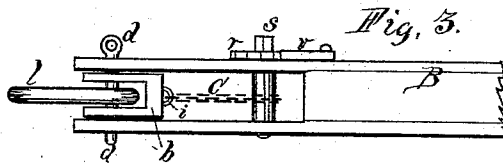
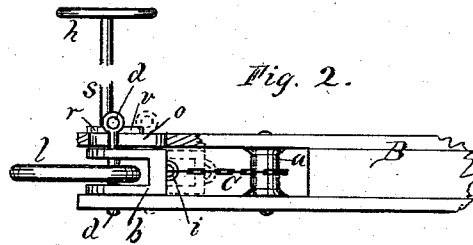
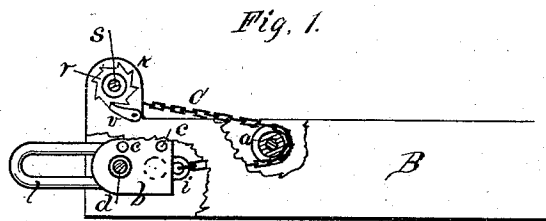


W. B. DUNNING.
CAR-COUPLING TIGHTENERS.

No. 177,995.

Patented May 30, 1876.



Witnesses:

Ira A. Hebbard
Henry C. White

Inventor.

W. B. Dunning
By Wm. Loughborough
Att'y

UNITED STATES PATENT OFFICE.

WILLIAM B. DUNNING, OF GENEVA, NEW YORK.

IMPROVEMENT IN CAR-COUPLING TIGHTENERS.

Specification forming part of Letters Patent No. 177,995, dated May 30, 1876; application filed May 8, 1876.

To all whom it may concern:

Be it known that I, WM. B. DUNNING, of Geneva, in the county of Ontario and State of New York, have invented a certain new and useful Method of Taking up the Slack in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top or plan sectional view of my invention. Fig. 2 is a side elevation of the same, showing the hand-wheel *h*, by which the slack is taken up. Fig. 3 shows a modification of the tightener.

The object of this invention is to provide a simple and convenient method of taking up the slack in the ordinary link-couplings for railroad-cars. It consists in the employment, for that purpose, of a ratcheted shaft, connecting-chain, and a sliding coupling-jaw to receive the link and pin.

I provide the upper and lower plates of the draw-bar *B* each with an offset, *k*, for the support of the ratcheted shaft *s*. I also pivot between said plates, so as to turn easily, a flanged pulley or spool, *a*, across or partially around which the chain *C* is drawn in passing from the coupling-jaw *b* to the ratcheted shaft *s*. The jaw *b* is fitted to slide freely longitudinally between the plates of the draw-bar. It is kept in its proper position or in line by means of lugs or pins *c*, resting in a longitudinal groove in one of the plates of the draw-bar. The jaw is provided with a staple, *i*, or other suitable means of connecting the chain thereto.

The coupling-pin *d* is inserted through the upper and lower wings of the jaw *b*, as shown, and by means of elongated openings *o* through the upper and lower plates of the draw-bar, the pin is permitted to move backward and forward with the coupling-jaw.

When two cars are to be coupled, the chains *C* are slackened on both cars, and the coup-

ling-jaws *b* drawn forward to the position indicated by full lines in the drawings. The link and pin are then inserted in one draw-bar, and when the coupling is performed, which is effected in the usual way, where links and pins are employed, the slack is wholly taken up, and the cross-beams of the platforms, or the buffers, if the latter are employed, are drawn snugly together by turning the hand-wheel *h*, which draws the jaw *b* back within the draw-bar by winding up the chain around the ratcheted shaft *s* of the hand-wheel, where the parts are all firmly secured by the pawl *v*.

It might be desirable to dispense with the spool *a*, and arrange the ratcheted shaft *s* in its place, as shown in Fig. 3, in which case the upper end of the shaft is squared to receive a key or crank with which to wind up the chain. Access may be had to the shaft by providing a small trap or lid in the platform of the car.

Instead of the chain, a screw might be swiveled to the jaw *b*, and passed through a "worm-nut," to be turned by a key or crank.

What I claim as my invention is—

1. In combination with the ratcheted shaft *s*, and chain *C*, the sliding coupling-jaw or take-up *b*, constructed and arranged to be operated substantially in the manner shown and described, for the purpose of taking up the slack in car-couplings.

2. In combination with the ratcheted shaft *s*, chain *C*, and spool *a*, the sliding coupling-jaw or take-up *b*, substantially as and for the purposes set forth.

3. In combination with the ordinary open link-and-pin coupling, the take-up *b*, constructed and arranged to be operated substantially in the manner shown and described, and for the purposes set forth.

WM. B. DUNNING.

Witnesses:

WM. S. LOUGHBOROUGH,
B. C. WILLIAMS.