

(No Model.)

C. T. KINCAID.
CAR COUPLING.

No. 487,751.

Patented Dec. 13, 1892.

Fig. 1.

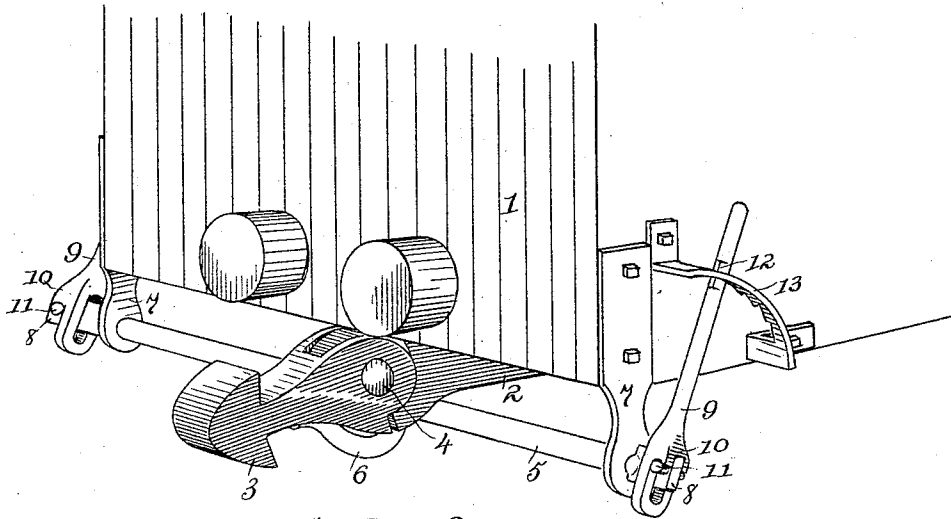


Fig. 2.

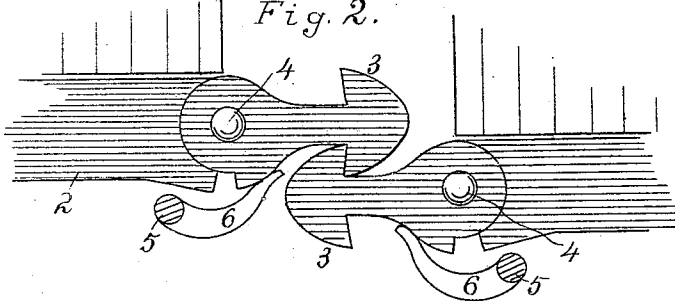
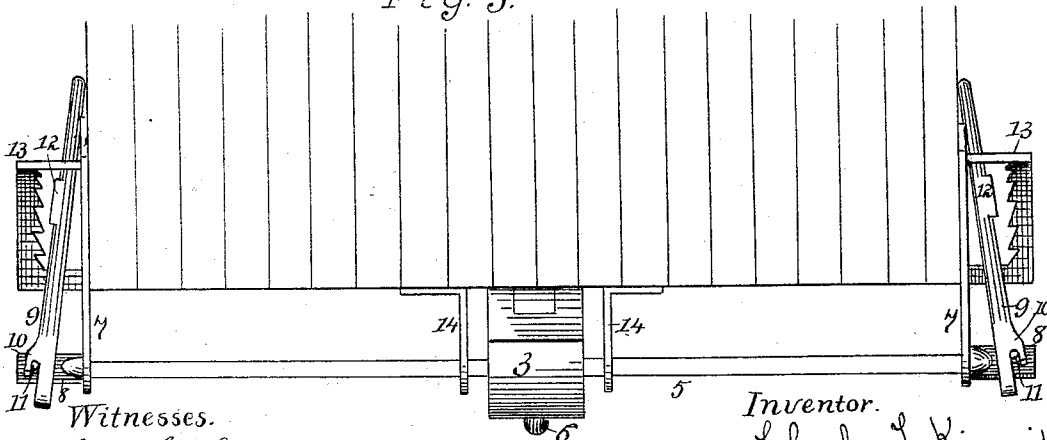


Fig. 3.



Witnesses.

Edwin Graham
William Graham

Inventor.

Charles T. Kincaid
By L. P. Graham
his attorney

UNITED STATES PATENT OFFICE.

CHARLES T. KINCAID, OF DECATUR, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 487,751, dated December 13, 1892.

Application filed March 14, 1892. Serial No. 424,936. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. KINCAID, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention is designed to provide a cheap, strong, durable, and effective means for coupling and uncoupling cars without going between the same; and it consists in the details of construction and combinations of parts hereinafter set forth and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is a perspective representation of a fragment of an end of a car, showing my invention in connection therewith. Fig. 2 shows a coupling made between two cars of different heights. Fig. 3 is an end view illustrating the operation of the levers used to elevate the coupling-bars.

The car is indicated as 1, the draw-bar is shown at 2, and at 3 is represented a coupling-bar having a head approximately arrow-shaped, such coupling being hinged to the draw-bar by a rule-joint, as seen at 4. A rock-shaft 5 extends from side to side of the car. It is supported in brackets 7, and it has at its center a curved lift-bar 6, adapted to engage the lower surface of the coupling-bar. The outer ends of the rock-shaft are rectangular in cross-section, as seen at 8, and on such outer ends are swung levers 9. Such levers are constructed with slots longer than their bearings on the shaft, so that they may swing freely in a direction lengthwise of the shaft, and they are each supported by a pin 11, located outside the centers of the levers and some distance from the sides of the car. In order to do this, the levers may be provided with lateral extensions 10, which are shaped to rest on the pins 11, or any other connection may be used that will tend to compel the levers to swing toward the sides of the car when left entirely free at their swinging ends. A curved ratchet-frame 13 is attached to each side of the car outside of and embracing the levers, as shown. Each lever is provided with a catch or pawl block 12, adapted to engage the teeth of the ratchet-frame. As shown in Fig. 3, the rock-shaft may, if necessary, have supplementary supporting-brackets 14 located near the draw-bar.

In operation the levers rest normally against the sides of the car and the coupling-bars incline downward at their forward ends as far as their hinges will permit. If the cars to be coupled are of the same height, or nearly so, the coupling-bar of one car is left in its usual or lowest position and the other is slightly raised by means of a lever at the side of the car, the action of the lever being transmitted in an obvious manner through the rock-shaft and the lift-bar to the coupling-bar. Then when the cars come together the head of one coupling rides over the head of the other coupling-bar and falls in engagement therewith, as seen in Fig. 2, the undercut bearing-surfaces of the coupling-bar heads making the connection secure. When one car is considerably higher than the other, the coupling-bar of the low car is raised by the lever and the lever is put in engagement with the ratchet-frame and made to hold the coupling-bar in its raised position. The tendency of the levers to rest against the sides of the cars and out of contact with the ratchet-frames enables the rock-shaft to be operated from either side of the car at will, the effect being as follows: The ratchet-teeth are more or less undercut, and so long as the weight of a coupling bears against a lever while the lever engages the ratchet-frame so long will the contact of the lever and ratchet-frame be maintained. If it becomes necessary to shift the coupling-bar from the opposite side of the car, the lever on that side is moved upward until it sustains the weight of the coupling-bar, when the engaged lever will be released and will at once swing against the side of the car and out of operation.

The device as a whole is strong, simple, cheap, and durable. It is easily applied and is adapted for use on cars of different heights. It also relieves the trainmen from the necessity of going between cars and gives them complete control of the couplings at all times from both sides of the train.

I claim—

1. A car-coupling consisting of a coupling-bar hinged by means of a rule-joint to the draw-bar of a car and having a head approximately arrow-shaped, a rock-shaft extending from side to side of the car and adapted to raise the swinging end of the coupling-bar,

ratchet-frames on the sides of the car, and
levers swung on the ends of the rock-shaft in
such manner that they be made to engage
the teeth of the ratchet-frames, but will swing
5 from contact with such frames when free to
move, substantially as set forth.

2. In car-couplings, the combination, with
the car and the draw-bar thereof, of coupling-
bar 3, hinged to the draw-bar, the rock-shaft
10 5, having the lift-bar 6, levers 9, swung at
their outer sides on the ends of the rock-shaft

some distance from the sides of the car, and
the ratchet-frames 13, into engagement with
which the levers may be forced and from
which the said levers tend normally to swing, 15
substantially as set forth.

In testimony whereof I sign my name in the
presence of two subscribing witnesses.

CHARLES T. KINCAID.

Attest:

ROBERT F. KINCAID,
C. W. MONTGOMERY.