J. W. ECKMAN.

CAR-COUPLINGS.

No. 194,900. Patented Sept. 4, 1877.

Fig. 1.

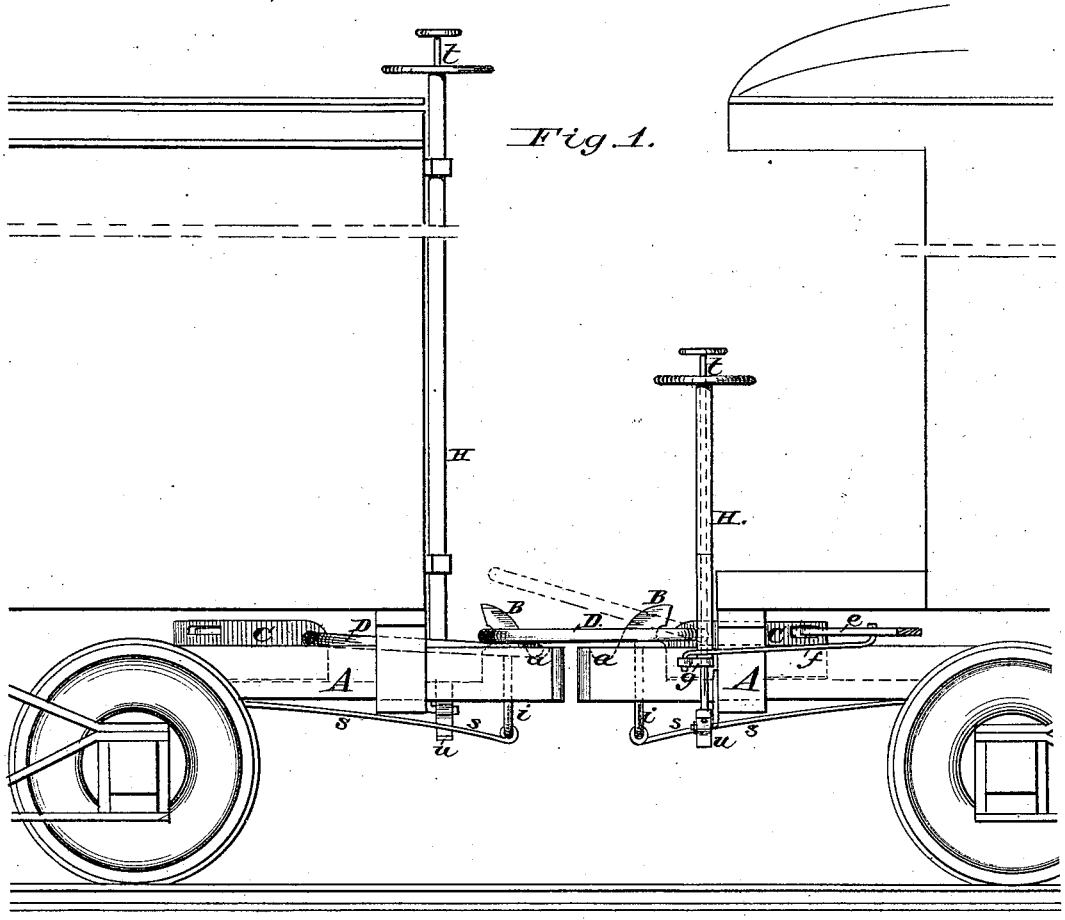


Fig. 2.

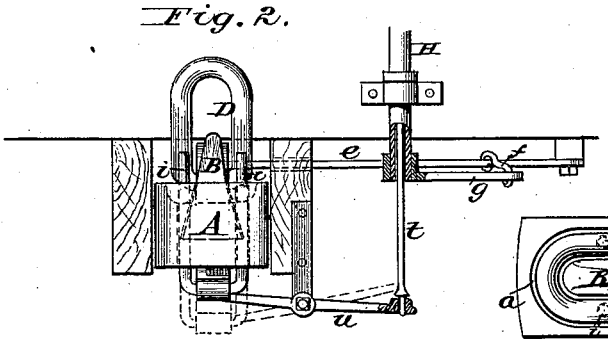


Fig. 3.

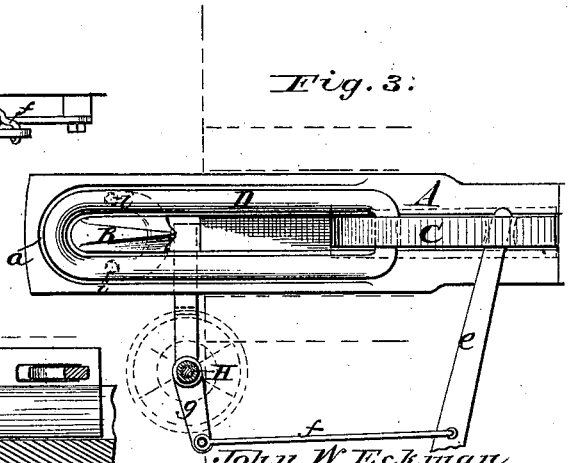
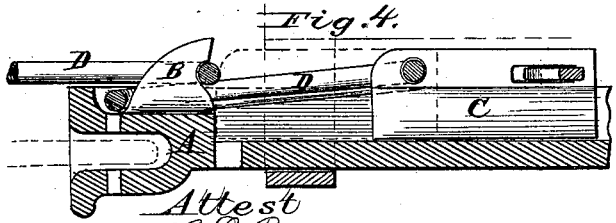


Fig. 4.



Attest

H. L. Benne

John Zimmerman

John W. Eckman

Inventor.

By. C. M. Parks.

Attorney.

UNITED STATES PATENT OFFICE.

JOHN W. ECKMAN, OF GREENFIELD, ILLINOIS.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **194,900**, dated September 4, 1877; application filed June 27, 1877.

To all whom it may concern:

Be it known that I, JOHN W. ECKMAN, of Greenfield, Green county, Illinois, have invented an Improvement in Railroad-Car Couplers; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, Fig. 2 a front elevation, Fig. 3 a top view, and Fig. 4 a longitudinal section, of my invention.

My invention relates to the construction and operation of a car-coupler, by which cars may be automatically coupled and the coupler uncoupled and otherwise operated from the platform or from the top of the car.

My invention consists in hooking the coupling-link which is attached to each car over a tooth cast upon the buffer or draw-head of either car, said link being thrust out by means of a system of levers operated by a rock-shaft extending upward and a hand-wheel above the platform or top of the car, and said link being also elevated by means of another system of levers operated by a rod extending upward in a similar manner to the first, all of which will more fully appear in the following description, and in the drawings which make part of this specification.

In the drawings, A represents the buffer or draw-head of an ordinary car, constructed in the usual manner, excepting that upon the top is cast solid with the body of the draw-head a tooth, B, extending upward above the top of the buffer or draw-head, and having its outer side inclined inward and its inner side extending backward in the form of a latch. Around the base of this tooth is a groove, *a*, of a size sufficient to receive the outer end of the coupling-link, so as to nearly, or quite, embed the link in the draw-head.

In the top of the draw-head is a dovetailed groove, extending from the tooth B inward nearly the whole length of the draw-head, in which slides the reciprocating slide C. This slide C extends above the draw-head A, and to the outer end of said extension is attached the coupling-link D, by means of a hole through which the inner end of the link passes. The slide C, to which the coupling-link is attached, becomes the medium by which the car is drawn; consequently, when it is extended outwardly to its extreme distance it presses firmly against the solid end of the dovetailed groove, and the solid base of the tooth B, thus making a firm attachment for the coupling-link D.

In the inner end of the slide C is a horizontal slot, into which plays loosely one end of the lever *e*, the other end being pivoted upon the outer side of the car. About midway the lever *e* is attached the rod *f*, connecting the lever *e* with the arm *g* on the rock-shaft H.

The rock-shaft H is hung in bearings on the end of the car, and extends upward and terminates in a hand-wheel at the top, by which it may be manipulated at will.

Underneath the outer end of the link D are vertical pins *i i*, passing through holes in the draw-head A. The lower ends of the pins *i i* are secured to a spring, *s*, the inner end of which is attached to the under side of the draw-head, and keeps the pins *i i* from lifting the link D out of its groove.

The rock-shaft H is made hollow, and through it passes a rod, *t*, the lower end of which is seated in one end of a lever, *u*, fulcrumed upon the side of the support of the draw-head A, and the other end pressing loosely against the under side of the spring *s*. The top of the rod *t* terminates in a button, by which it may be depressed.

The operation of my device is as follows: When two cars are to be coupled the coupling-link is to be thrust out in the following manner: A brakeman, standing on the platform or upon the top of the car, is to turn the hand-wheel, and thereby the rock-shaft H, to the right, thus throwing the arm *g* outward, carrying the lever *e* in the same direction by means of the rod *f*. The end of the lever *e*, playing loosely in a slot in the sliding bar C, and the opposite end pivoted in the outer side of the car, will, of course, carry the sliding bar C outward, which will, in turn, carry the coupling-link D, attached to it, outward with it. The outward movement of the link D is terminated by the sliding bar C striking against the end of the dovetailed slot and the base of the tooth B. The cars are now ready to be coupled, and it only requires the movement toward each other, when the ex-

tended coupling-link will ride up the inclined side of the tooth B of the opposite car, and fall behind in its place.

To uncouple the car, the brakeman first depresses the button upon the top of the bar *t*, which depresses one end of the lever *u* and raises the opposite end of said lever, and so presses the spring *s* upward, raising the pins *i i*, the ends of which press against the under side of the link D, raising it from its place behind the tooth B upon the opposite car. The link D may be then withdrawn by reversing the rock-shaft H, when the sliding bar C will be thrown inward, carrying the link with it until said link is again settled into its groove at the base of its own tooth.

The object of the groove is obvious when it is noticed that each car is provided with a link and a tooth, so that either car may be made the coupling-car, and when so made it is necessary to have the unused link out of the way.

The advantages arising from my improved car-coupler are many; but it will be necessary only to say that it preserves all the advantages of the link-connection, while it removes all risk of life in manipulating the coupling link and pin, as my link can be operated from the platform or the top of a freight-car with ease, certainty, and security.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The draw-head A, provided with the tooth B upon its upper side, in combination with a sliding coupling-link, substantially as described.

2. The draw-head A, provided with the tooth B upon its upper side, and dovetailed groove, in combination with slide C, carrying the coupling-link D, substantially as described.

3. The slide C, carrying the coupling-link, and operated from the platform or top of the car by means of the rock-shaft and hand-wheel H, arm *g*, link *f*, and lever *e*, in combination with tooth B upon the draw-head, substantially as described.

4. The grooved draw-head A, provided with tooth B, in combination with pins *i i*, operated by means of rod *t*, lever *u*, and spring *s*, substantially as described.

5. The draw-head of a railroad-car, provided with a tooth to receive the coupling-link, in combination with a coupling-link, provided with mechanism for thrusting out said link from the platform or top of the car, substantially as described.

The above specification of my said invention signed and witnessed at Washington this 27th day of June, A D. 1877.

JOHN W. ECKMAN.

Witnesses:
C. M. PARKS,
JOHN R. ZIMMERMAN.