J. R. LAMB.

Car-Coupling.

No. 206,027. Patented July 16, 1878.

Fig. 8

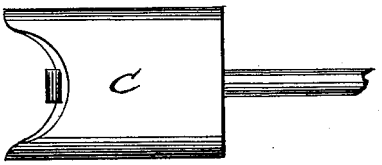
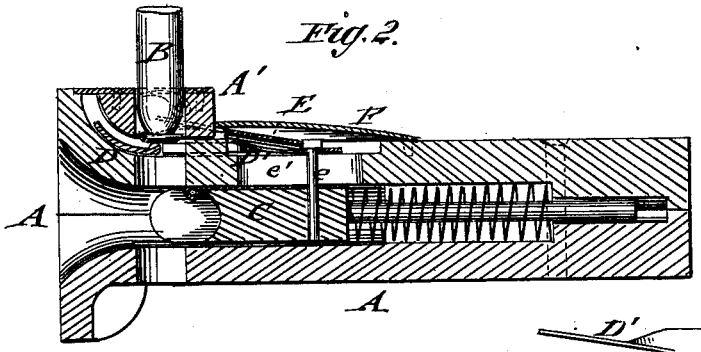


Fig. 1

Fig. 2.



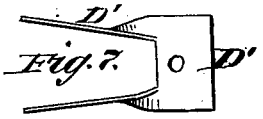


Fig. 7.

Fig. 3.

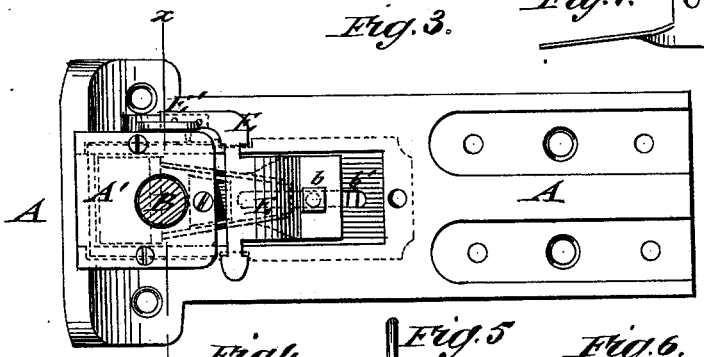


Fig. 4

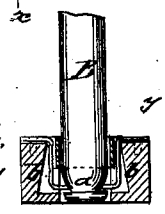


Fig. 5

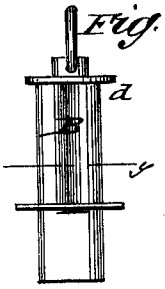
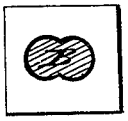


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES R. LAMB, OF ST. JAMES, MINNESOTA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **206,027**, dated July 16, 1878; application filed April 12, 1878.

To all whom it may concern:

Be it known that I, JAMES R. LAMB, of St. James, in the county of Watonwan and State of Minnesota, have invented a new and Improved Car-Coupling, of which the following is a specification:

In the accompanying drawings, Figures 1 and 2 represent vertical longitudinal sections of my improved car-coupling, the former section showing the coupling-pin in position for coupling, while the latter shows it in raised and locked position independent of the link-follower. Fig. 3 is a top view of the coupling with cap-plate taken off to show parts below. Fig. 4 is a detail section on line *x x*, Fig. 3, of the draw-head, showing the retaining-spring devices of the coupling-pin. Fig. 5 is a front view, and Fig. 6 a horizontal section on line *y y*, Fig. 5, of a modified form of the coupling-pin and retaining devices. Fig. 7 is a top view of forked rear slide, and Fig. 8 a bottom view of the link-follower.

Similar letters of reference indicate corresponding parts.

This invention relates to such improvements in the car-coupling for which Letters Patent have been granted to me heretofore, dated September 18, 1877, and numbered 195,290, that the construction of the same is simplified, the working made more reliable, and the coupling-pin dropped automatically or retained in raised position when the cars are to be backed and moved without requiring the coupling of the same.

The invention consists of a draw-head with raised top part for guiding the coupling-pin, of a sliding and spring-acted link-follower, and of a front slide-piece, forked rear slide-piece, and spring-lock at the top of the draw-head for retaining the pin in raised position above the link-follower when not required for coupling.

Referring to the drawing, A represents a draw-head of the customary shape, with curved or tapering mouth, being attached to the car-frame, and cushioned in any suitable manner. The draw-head is provided with a raised top part, A′, that extends from the front part of the draw-head back far enough to admit the coupling-pin, it forming a guide for the same when raised or lowered. B is a common coupling-pin, and C a sliding link-follower with large front part, having curved and concaved head and guided stem, around which a spiral spring of suitable power is arranged, which is interposed between the rear part of the draw-head and the enlarged front part of the follower, the link-cavity of the draw-head being made deeper in order to admit the sliding of the link-follower.

The coupling-pin B is provided near the lower end with an annular groove or indenture, *a*, that is made square at the lower side and slanting at the upper side, so as to form a kind of shoulder for admitting the retaining catch-springs *b*, that prevent the pin from being drawn out, while the slanting portion above the groove allows the pin to drop freely.

The coupling-pin drops into the usual pin-holes, and is guided by the raised top of the draw-head, and prevented from being detached therefrom by the springs *b* working in the recesses of the raised top part and locking into the annular groove at the lower end of the pin. The coupling-pin B is raised for uncoupling in any suitable manner, either by a chain or rod connected with the top ring of the same or by hand on platform-cars. In place of the retaining-springs, a square or oval shaped pin may be used, of which the lower part is made plain, while the upper part is grooved or channeled, as represented in Figs. 5 and 6.

The cap-plate of the raised top part of the draw-head is made to correspond to the fluted or grooved part of the pin, so as to prevent it from being detached, when raised, by the difference in the shape of the lower end of the pin. A fixed collar or plate, *d*, at the upper part of the pin below the ring, connecting with the uncoupling mechanism, prevents the pin from dropping out of the draw-head. The coupling-pin rests on the follower until the entering link pushes the follower back, so as to drop the pin and thereby couple the cars. The follower presses on the link and forces it against the pin, holding the link by the curved and concave shape of the front part of the follower in horizontal position for coupling; so as to readily enter the mouth of the draw-head to be coupled. The follower gives to the link the necessary play to work freely in the draw-head when coupled.

In a curved or inclined recess in the raised top part of the draw-head in front of the coupling-pin B is arranged a slide-piece, D, of corresponding shape, that drops into place under the pin whenever the pin is raised, and while the follower is still held back by the link, so as to support the pin while the link is drawn out.

The slide-piece D forms contact at both sides of the coupling-pin with the fork-shaped front end of a rear slide-piece, D′, that works in a top recess of the draw-head. The rear slide-piece is connected by a pin, *e*, to the follower B, and works in a slot, *e′*, of the draw-head, being pressed forward by the follower when the link is removed, the forked end of the rear slide D′ pressing the front slide D forward and upward in its guide-recess, so as to permit the pin to drop between the forked end down on the follower, being retained thereby until the link again enters and causes the coupling of the cars.

In connection with the rear slide D′ and pin *e*, connecting it to the follower, is arranged a spring-lock, E, that is attached to the top part of the draw-head and operated by an eccentric-pivot handle, E′, that bears on the forward extension of the spring-lock, so as to either raise the rear end of the same, release it from the connecting-pin *e*, and admit thereby the free working of the follower, or, by taking off the eccentric-pivot handle, lower the rear end, so as to engage the head of the connecting-pin *e*, and retain thereby not only the follower in locked position back of the pin-holes, but also support the coupling-pin in raised position on the front slide-piece D, so as to admit thereby the backing of a number of loose cars on a side track, or other operations where cars are not required to be coupled.

A top cap-plate, F, extends over the top recess of the draw-head, and also holds the spring-lock E in place. The cap-plate is recessed at the side to admit the spring-lock to extend to the outside and form thereby a kind of hinge, on which it swings in following the action of the eccentric-cam handle. The cap-plate also protects the working parts from rain and snow.

The advantage of the car-coupling consists in the fact that the link cannot be detached from the draw-head, and that it can be locked when in raised position and not required for coupling, and that the coupling-link is retained in reliable manner in horizontal position for coupling with the approaching car.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the draw-head having raised top part, coupling-pin, and sliding and spring-acted link-follower, of a front slide-piece to support pin in raised position independent of follower, substantially as and for the purpose set forth.

2. The combination of the draw-head having raised top part, coupling-pin, and sliding and spring-acted link-follower with a guided front slide-piece and a forked rear slide-piece attached to follower, and with a hinged spring-lock and cam-lever, substantially as and for the purpose described.

3. The slide-piece D, arranged in an inclined recess of the front of draw-head to support the pin when the link is drawn out, substantially as set forth.

4. The combination, with the front slide-piece D, of the rear slide-piece D′, connected by a pin, *e*, with the follower, and working in a slot, *e′*, of draw-head, substantially as and for the purpose described.

JAMES R. LAMB

Witnesses:
J. W. SEAGER,
J. R. MCLEAN.