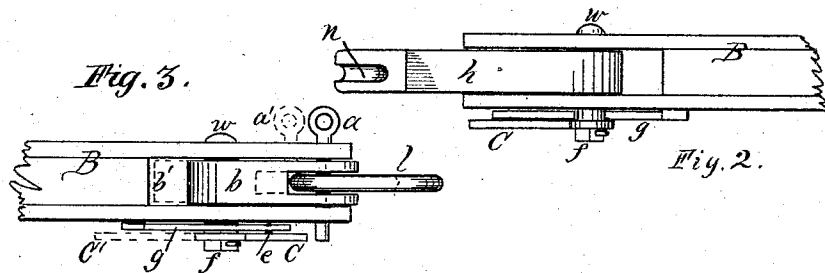


Patented May 30, 1876.



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UNITED STATES PATENT OFFICE.

WILLIAM B. DUNNING, OF GENEVA, NEW YORK.

IMPROVEMENT IN CAR-COUPLING TIGHTENERS.

Specification forming part of Letters Patent No. 177,994, 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 certain new and useful Improvements in Car-Coupling Tighteners; 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 an inverted sectional view of my invention, showing two couplings united. Fig. 2 is a side elevation of one coupling. Fig. 3 is a side elevation of a modification of the take-up or tightener as adapted to the ordinary link-coupling.

It is considered important to have as little slack as possible between the cars of passenger-trains. This is partially accomplished on some roads by inserting wooden T-shaped keys through the links between the buffer-heads.

The object of this invention is to provide a simple and efficient means of taking up the slack after the cars are coupled with either the link or with self-couplings. It consists in the employment of an eccentric or cam take-up or tightener in connection with the ordinary link, or with the arrow-headed link of self-couplings.

In order to adapt my invention to a self-coupler I preferably employ the hook draw-head *h*, which I attach to the draw-bar *B* by means of an eccentric or cam, *d*, as shown more clearly in the right-hand coupling in Fig. 1, one plate of the draw-bar being broken away to expose it. The cam *d* is pivoted or journaled in the upper and lower straps of the draw-bar by the journal *w* and the round portion of the crank-stem *f*. The graduated segment *g* is bolted to the under plate of the draw-bar *B*, and the crank *C* is provided with a pin, *e*, Figs. 1 and 3, which catches in notches or perforations in the segment *g*, and thereby secures the desired set of the tightener. The spring *S* is bolted to the draw-head *B*, and is shaped as shown in Fig. 1, so as to bear against the back side of the hook *h*, for the purpose of causing two opposite hooks to couple, and to retain them in contact when united. The hook may be prevented from swinging too far by making a slot through the

outer or loose end of the spring, through which a suitable clamping-bolt, that is screwed into the back of the hook, is permitted to slide, the head *m* resting against the outer side of the spring. This slot permits the hook to be thrown out or retracted by turning the cam *d*, and the spring to perform its double function in either case.

When two cars are to be coupled the hooks are thrown out, as indicated in Figs. 1 and 2, and after they are backed together the hooks are retracted, so as to bring the cross-beam of the platform of the two cars together. This is done by turning the crank or lever *C* from the position indicated by the dotted line *D* to that indicated at *D'*. This causes the draw-bar *B* to approach the opposite one, as indicated by the dotted lines *B'*. Both hooks are retracted in this manner until the two contiguous platforms are drawn snugly together, where they are secured by the pins *e* and segments *g*.

The chain and lever ordinarily employed for disconnecting this class of couplings may be used for this; and, when a car is to be uncoupled, it is done with the greatest ease by first reversing the position of the lever *C*, which throws the hooks *h* forward, and wholly releases them from any longitudinal strain.

It is sometimes found almost impossible to detach the hooks of this class of self-couplers as ordinarily made.

The end of the hooks may be provided with a link-receptacle, *n*, Fig. 2, and a pin-hole, *i*, to permit the hooks to be connected with the ordinary link-coupling.

The draw-bars *B* may be provided with an elongated opening, *c*, through the upper and lower plates, to receive a pin for a like purpose, and also with the ordinary cushion at the inner end, if desired.

This system or method of taking up the slack may be applied to the ordinary link-couplings by introducing the eccentric *d*, Fig. 3, and between the upper and lower plates of the draw-bar *B* the coupler-jaw *b*. The latter is bifurcated in front to receive the coupling-link *l*, and it is kept in line by a suitable lug, projecting into a groove or slot in either the upper or the lower plate of the draw-bar.

The slack between the ends of the draw-

bars is taken up by turning the crank or lever C to the position indicated by the dotted lines C', which retracts the jaws *b*, the pin *a* moving back in a slot in the upper and lower plates, corresponding to the slot *c*, Fig. 1.

Instead of the lever C being placed upon the under side, a detachable crank or key might be substituted, and applied through a trap-opening through the platform, which might be preferable, as being more conveniently adjusted and more accessible.

What I claim as my invention is—

1. The eccentric or cam tightener *d*, in combination with the link or hook of car-couplings, substantially in the manner shown, and for the purposes set forth.

2. In combination with the eccentric or cam tightener *d*, the adjusting-lever C and ratchet or locking-segment *g*, substantially as and for the purposes set forth.

WM. B. DUNNING.

Witnesses:

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