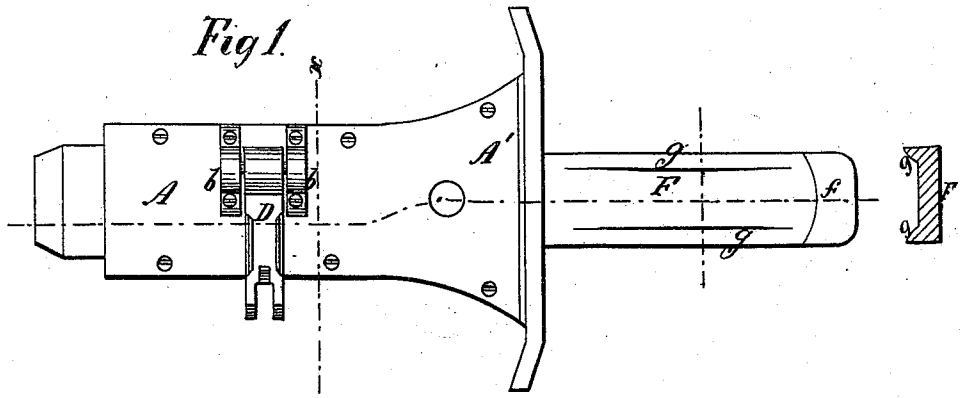


Fig 2.

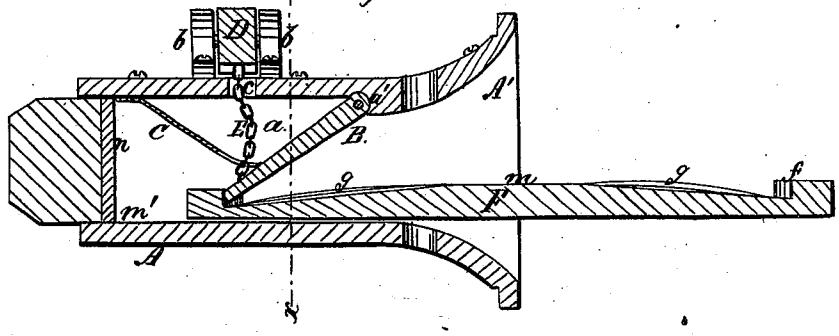


Fig 3.

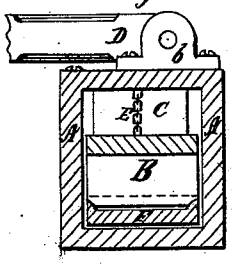
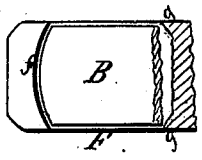


Fig 4.



Witnesses.

W. Makepeace Edwards

H. Wells Jr

Inventor.

Albert L. Miller

per James A. Whitney

Atty.

UNITED STATES PATENT OFFICE

ALBERT L. MILLER, OF NEW YORK, N. Y.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **173,229**, dated February 8, 1876; application filed October 13, 1875.

To all whom it may concern:

Be it known that I, ALBERT L. MILLER, of the city, county, and State of New York, have invented certain Improvements in Car-Couplers, of which the following is a specification:

The invention comprises a novel construction of the draw-bar, whereby undue friction upon the same, by the pressure of the locking-pawl when the bar is moved to and fro, is effectually prevented. The invention further comprises a novel combination of parts, whereby the easy and convenient release of the draw-bar to disconnect the cars when required is provided for.

Figure 1 is a plan view of a car-coupler made according to my invention. Fig. 2 is a central longitudinal section of the same; and Fig. 3 is a transverse section of the same, taken in the line *x x* of Figs. 1 and 2. Fig. 4 is a detached detail view, showing a portion of the same.

A is the draw-head, formed with the flaring mouth A′. In the throat *a* of this draw-head, at the upper side thereof, is pivoted the locking-pawl B, the attachment of the pawl being such that its pivoted end bears direct upon the metal of the draw-head, as shown at *a′*, thereby giving greater firmness and rigidity to the pawl in its holding operation than would be possible if the strain were brought upon the pivot alone. The free end of the pawl is rounded or curved on a horizontal line, as indicated at *a′* in Fig. 4. C is a flat spring, attached to the upper part of the draw-head behind the pawl B, and pressing down upon the latter. The office of this spring is to steady and hold the pawl in position under conditions of jar and disturbance that otherwise might dislocate the draw-bar herein presently described from its proper position for draft or operation. D is a lever, of cam-like or eccentric shape at its lower end, and pivoted to suitable bearings *b* upon the upper side of the draw-head. From the cam-shaped lower end of this lever, through a hole, *c*, in the upper side of the draw-head to the pawl B, is a chain, E, the disposition of those parts being such that, by turning or moving the lever in the requisite direction, the chain will be drawn upon the cam-shaped lower end of the said lever, and lift the pawl clear from the draw-bar F, which is constructed as follows: Upon the upper side of each end of the straight bar is a shoulder, *f*, the inner surface of which is concave on a curved horizontal line coincident with the shape of the free end of the pawl B, as represented more clearly in Fig. 4; also, when the upper surface of the draw-bar F, at each lateral edge thereof, but extending not quite to the shoulders *f*, is a rib or ridge, *g*. These ribs or ridges *g* take the pressure of the pawl B when the bar is pushed longitudinally beneath the same to any material distance, as occurs, for instance, when the coupled cars are made to approach so nearly that the draw-heads of the two cars are brought in contact.

The ribs or ridges *g* may extend along the central as well as most of the end portions of the draw-bar between the shoulders *f;* or they may be dispensed with at the middle part *m*, which is not liable to be brought underneath or in contact with the pawl.

It is, of course, to be understood that the draw-heads A of the adjoining cars to be coupled are each to be provided with the pawl, spring, actuating-levers, and chain, &c., forming essential elements of my invention, and attached to and arranged upon the draw-head in the manner herein set forth.

In the operation of the apparatus one end of the draw-bar is thrust into the flaring mouth A′ of the draw-head, and through the throat *a*, until the shoulder *f* passes behind the pawl B, is brought beyond the pawl, which latter is then automatically depressed in front of the shoulder *f* in such manner as to hold against the said shoulder, and thereby retain the draw-bar against withdrawal, and the two ends of the draw-bar, being in this manner connected with the draw-heads of two adjoining cars, couple the same together. Inasmuch as the draw-head is capable of longitudinal play beneath the pawl, it follows that the draw-heads of the two coupled cars may approach and come together in the ordinary way; furthermore, that the ribs or ridges *g*, by presenting only a small surface in contact with the pawl during such movement of the draw-bar, effectually prevent any material friction upon the draw-bar, which might otherwise interfere

with its free movement during the approach and recession of the draw-heads, as just indicated.

The innermost ends m' of the draw-heads are preferably closed, as represented in the drawings, and may be cushioned with india-rubber, as shown at n.

What I claim as my invention is—

1. The draw-bar constructed with the ribs or ridges, whereby friction of the pawl upon the draw-bar is diminished, substantially as and for the purpose set forth.

2. The lever constructed with the cam-like or eccentric lower end, and the lifting-chain, in combination with the rearwardly-extending pawl provided within the flaring draw-head, substantially as and for the purpose set forth.

ALBERT L. MILLER.

Witnesses:
W. M. EDWARDS,
H. WELLS, Jr.