

(No Model.)

O. C. BILLMAN.  
CAR COUPLING.

No. 513,868.

Patented Jan. 30, 1894.

FIG. 1.

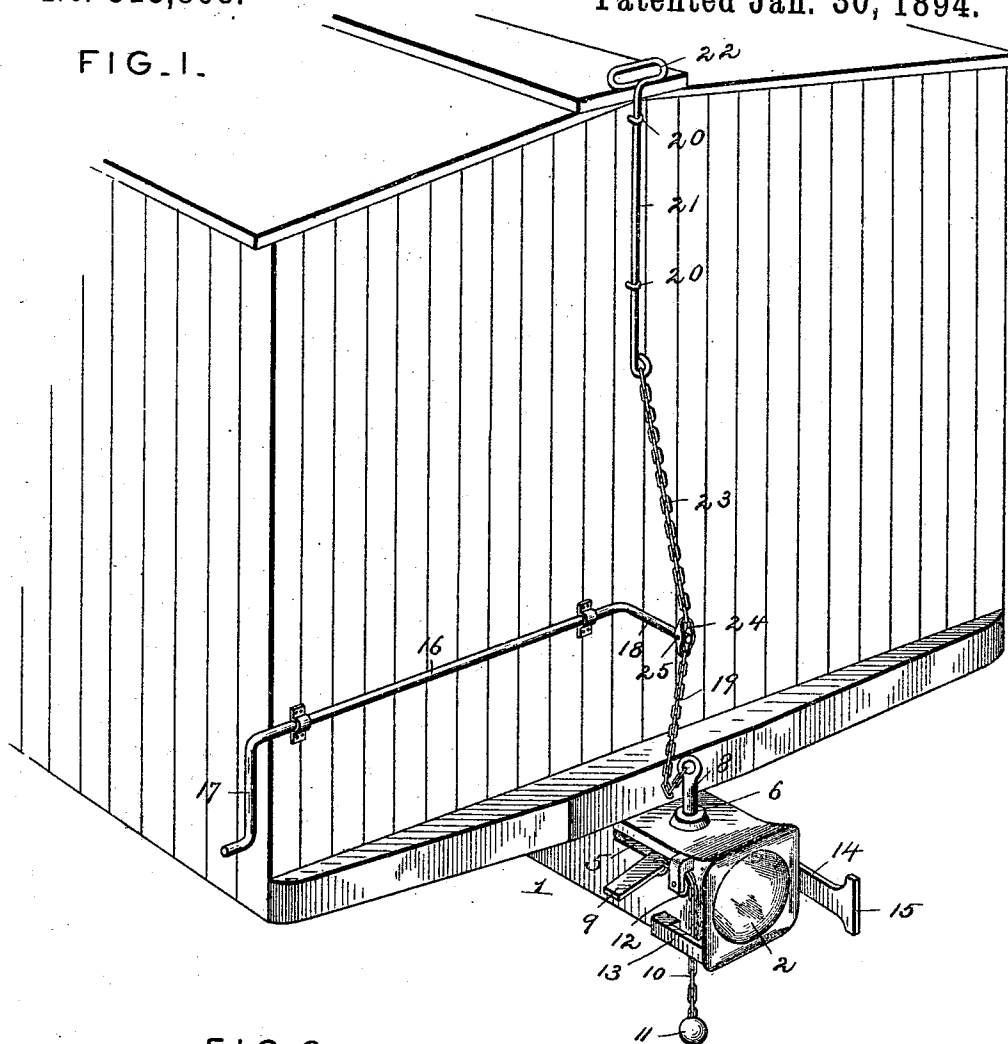


FIG. 2.

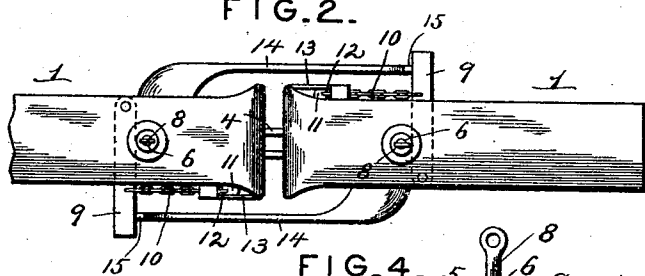


FIG. 3.

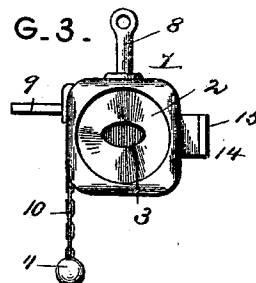
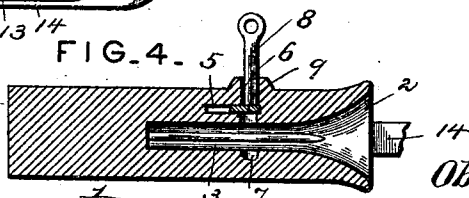


FIG. 4.



Witnesses

Harry L. Amer.

*[Signature]*

By his Attorneys.

Obed C. Billman.

*[Signature]*

# UNITED STATES PATENT OFFICE.

OBED C. BILLMAN, OF SMITHVILLE, OHIO.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 513,868, dated January 30, 1894.

Application filed November 7, 1893. Serial No. 490,261. (No model.)

*To all whom it may concern:*

Be it known that I, OBED C. BILLMAN, a citizen of the United States, residing at Smithville, in the county of Wayne and State of Ohio, have invented a new and useful Car-Coupling, of which the following is a specification.

My invention relates to an improvement in car-couplings, and it has for its object to provide a simple, inexpensive and efficient coupling device which may be operated automatically to connect the draw-heads of two adjoining cars and in which the coupling-pins are locked automatically in their elevated positions when operated by the uncoupling mechanism.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings: Figure 1 is a perspective view of a coupling device embodying my invention, applied in the operative position to a box car. Fig. 2 is a plan view of two connected couplers. Fig. 3 is a front view of the draw-head forming a part of the improved coupler. Fig. 4 is a longitudinal section of the same.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the draw-head having a conical or bell mouth 2 and a throat 3, which is slightly flattened horizontally in order to form a seat for the coupling-link 4 and hold the latter in a horizontal position when about to enter the draw-head of an approaching car.

5 represents a slot, which is formed horizontally in the draw-head above the plane of the throat, and therefore out of communication therewith; and 6 represents the pin-opening or guide which penetrates the upper side of the draw-head and intersects the horizontal slot 5. Opposite this pin-opening, and formed in the floor of the throat, is a seat 7, to receive the lower end of the coupling-pin 8.

Arranged in the horizontal opening 5, and pivoted at one end to the draw-head, is a pin-support 9, which is adapted to occupy a position opposite the pin-opening 6, in order to support said pin in its elevated position.

Connected to the laterally-projecting end

of this pin-support, by means of a flexible chain 10, is a weight 11, whereby said pin-support is normally held in position to support the pin and is automatically operated to move into the path of the pin when the latter is elevated by the uncoupling mechanism hereinafter described. Said chain passes over a direction pulley 12, which is arranged upon the side of the draw-head and through a guide 13 which is arranged near the lower side of the draw-head.

Rigidly secured to or integral with the draw-head, upon the opposite side thereof from the free end of the pin-support, is a horizontal trip-arm 14, having an enlarged front end or head 15, which is arranged in advance of the front end of the draw-head a sufficient distance to engage the pin-support of an approaching draw-head to repress the same and release the coupling-pin to enable the latter to engage the link. In Fig. 2 I have shown the parts in their engaged positions.

16 represents a rock-shaft, which is journaled upon the end of the car and is provided, at one end adjacent to the side of the car, with an operating handle 17, and at the other end opposite the center of the car with a forwardly-projecting supporting-arm 18, which terminates directly above the coupling-pin and is connected thereto by means of a chain 19.

Slidably fitted in suitable guides 20, near the top of the car, is an uncoupling-bar 21, provided at its upper end with a suitable handle 22, and connected at its lower end with the free end of the supporting arm 18, by means of a chain 23. The form of connection which I prefer to employ between the free end of the supporting arm and the flexible connections 19 and 23 is constructed as follows: 24 represents an elongated link, to which the contiguous ends of the chains 19 and 23 are secured, and the extremity of the supporting arm extends between the sides of said elongated link and is pivotally connected thereto by means of a transverse pivot-pin 25. From the above description it will be understood that the coupling-pin may be elevated to uncouple two connected cars by operating the handle 17 at the side of the car or the slide-bar 21 at the top of the car; and that in either case the movement of the supporting

arm 18 will elevate the pin vertically and thus prevent binding in the pin-opening. When the free end of the coupling-pin rises above the plane of the pin-support, the latter is drawn forward by means of the weight, and the pin is held in its elevated position until the support is repressed by the contact therewith of the trip-arm of an opposite draw-head. The enlarged head at the extremity of the trip-arm enables said arm to engage the pin-support when there is a difference of height between the connecting draw-heads.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a car-coupling device, the combination of a draw-head provided with a horizontal opening above the plane of the throat thereof and having a pin-opening which intersects said horizontal opening, a coupling-pin fitting in said pin-opening, a pin-support pivotally mounted in the horizontal opening and adapted to assume a position in the path of the coupling-pin, an actuating weight connected to the free end of the pin-support to normally

hold the same in the path of the coupling-pin, a trip-arm carried by the draw-head and projecting in front of the same, and uncoupling devices connected to the pin, substantially as specified.

2. In a car-coupling device, the combination of a draw-head provided with a horizontal opening above the plane of the throat thereof and having a pin-opening, which intersects said horizontal opening a pin-support pivotally arranged in the horizontal opening and adapted to assume a position in the path of the coupling-pin, means connected to the pin-support to maintain the same normally in the path of the coupling-pin, a trip-arm carried by the draw-head, extending in front of the same and provided at its extremity with an enlarged head, and uncoupling devices including a supporting arm which terminates above the coupling-pin, and a flexible connection between the coupling-pin and said supporting-arm, substantially as specified.

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

OBED C. BILLMAN.

Witnesses:

CHARLES M. YOCUM,  
FRANK TAGGART.