# R. B. TAIT.

## Car-Couplings.

No. 150,728. Patented May 12, 1874.

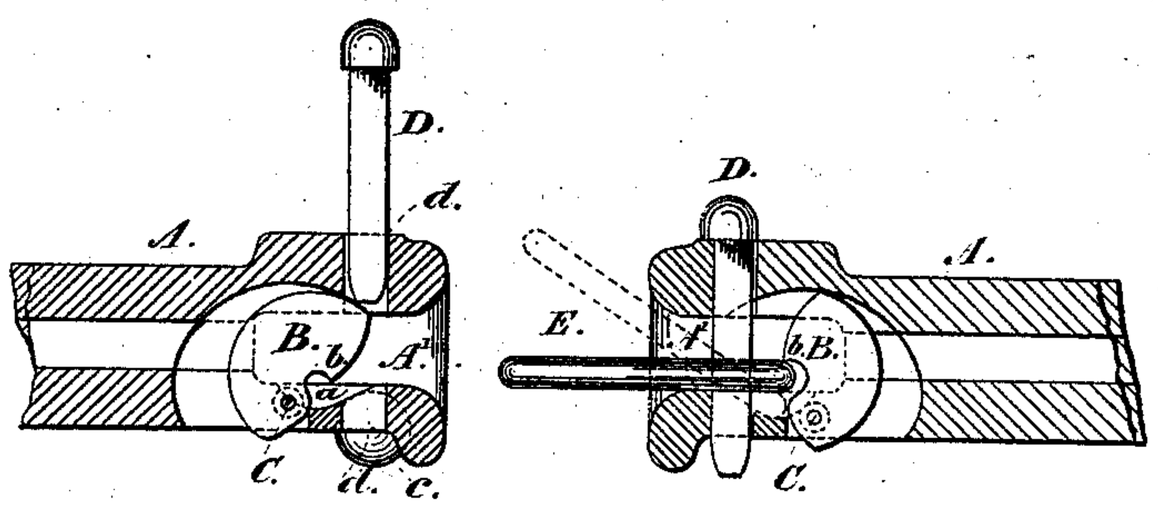



*Fig. 1.*

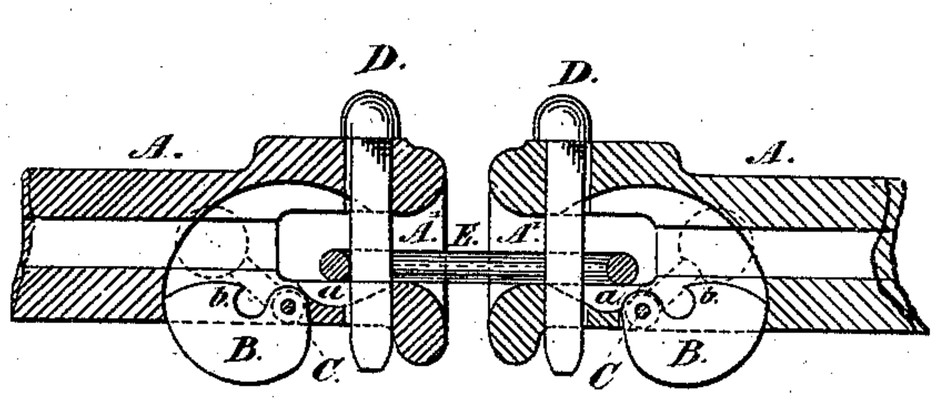



*Fig. 2.*

*Fig. 3.*

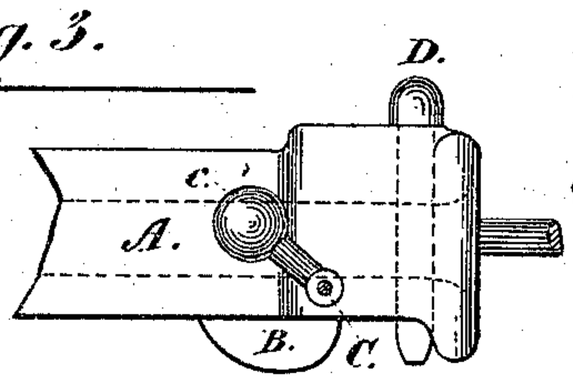
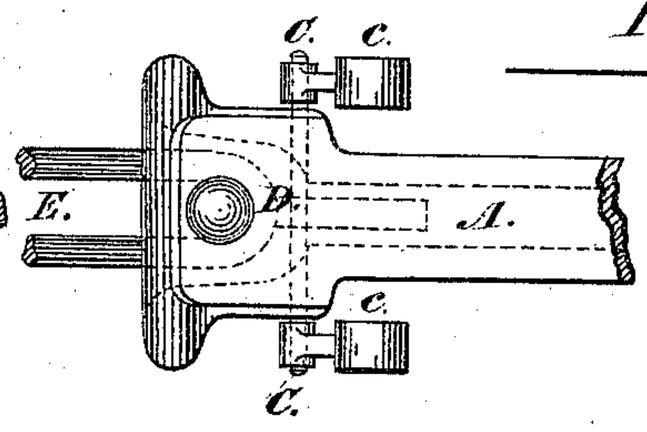



*Fig. 4.*




*Witnesses;*

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# UNITED STATES PATENT OFFICE.

ROBERT B. TAIT, OF OAKVILLE, CANADA.

## IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **150,728**, dated May 12, 1874; application filed March 16, 1874.

*To all whom it may concern:*

Be it known that I, R. B. TAIT, of the village of Oakville, Province of Ontario, Canada, have invented an Improved Car-Coupler, of which the following is a specification:

My invention has relation to car-couplings; and consists in the novel construction and arrangement of the draw-head and hinged tongue, by means of which not only is an operator enabled to adjust the pin that it will drop within the link when the latter is inserted into the draw-bar, but he can also adjust the link at any angle desired, to suit the difference in height of loaded and unloaded cars. Thus my invention has two objects: First, to adjust the pin that it will act automatically; and, second, to adjust the link that it will enter draw-heads of different elevations without any fear of accident to the operator.

Figure 1 is a longitudinal vertical section of two car-couplings constructed according to my invention, and showing the connecting-link secured to one draw-head in the act of entering the other. Fig. 2 is a longitudinal section of two car-couplings constructed according to my invention, and shows the draw-heads connected by link. Fig. 3 is a side view of my coupling. Fig. 4 is a plan.

Like letters refer to like parts throughout the drawings.

A are the draw-heads, constructed with the usual bell-mouth A′, of the usual material, and in all respects in the ordinary way, except that in the center of the bell-mouth, and at a convenient distance back from the front end, a hinged tongue, B, is inserted and fastened to the rocking rod or shaft C, the draw-head having a slot cut or cast in it to allow B to work. To either or both ends of the rods C weights *c* are attached, and so adjusted that they just counterbalance the weight of the tongue B, and hold it sufficiently tight, but not rigidly, in any position it may be left by the operator.

Of course, it will be understood that I do not confine myself to this method of counterbalance, as there are many ordinary ways with friction by which the tongue could be kept in position.

The tongue B is formed with a lip, *b*, on the front side. This lip is shaped and so adjusted that it will lap over and hold the end of a link. The bottom of the bell-mouth A′ of the draw-head, at a short distance back from the front end, is hollowed out, the cavity *a* being deepest where the end of the link is situated when the draw-heads are coupled. D is the pin, which may be either round, square, or oblong, fitting into the hole *d* in the draw-head in the usual way. E are ordinary coupling-links.

As my improved coupler has two services to perform, I will first describe how the pin is adjusted. The pin D is lifted in the hole *d* until the tongue B can be pressed forward, and until the upper front corner is about halfway over the pin-hole *d*; the pin D is then let down until its point rests upon B, the counter-balance on the rod C preventing B from slipping back. The pin is then set, and the operator may leave. When the link E enters the bell-mouth A′, the end strikes the tongue B, jerking it back and releasing the pin D, which falls within, securing the link.

As the center upon which the tongue B works is placed below the bottom of the bell-mouth, it is evident that no matter from what angle, which side, and what elevation the link strikes B, it must jump back, the link always striking above the center.

To adjust the link before the cars are coupled, all that is necessary is to place the inside end of the link under the lip *b*, the middle of the link resting on the highest part of the bottom of the bell-mouth A′; then, by turning the tongue B by the rod C, the lip lowers the back end of the link into the cavity *a* sunk in the bottom of the bell-mouth A′, the outside end of the link being raised in proportion.

The advantages of my invention are, that the pins and links of all cars of all elevations of draw-head can be adjusted to couple without it being necessary for the operator to place his hands or body between the approaching draw-heads. Another advantage possessed by my coupler is, that when a pair are coupled the only working parts are thrown back out of the way entirely.

I claim as my invention—

The draw-head A, having bell-mouth A′ and cavity *a*, in combination with the hinged tongue B, having lip *b*, rod or shaft C, and weights *c*, constructed to operate substantially as and for the purpose specified.

ROBERT B. TAIT.

Witnesses:

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