(No Model.)

M. F. TEN EYCK.

CAR COUPLING.

No. 386,224. Patented July 17, 1888.

Fig. 1

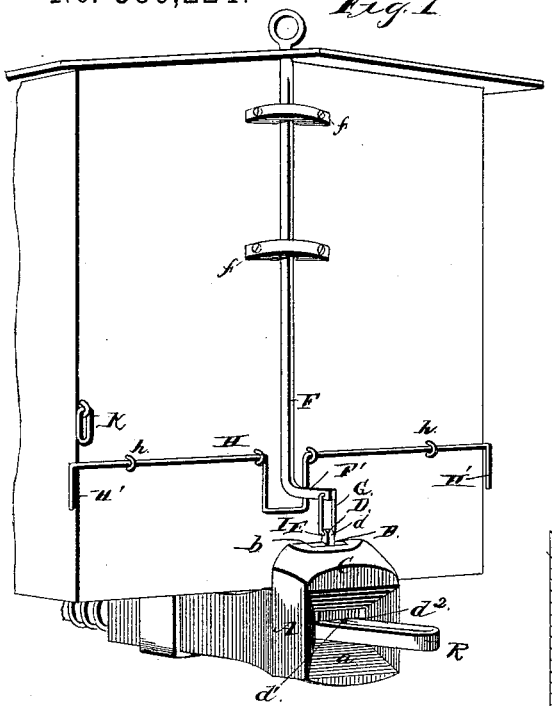


Fig. 3

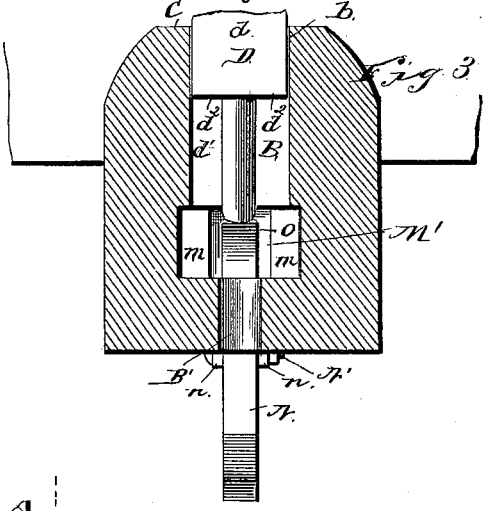


Fig. 2

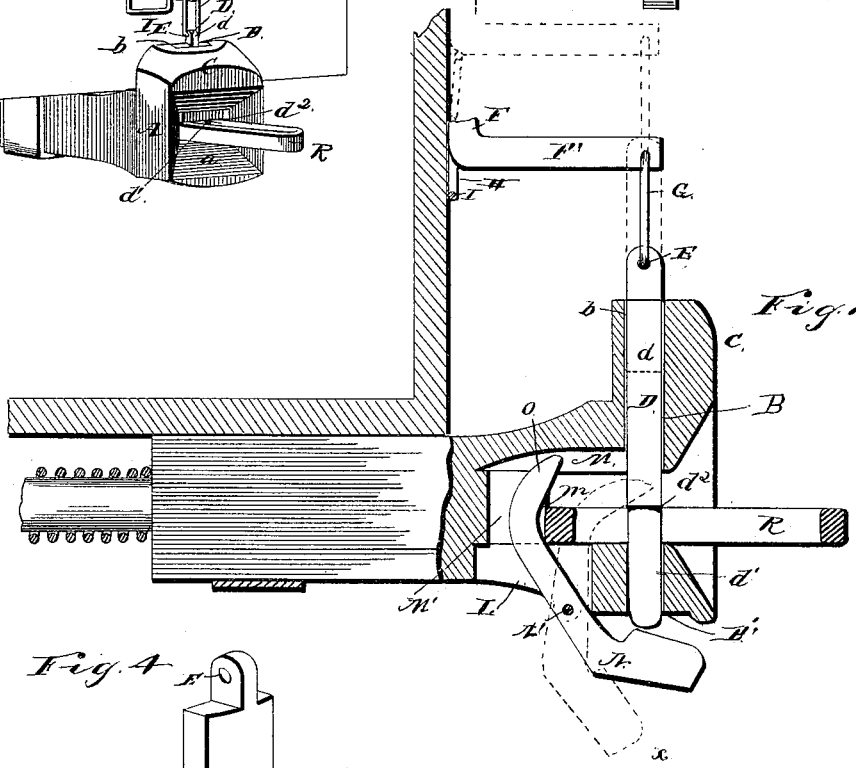
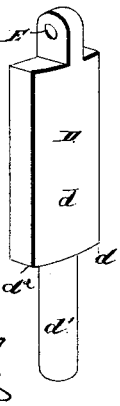


Fig. 4



Witnesses.
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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 386,224, dated July 17, 1888.

Application filed November 14, 1887. Serial No. 255,117. (No model.)

To all whom it may concern:

Be it known that I, MANING F. TEN EYCK, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention relates to improvements in car-couplings, having for its object the production of a simple, cheap, easily-operated, and reliable coupler.

The invention consists in providing a coupling-pin having a very heavy body which is reduced at the lower end to form a stem. This stem passes through the opening in the lower side of the draw-head, and the shoulders, which are formed on each side of the pin by reducing the same, as described, rest on the upper side of the coupling-link and hold it in a horizontal position to insure coupling.

The invention consists, further, in providing a lever mounted in a slot in the lower side of the draw-head, which is provided with a forwardly-extending nose to project under the lower end of the coupling-pin when the latter is raised. The lever is caused by its weight to swing forward at the upper end, and thus automatically engage the pin in the elevated position.

The invention consists, further, in providing a vertical uncoupling-bar having a forward-extending horizontal arm, to the extremity of which the upper end of the coupling-pin is connected by a link. A bar is secured or mounted transversely across the end of the car, and it is provided with a loop or arm at its center to engage under the horizontal arm of the uncoupling-bar, to enable the latter to be raised by a person at the side of the car by turning the said transverse bar.

The invention is more fully described hereinafter in connection with the drawings, wherein—

Figure 1 is a perspective view of the end of a car provided with one of my couplers. Fig. 2 is a longitudinal section. Fig. 3 is a transverse section on the line *x x*, Fig. 2. Fig. 4 is a detail perspective view of the coupling-pin.

Referring by letter to the drawings, A designates the draw-head, having the flared mouth *a*. B designates a slot in the upper side of the draw-head, and B′ designates a round opening in the lower side of the draw-head, directly under the said slot. This slot is arranged with its length across the length of the draw-head. The draw-head is provided on its upper side with a standard or guide, C, having a slot, *b*, therein aligning with the slot B.

D designates the coupling-pin, comprising the flat body *d*, adapted to fit and operate in the slot B, and the stem *d′* at the lower end of the said body to fit in the opening B′. When the coupling-pin is raised, it will be seen that the body *d* will slide in and be supported by the standard or guide C. The body *d* and the stem *d′* of the coupling-pin are preferably formed integral, and the shoulders d^2 at the lower end of the body, on opposite sides of the stem, are for a purpose hereinafter described.

E designates a ring or eye on the upper end of the body.

The uncoupling-rod F operates in guides *f f* on the end of the car, and it is provided at the lower end with a horizontal forward-extending arm, F′. The outer end of this arm is connected to the ring on the upper end of the coupling-pin by the link G.

The object in forming a flexible connection between the outer end of the arm F′ and the coupling-pin will be readily understood. As the draw-head of an opposing car comes in contact with the draw-head of this car and forces it back or under the car, there will be no strain upon the uncoupling-rod or any of the other parts of the device—that is, the draw-head is allowed longitudinal movement independent of the uncoupling-rod.

H designates a bar which is mounted in staples or eyes *h h* on the end of the car, and it is provided at the ends with arms H′ H′, to enable the same to be rotated. The center of the bar is provided with a loop or arm, I, which is adapted, when the bar is turned, to bear against the under side of the arm F′. The uncoupling-rod may thus be raised to uncouple the draw-heads by a person standing at the side of the car.

K designates a loop secured to the end of the car, which is adapted to be engaged over the end of one of the handles H′ when the uncoupling-rod has been raised and it is desired to hold it raised to prevent the coupling-pin from falling.

L represents a slot formed longitudinally in

the lower side of the draw-head in rear of the opening B′, and M represents a recess formed in the rear end of the throat of the draw-head in alignment with the said slot.

The coupling-lever N is arranged in the slot B′, and it is provided with a bearing to align with the eyes *n n*, which are disposed on the lower side of the draw-head on opposite sides of the said slot. A bolt, N′, is passed through the said aligned eyes and bearing, and provided on the end with a nut. The upper end of the lever has a forward-extending nose, O, adapted to be swung forward under the opening B in the upper side of the draw-head, and the lower end of the lever, being made heavier, normally stands with the upper end swung forward, as described. As the link R, carried by an opposing draw-head, enters the draw-head, it strikes against the upper end of the lever N and forces it rearward, thereby allowing the pin to fall through the link and engage at the lower end in the opening B′, thereby completing the coupling.

In coupling cars carelessly the link enters a draw-head with great force, and if the forward end of the same were allowed to compress the lever against the rear end of the throat of the draw-head there would be danger of crushing or breaking or otherwise damaging the said link or lever. To obviate this danger I provide a recess, M′, in the rear end of the throat to receive the said lever. This recess acts as a retreat, into which the end of the link cannot pass, as the front end thereof strikes against the shoulders *m m* on opposite sides of the recess.

When a link is held in a draw-head provided with my improvements, the stem of the coupling-pin passes down through the link and engages in the opening B′, and the shoulders d^2 at the lower end of the body of the pin bear down on the end of the link. The body of the coupling-pin is designedly made very heavy, and this weight on the rear or inner end of the link will hold the latter horizontal, to enable it to accurately enter an opposing draw-head.

The advantages of this coupler will be apparent. It is very simple in construction. The manner of uncoupling is direct, and the link-connection between the uncoupling-rod and the coupling-pin enables the draw-head to move independently when a coupling is being made, to prevent a straining or jarring of the parts. Further, the device which is employed to uphold the pin in the coupling position is efficient and renders the automatic coupling of two draw-heads certain, while all complication of construction is avoided. Further, the herein-described means for maintaining the coupling-pin in the elevated position permanently are simple and effective.

It will be understood that the object in flaring or beveling the mouth of the draw-head is to enable a coupling to be easily and certainly formed, even when the draw-heads are of different heights.

It will be also understood that I retain the right to somewhat alter the arrangement of this device to suit the different kinds of cars. It is herein described as applied to a box or baggage car; but it can be applied to any kind of car in use.

Having thus described my invention, I claim—

1. In a car-coupling, the combination of the draw-head, the vertically-movable pin engaging in openings therein, the uncoupling-rod F, mounted on the end of the car and connected to the pin, and the revoluble bar H, mounted transversely on the end of the car and connected to the uncoupling-rod, substantially as and for the purpose hereinbefore specified.

2. In a car-coupling, the combination, with the draw-head A and the pin D, engaging in vertically-aligned openings therein, of uncoupling-rod F, having the horizontal arm F′ connected at the extremity to the upper end of the coupling-pin, and the bar H, mounted in bearings on the end of the car and having the operating-arms H′ H′ on the ends, and the arm or loop I at the center to engage the arm F′ and raise the same when the bar H is turned, substantially as specified.

3. In a car-coupling, the combination, with the draw-head A and the coupling-pin D, engaging in openings therein, of the uncoupling-rod F, connected to the said pin, the transverse bar H, having the arms or handles H′ H′ on its ends, and the arm or loop I at the center, adapted to engage the uncoupling-rod when the bar is turned, and the loop K, adapted to engage one of the arms or handles H′ when the uncoupling-rod is in the raised position, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

MANING F. TEN EYCK.

Witnesses:
WESLEY BUCKLEY,
CHARLES A. BERGEN.