

E. L. KEELER.

CAR COUPLING.

No. 385,185.

Patented June 26, 1888.

Fig. 1.

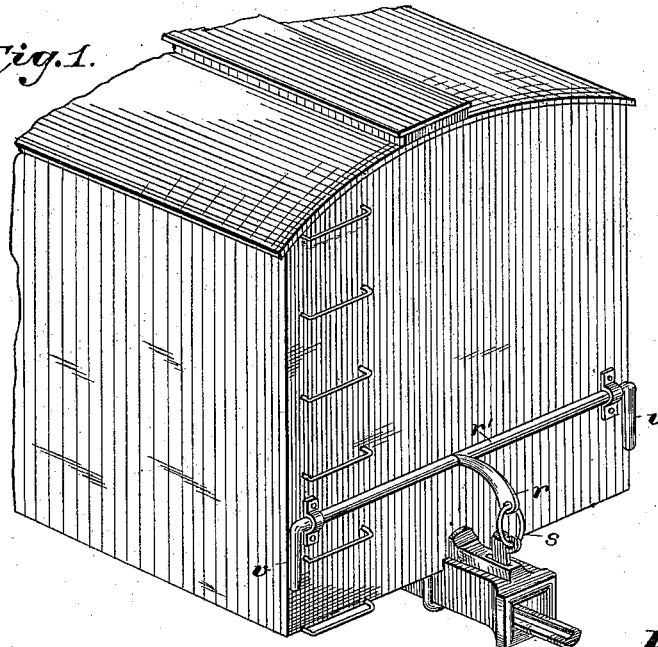


Fig. 2.

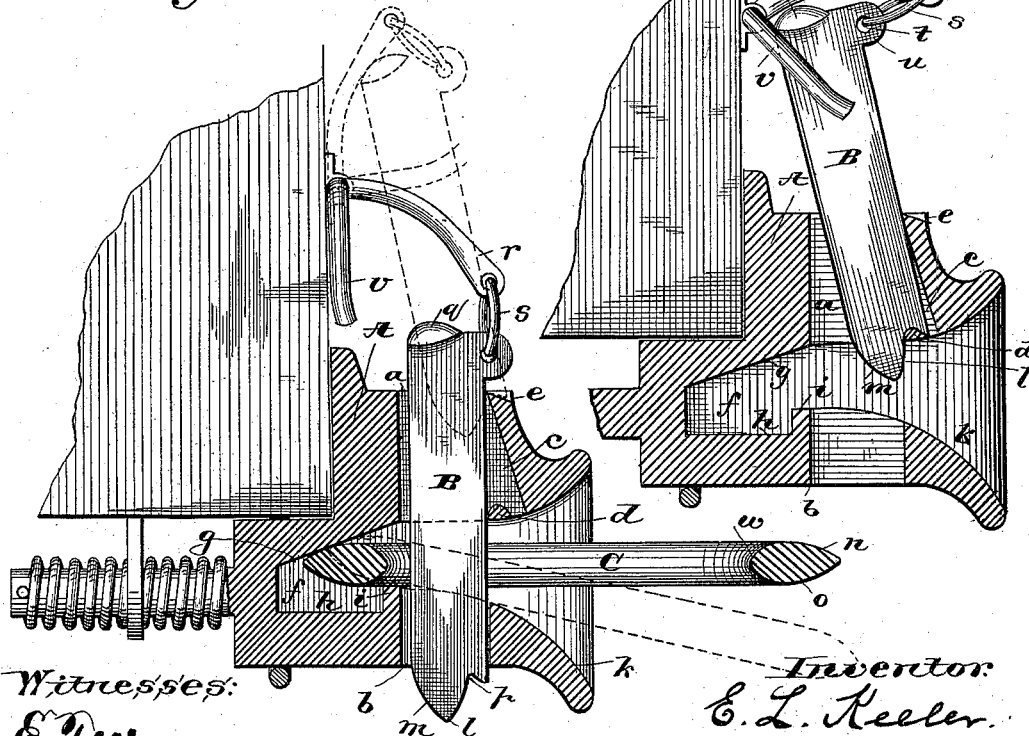
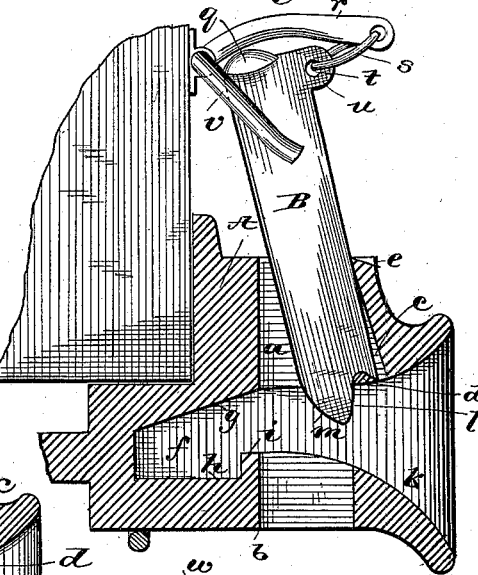


Fig. 3.



Witnesses:
E. W. Foster,
Wm. E. Dyer.

Inventor:
E. L. Keeler.
By *Johnston, Reinhold & Ayres*
Attorneys.

(No Model.)

2 Sheets—Sheet 2.

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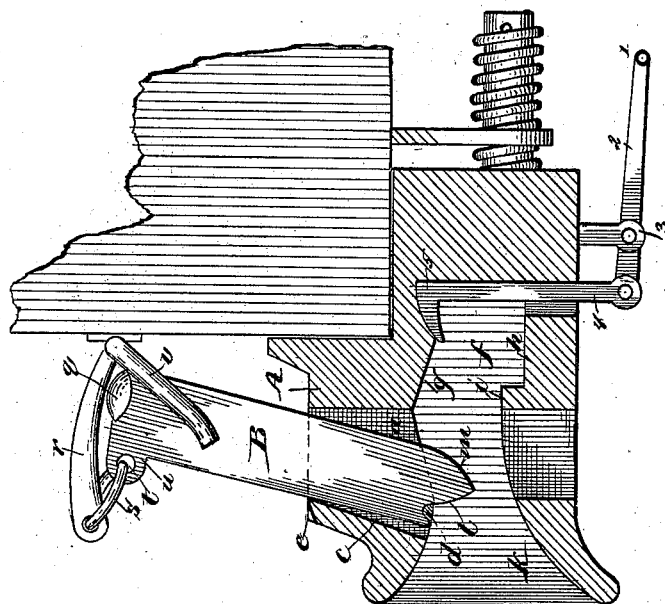
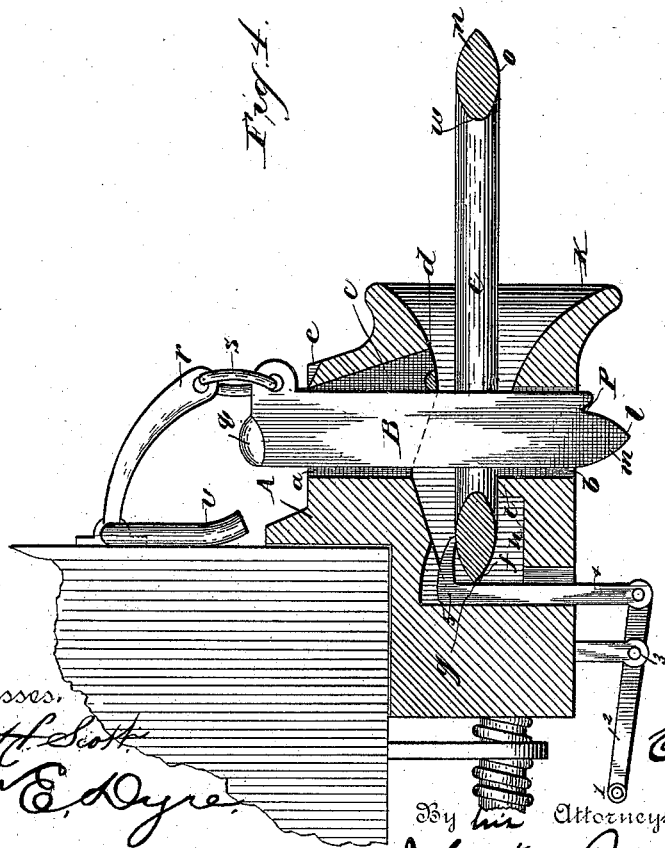


Fig. 3.



Witnesses,
Wm. H. Scott
Wm. E. Dyre

Inventor,
E. L. Keeler.

By *Johnston, Reinohl & Dyre* Attorneys

UNITED STATES PATENT OFFICE.

EDWARD L. KEELER, OF BEAVER FALLS, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 385,185, dated June 26, 1888.

Application filed December 13, 1887. Serial No. 257,771. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. KEELER, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to couplings, and has for its object the construction of a coupling which will automatically engage with a corresponding draw-head.

The invention will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 is a perspective view of one end of a car provided with my improved coupling. Figs. 2 and 3 are side views with the draw-head and link in section, and Fig. 4 is a longitudinal section of two draw-heads provided with my improvements.

Reference being had to the drawings and the letters marked thereon, A represents the draw-head, which is provided with a vertical rectangular slot, *a*, having a rear perpendicular wall, *b*, an angular front wall, *c*, in the upper part thereof, and a support, *d*, adjacent to said front wall and crossing the slot *a* at right angles to its length for the coupling-pin B to rest upon when set in position for automatic coupling, as shown in Fig. 3. The upper side of the draw-head is also provided with a seat, *e*, for supporting the pin B when set in position not to couple, as shown in dotted lines in Fig. 2. The pin is set in this position when cars are being shifted about a yard and it is not desirable to have them coupled.

In the rear end of the draw-head A is formed a chamber, *f*, which has an upper inclined wall, *g*, a horizontal bottom, *h*, and a projection, *i*, which latter crosses the front end of the chamber *f* and forms a fulcrum for the link C, whereby the link may be raised and lowered by being brought into contact with the inclined wall *g* to accommodate the link in coupling with cars of different heights. The mouth of the draw-head is provided with

a long curved surface, *k*, upon which the link C rides into position for automatically tripping the pin B and coupling two cars. The link may, however, be raised mechanically by means of lever 1, which extends across the car-truck, to be operated on either side of the car, and engages with an arm, 2, fulcrumed at 3. To the end of the arm 2 is attached a bar or dog, 4, with a bent end, 5, which engages with the end of the link, as shown in Fig. 4.

The link C is elliptical in cross-section at its ends, as shown, for engagement with the front and rear curved surfaces *l m*, of the pin B. In coupling cars the outer curved surface *n*, on the upper side of the link strikes the front curved surface, *l*, of the pin B and raises it from the support *d*, when the pin will swing back and fall through the link C and the slot *a* in the lower side of the draw-head. While the link is entering the draw-head of an adjacent car, the outer curved surface *o* of the link strikes the curved surface *h* in the mouth of the draw-head, and is thereby guided on its way to trip the pin B.

The pin B is provided at its lower end with a notch, *p*, which engages with the support *d* and the seat *e* of the draw-head, and at its upper end with a head, *q*, and is attached to an arm, *r*, of an operating rock-shaft, *r'*, by means of a chain or ring, *s*, which engages with an aperture, *t*, in a projection, *u*, on the pin B. By providing the head *q* and connecting the pin out of the line of the center of gravity the pin will always rest in an inclined position, as shown, and when disengaged from its support will swing on the arm *r* of the rock-shaft.

When the pin B is raised by the shaft *r'*, the upper end of the pin falls back toward the car, strikes against the under side of the arm *r*, and is thus securely held from being thrown out of alignment with the slot *a* in the draw-head, while the lower end of the pin will move forward and seat itself upon the support *d* or the seat *e*. The shaft *r'* is secured in suitable supports on the end of a car, and is provided at each end with a lever, *v*, for raising the pin B for uncoupling.

In uncoupling, the inner curved surface, *w*, of the link C strikes against the curved surface

m of the pin *B* and raises it sufficiently for the link to pass under it without tripping or disengaging the pin from its support *d*.

By the construction shown cars may be readily coupled and uncoupled without exposing the employé to any danger, and cars of different heights connected without strain upon any of the operating parts.

Having thus fully described my invention, what I claim is—

1. In a car-coupling, a draw-head having a vertical rectangular slot, one of the walls of which is inclined and provided with two supports for a coupling-pin, in combination with a pin having a notch or seat in its lower end, and an operating-shaft upon which said pin is suspended, substantially as described.

2. In a car-coupling, a draw-head having a chamber in the rear portion thereof, provided with a rearwardly-inclined upper wall and a projection across the front end of said chamber, in combination with a link having its ends curved, substantially as shown, and for the purpose described.

3. In a car-coupling, a draw-head having a vertical right-angular slot and a transverse support, in combination with a pin having a projection on its end provided with front and rear curved surfaces and a notch or seat, and

a link having double-curved surfaces on its ends, substantially as described.

4. In a car-coupling, a draw-head provided with a vertical slot having an inclined wall, a transverse shaft secured to the car-body and provided with an arm, and a coupling-pin secured to said arm by a ring or chain on one side of its median line, substantially as described.

5. A coupling-pin weighted on one side of its median line, in combination with an operating-arm to which the pin is attached by a ring or chain on the opposite side of said line, a slotted draw-head, and a link, substantially as described.

6. In a car-coupling, a slotted draw-head having two transverse supports, a link, and a pin, in combination with an arm of a rock-shaft, the pin being attached to the arm on one side of its median line and supported to swing rearward under said arm at its upper end and forward at its lower end to rest upon said support, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD L. KEELER.

Witnesses:

J. F. MERRIMAN,
JOHN CORBUS.