W. TODD.

Car-Couplings.

No. 151,252. Patented May 26, 1874.

Fig. 1.

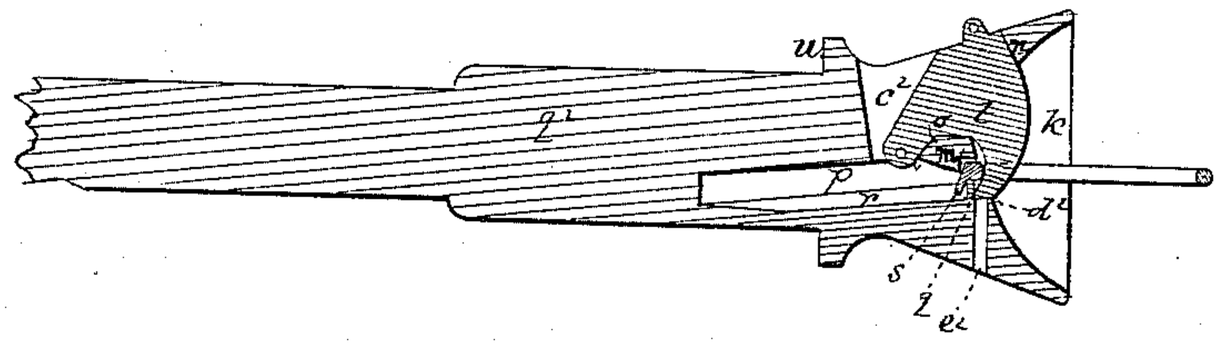


Fig. 2.

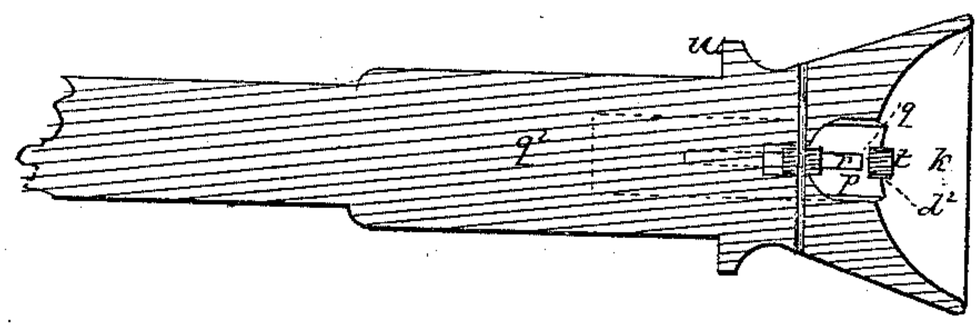


Fig. 3.

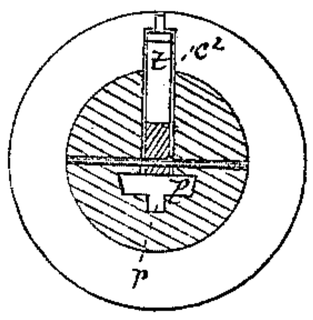
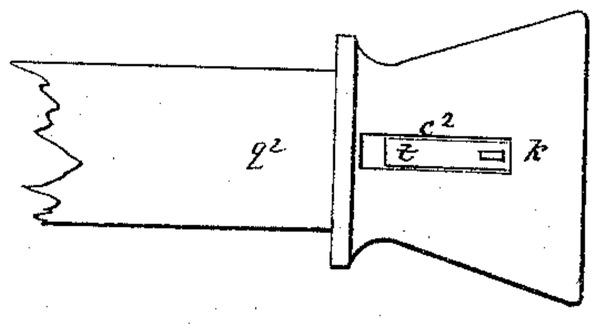


Fig. 4.



WITNESSES.

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WILLIAM TODD, OF PORTLAND, MAINE, ASSIGNOR TO HIMSELF AND PHILIP S. PAGE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **151,252**, dated May 26, 1874; application filed April 13, 1874.

To all whom it may concern:

Be it known that I, WILLIAM TODD, of Portland, Cumberland county, Maine, at present a resident of Boston, Massachusetts, have invented certain Improvements in Self-Locking Car-Couplings, of which the following is a specification:

These improvements are based upon a class of coupling in which is employed a latch or curved pin, as it may be properly called, playing within a vertical longitudinal orifice or slot created in the draw-bar in rear of the link-chamber of the head of the latter, and pivoted therein at its rear part, the outer and vertical portion of this latch or pin entering the coupling-link and performing the same functions as the pin of an ordinary coupling, the outer edge or face of my pin receding at bottom or being of a curved form, in order that the end of the approaching link may lift the pin and force its way under and beyond it to such an extent that the pin drops into and secures the link. The latch or automatic pin is raised from out the link by a lever suitably connected with it, and extending outside of the car, in order that a brakeman may operate it without the necessity of passing between two cars.

The drawings accompanying this specification represent in Figure 1 a vertical section, in Fig. 2 a horizontal section, in Fig. 3 a transverse section, and in Fig. 4 a plan, of a car-coupling embodying my improvements.

The recessed head or link-chamber *k* of the draw-bar is of circular form, in lieu of square, by which I obtain greater strength of parts, a more economical use of material, and a more symmetrical shape. The outer upper corner of the automatic pin *t* extends above the draw-bar, and is provided with an eye or its equivalent, to which is attached the device for raising the latch to uncouple the car. The draw-bar q^2 is formed with a vertical longitudinal slot, c^2, communicating with the link-chamber, and of such a size that the latch *t* may be inserted and removed by means of it, the formation of the rear end of the latch or pin and of the adjacent part of the slot being such that the pin can never rise to a vertical position, but shall, when elevated, be always overbalanced toward the link, in order to readily drop into place when released. The beak or pin portion of the latch *t* is elongated, and drops into a pocket, d^2, created in the bottom of the link-chamber, and as the forward end of the latch bears closely up against the outer termination of the slot c^2 it will be seen that the draft upon the draw-bar is resisted, and borne by a solid powerful abutment, and the thrust removed from the pin or pivot *c* of of the pin *t*, and the size of the latter greatly reduced. Under this construction the latch *t* changes its character, and becomes practically an automatic pin, and such I term it.

My purpose in producing the pocket d^2 is to drop the beak or pin of the latch below the bottom of the link-chamber to avoid possibility of escape of such link past the pin, and also to produce a solid bearing for the rear side of such pin.

It will be seen that in this construction the advance end of the link *b* as it enters the link-chamber will abut or strike against a solid stop or abutment, *m*, formed in the top of the link-chamber, and not against the pin.

In order to adapt my coupling to the use of ordinary coupling-pins, should the latch be lost or disabled, I create a vertical hole, e^2, through the draw-bar head immediately below and leading from the pocket d^2, through which hole and the slot c^2 an ordinary pin may be inserted.

It will be seen that the latch possesses two powerful points of resistance to the draft upon the link—viz, *n* and *o*—one at front and one in rear, and while it is not essential, or perhaps desirable, that both these bearings shall be in action at the same time, yet a great protection results, as if one is disabled the other remains.

In order to carry with each coupling or with each draw-head a spare link, which may instantly be pressed into service, I create in each head, and immediately below the link-chamber thereof, a longitudinal recess, *p*, preferably sloping, as shown in Fig. 1, such recess extending forward and opening into the mouth of the draw-bar. The length of the recess *p* is such as to admit the entrance within it of

the entire link, which may remain within it until a necessity arises for it from the loss or breakage of the one in use.

In carrying out a still further element in these improvements, I create in the bottom of the recess *p* a longitudinal and central channel, *r*, and I form upon or affix to the under side of one end of the link *b* a stud, *s*, that enters such channel, and prevents removal of the link, except by detaching the latch *t*, the said channel extending forward to the pocket d^2, and being separated from the latter by a wall or lip, *q*.

In the experience of most if not all railroads many coupling-links and pins are lost and stolen annually, and the expense of maintaining the supply is an important item. It frequently happens also in coupling a train that no link is found with the coupling, and much time is lost, and inconvenience ensues in searching for one. By storing away a link in each head of a coupling I am always prepared for an emergency, while, by means of the channel *r*, lip *q*, and stud or spur *s*, the link in use cannot be accidentally or dishonestly separated from the coupling, as the beak of the latch prevents its removal, for the reason that such beak cannot be raised sufficiently high to allow the stud to surmount the said lip.

The pin or pivot *s* of the latch *t* is merely for the purpose of retaining it in place, and allowing its hook to rise and fall, and in no-wise sustains or resists the draft upon such latch.

It will be seen that at the point of union between the circular head of the draw-bar and the rectangular body thereof I create a shoulder, *u*. This shoulder, when the draw-bar is driven backward, abuts against the "head-sill" of the car, and receives the shock or concussion engendered by the meeting of two cars, and in this respect performs an important office.

I claim—

1. The draw-bar, having slot c^2 and pocket d^2, in combination with the pivoted latch *t*, to work in said slot and pocket, and adapted to bear at two points, *n o*, against the draw-bar, substantially as shown and described.

2. The combination, with the draw-bar, having lip *q*, and the pivoted latch *t* mounted in the draw-bar, of the link, provided with spur *s*, to operate with the lip *q* and latch *t*, in the manner and for the purposes set forth.

3. The draw-head, having recess *p* and lip *q*, in combination with the latch *t* and the link *b*, having spur *s*, whereby the link is retained within the draw-head, substantially as and for the purposes stated.

WILLIAM TODD.

Witnesses:
F. CURTIS,
W. E. BOARDMAN.