(No Model.)

# J. MILLER.

## CAR COUPLING.

No. 344,127. Patented June 22, 1886.

Fig. 1.

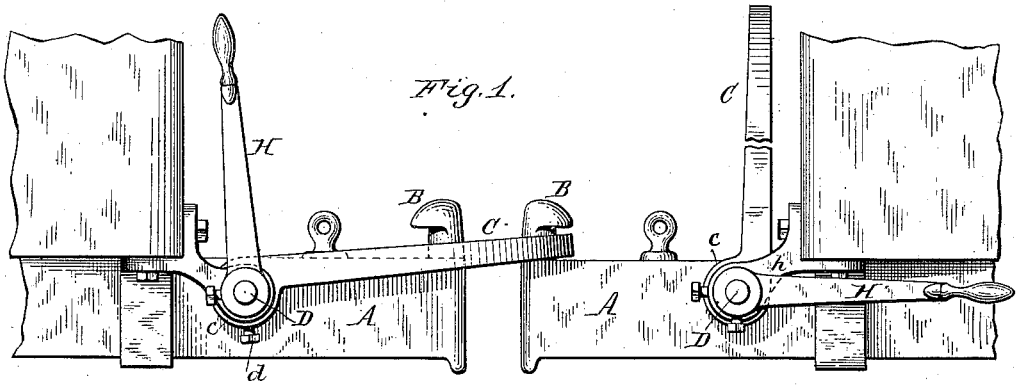



Fig. 2.

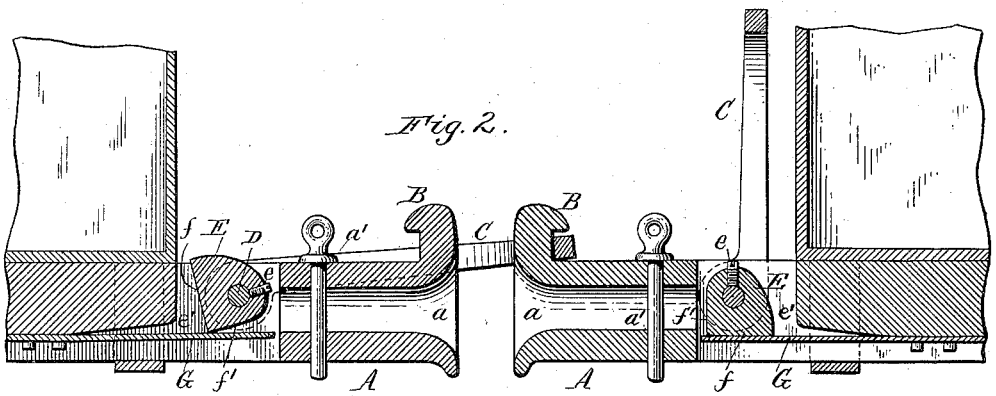
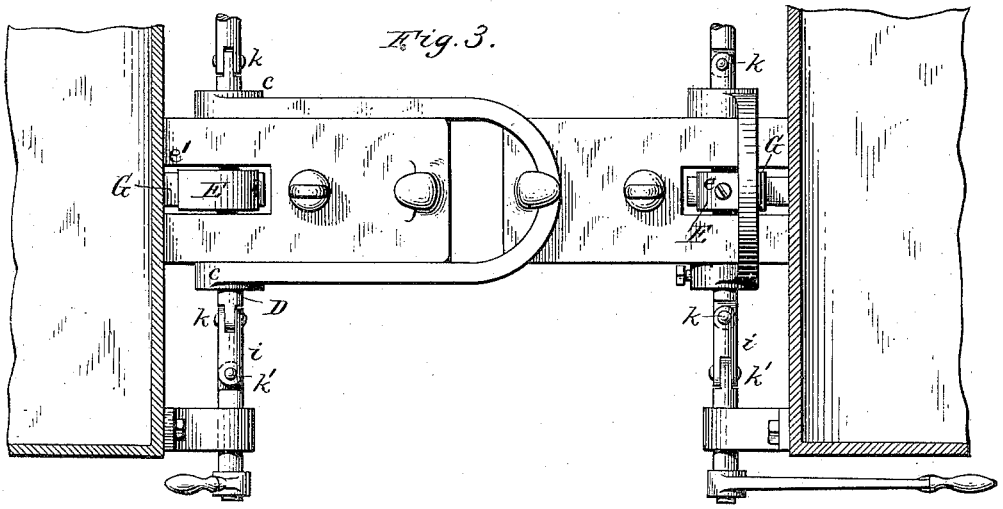



Fig. 3.




Witnesses:
Theodore L. Popp
Geo. J. Buchheit Jr.

John Miller Inventor.
By Wilhelm & Bonnett
Attorneys.

# UNITED STATES PATENT OFFICE.

JOHN MILLER, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO LORENZ GEBHARD, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 344,127, dated June 22, 1886.

Application filed April 12, 1886. Serial No. 198,556. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MILLER, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

This invention relates to an improvement in that class of car-couplings in which each draw-head is provided with a hook and a pivoted link, the link on one of the draw-heads engaging over the hook on the opposite draw-head for coupling the cars together, and with a lever mechanism whereby the link can be disengaged from the hook for uncoupling the cars.

The object of my invention is the construction of a simple and effective coupling of this character; and my invention consists of the improvements in the construction of the coupling, which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of two draw-heads provided with my improved coupling. Fig. 2 is a longitudinal section of the same. Fig. 3 is a top plan view thereof.

Like letters of reference refer to like parts in the several figures.

A A represent the draw-heads, provided with the usual open mouth, *a*, and pin-hole *a'*, for the insertion of the ordinary coupling-pins, so that the draw-heads can be coupled to cars having the ordinary link-and-pin couplings, when desired.

B represents a coupling-hook arranged above the mouth *a*, near the outer end of each draw-head, and C represents a pivoted link, which is secured to a horizontal shaft, D, which is journaled in the draw-head and extends transversely through the same. Each draw-head is provided with a link, C, which is pivoted at its rear end to the shaft D, with its forward end extending beyond the outer face of the draw-head, so that the link C on either draw-head will engage over the hook on the opposite draw-head when the cars are coupled together. The links C are U-shaped, and their rear ends are provided with perforated lugs *c*, through which the shaft D is inserted, and to which they are rigidly secured on opposite sides of the draw-head by set-screws *d*. The lugs *c* are arranged below the plane of the links, so that the forward strain on the shaft D will cause the front end of the link, when engaged over the hook on the opposite draw-head, to bear downward against the top of the draw-head.

E represents a cam secured to the shaft D by a set-screw, *e*, and arranged in a recess or opening, *e'*, formed between the two sides of the draw-head. The cam E is provided with two flat faces, *f f'*, which are arranged preferably at right angles to each other, or nearly so.

G represents a flat steel spring secured at its rear end to the under side of the draw-head, with its free forward end bearing against one of the flat sides of the cam.

By means of the cam E and spring G the link C can be held in either of the two positions, as shown in the drawings. When the link is swung upward or away from the hook, as shown on the right-hand side of the figures in the drawings, the spring G will bear against the flat face *f* of the cam E and hold the link in this elevated position. When the links on both draw-heads are in this position, the draw-heads can be brought together without being coupled; or, if desired, the ordinary loose link-and-pin coupling can be used, as the links C are held out of the way. When the link C on either one of the draw-heads is swung downward, so that its forward end will engage over the hook on the opposite draw-head to couple the cars, the spring G will bear against the rear end of the face *f'* of the cam, as shown on the left-hand side of Fig. 2, and the pressure of the spring against the cam when in this position will force the forward end of the link downward and hold the same in engagement with the hook. The shaft D extends from opposite sides of the draw-head outward to the sides of the car, and is provided at its ends with a hand-lever, H, whereby the links C can be operated from either side of the car without entering between the cars. The outer ends of the shafts D are journaled in bearings *h*, secured to the ends of the car. The center portion of each shaft D, which extends through the draw-head,

and to which the link and cam are secured, and the two extreme end portions of the shaft, which are journaled in the bearings *h*, and to which the hand-levers H are secured, are made in separate pieces, and the end portions are connected to the center portion by short intervening portions *i*. The portions *i* are jointed to the center portion of the shaft by bolts or pins *k*, and to the end portions by bolts or pins *k'*. The bolts *k* and *k'* are arranged at right angles, or nearly so, with each other, the bolts *k* being arranged in a line parallel with the link C, so that when the latter is in its elevated position, as shown in the right-hand side of Fig. 3, the bolts *k* will stand in a vertical position and the bolts *k'* in a horizontal position, and when the link C is coupled over the hook, as shown to the left of Fig. 3, the bolts *k'* will be in a vertical position and the bolts *k* in a horizontal position. By jointing the shafts D in this manner any jar or strain on the shafts caused by the draw-heads striking against each other will permit the shaft to yield or turn on the bolts *k* or *k'* without bending the shaft and causing the same to bind in its bearings.

I claim as my invention—

1. In a car-coupling, the combination, with the draw-head A, provided with a hook, B, and a recess, *e'*, of a link, C, pivoted to the draw-head by a transverse shaft, D, a cam, E, provided with two locking-faces, *f f'*, at right angles to each other and secured to the shaft D in the recess *e'*, and a spring, G, secured to the under side of the draw-head and bearing against the cam E, substantially as set forth.

2. The combination, with the draw-head A, provided with a hook, B, of a link, C, provided with perforated lugs *c*, arranged below the plane of the link, a transverse shaft, D, extending through the draw-head and the lugs *c* of the link and provided with joints *k k'* and hand-levers H, secured to the outer ends of the shaft, substantially as set forth.

3. The combination, with the draw-head A, provided with a hook, B, of a transverse jointed shaft, D, extending through the draw-head and carrying at its ends hand-levers H, a link, C, secured at its rear end to the shaft D, a cam, E, secured to the shaft D, and a spring, G, bearing against the cam, substantially as set forth.

Witness my hand this 2d day of April, 1886.

JOHN MILLER.

Witnesses:
CARL F. GEYER,
JNO. J. BONNER.