W. E. COFFIN.

OPERATING MECHANISM FOR CAR COUPLINGS.

APPLICATION FILED APR. 6, 1910.

1,067,584.

Patented July 15, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

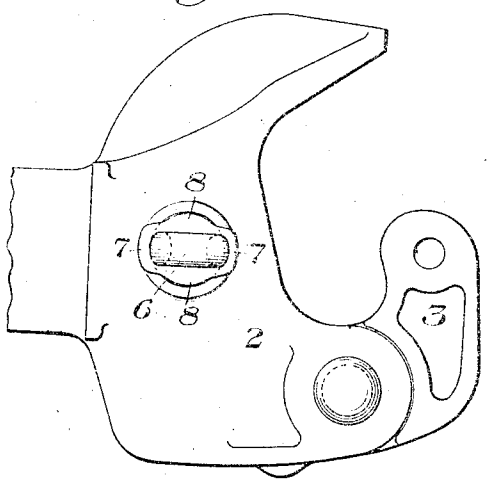


Fig. 2.

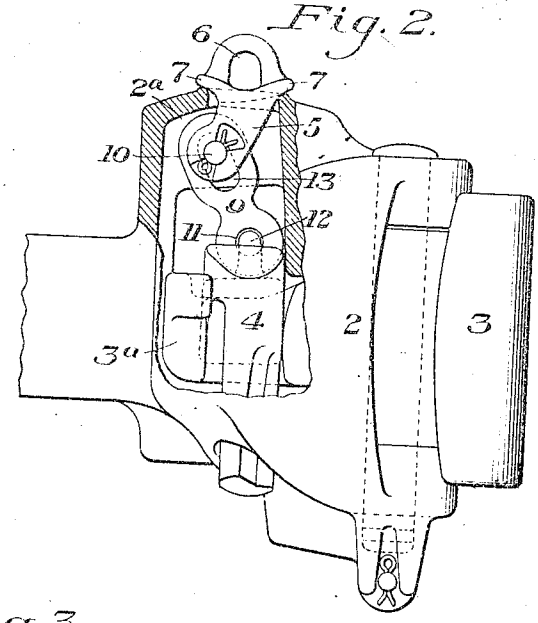
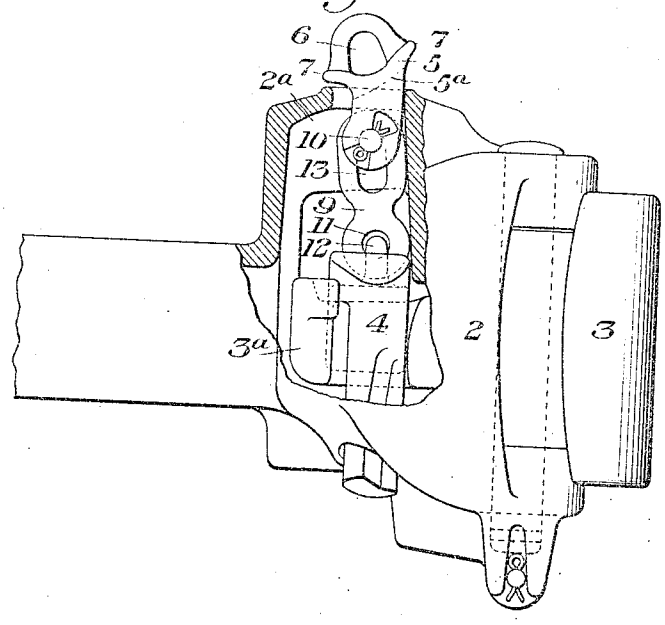


Fig. 3.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 4.

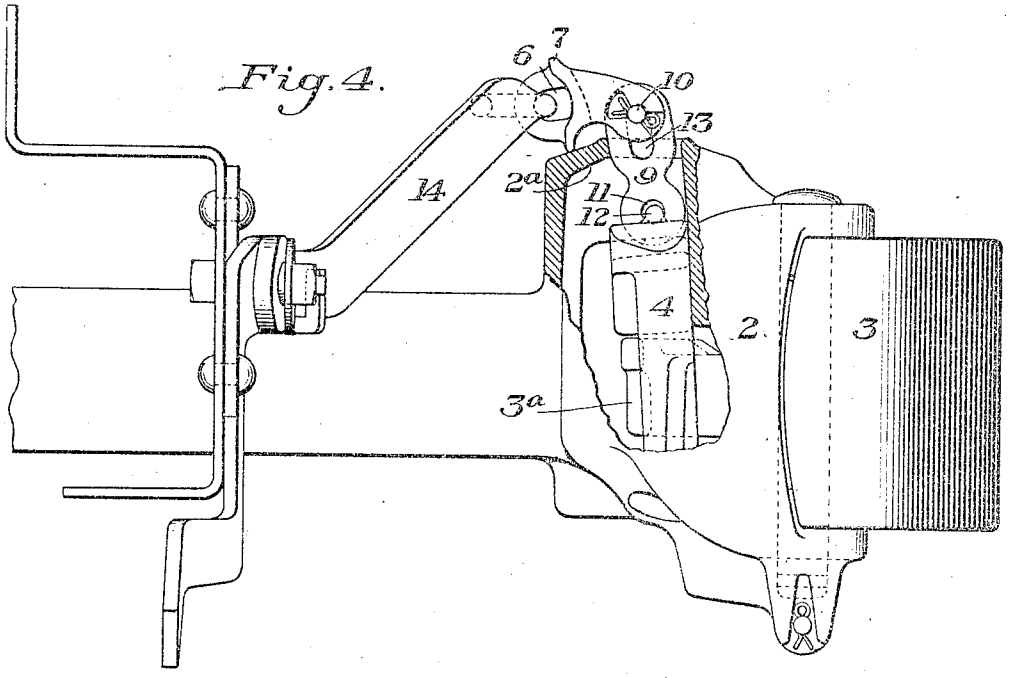


Fig. 7.

Fig. 8.

Fig. 5.

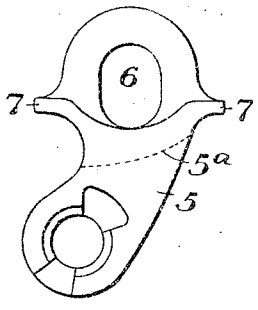
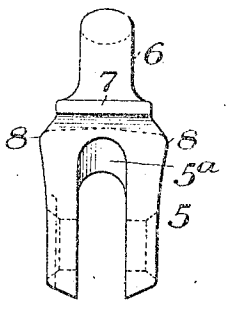
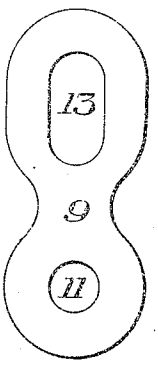
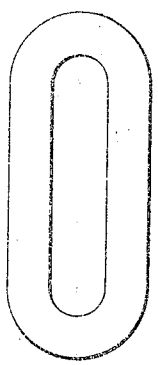


Fig. 6.







WITNESSES

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UNITED STATES PATENT OFFICE.

WALTER E. COFFIN, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

OPERATING MECHANISM FOR CAR-COUPLINGS.

1,067,584. Specification of Letters Patent. Patented July 15, 1913.

Application filed April 4, 1910. Serial No. 553,306.

To all whom it may concern:

Be it known that I, WALTER E. COFFIN, a citizen of the United States, and a resident of Cleveland, Cuyahoga county, State of Ohio, have invented a new and useful Improvement in Operating Mechanism for Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of a coupler having my invention applied thereto; Fig. 2 is a side view partly in section and showing the parts in the locked position; Fig. 3 is a view similar to Fig. 2, but showing the release to the lock; Fig. 4 is also a similar view, but showing the parts in the positions they assume in making an emergency uncoupling, an uncoupling lever being also shown; Figs. 5 and 6 are detail views of the clevis; Fig. 7 is a detail view of the preferred form of link; and Fig. 8 is a similar view of an ordinary form of link which may be substituted for the form shown in Fig. 7.

My invention has relation to operating mechanism for car couplers, and more particularly to mechanism of the top-operating type.

It is more particularly designed to improve the form of the link and clevis employed for lifting or releasing the locking member of the coupling.

My invention provides a simple and efficient link and clevis connection of such character that in case of a broken link, the link can be replaced by any blacksmith.

It also provides a form of clevis which, in the normal locking position thereof, closes the opening in the top of the coupler head and prevents the entrance of moisture, dirt, etc.

My invention further provides a link and clevis of this character which does not require a vertical pull in order to release the lock, and thus readily unlocks the coupler automatically in case of the breakage of the coupler or its attachments.

Referring to the drawings, the numeral 2 designates the coupler head having the pivoted knuckle 3.

4 designates the locking member for the knuckle which may be of any well known or desired type, and which is mounted for vertical movement into and out of locking engagement with the tail 3^a of the knuckle 3.

5 designates my improved clevis or upper link which is formed with an eye 6 at its upper end, and which has at its middle portion the forwardly and rearwardly projecting lips 7 and the lateral swells or flanges 8. The lips 7 and the flanges 8 are so shaped that in the normal position of the clevis, as shown in Figs. 1 and 2, they will completely cover the hole in the top of the coupler, through which the clevis extends, and thus exclude moisture, dirt, etc., which will interfere with the operation of the coupler. The lower portion of the clevis is bifurcated in the usual manner, and the arms of the bifurcated portion are extended in a rearward direction, so that when connected to the link 9 in a suitable manner, as by means of the pin and cotter 10, the link will be compelled to fall rearwardly under the rear portion 2^a of the top wall of the coupler immediately behind the hole therein, as shown in Fig. 2. This forms a very efficient lock to the coupler lock, preventing the latter from jumping or creeping to release the knuckle.

The link 9 is preferably of the form shown in detail in Fig. 7, being what is known as a "waist" link. This link is provided with a small eye 11 at its lower end, which engages the eye 12 on the locking member 4, and is provided at its upper end with an elongated but relatively short slot 13. This link has certain advantages over the plain link, inasmuch as its shortened upper slot 13 prevents the pin 10 from sliding too far downwardly within the link, and thus avoids the possibility of the link being jammed between the pin of the clevis and the top wall 5^a of the slot of the clevis. Such jamming becomes an impossibility, in fact, with this form of link. The slot 13, although considerably shorter than the slot of a plain link, is elongated somewhat beyond a mere round hole, in order that the advantage of the plain link may still be retained, namely, the advantage of a certain vertical flexibility in the connection between the link and the clevis, so that the latter may settle itself down into a normal position resting on the top hole of the coupler, while the pin 10 slides downwardly within the elongated slot of the link and guides the latter rearwardly,

as before described. If this hole in the upper portion of the link were not elongated, it is obvious that there would be but one correct length of link, which would permit the clevis to settle into its normal position, and with this length of link, it could not be caused to tip rearwardly and thus act as a lock to the lock. This waist link is connected to the lock simply by a round hole, instead of by an elongated slot, as it would be in a plain link. This prevents the link from becoming caught or jammed between the eye of the lock and the lock itself, just as the shortened upper slot 13 is of advantage in preventing the link from becoming jammed between the pin and the clevis. A plain link, however, such as shown in Fig. 8 may be used. It might be desirable to use a plain link in case of breakage of the original link since a plain link can readily be furnished by any blacksmith.

When an upward pull is given to the clevis, the first effect is to raise the link into a vertical position, as shown in Fig. 3, which permits it to clear the upper wall 2^a of the coupler head, and to pass upwardly through the top hole and thereby release the lock. A further pull on the clevis raises the lock and operates the coupler in the usual manner.

The clevis or upper link is so arranged that it does not require a vertical pull in order to release the link from engagement with the wall 2^a. Thus, in Fig. 4, in which I have shown the position of the clevis where an emergency uncoupling is taking place, such as would occur by means of the lever 14, if the attachment of the coupler were broken and the latter were in danger of being pulled out of the car entirely. It will be noted that the rear lip 7 of the clevis fulcrums on the top of the coupler head and the clevis acts as a sort of prying lever, which lifts upwardly upon the link and raises the lock. This is a feature of some importance, since it insures the lock being automatically released in case of an emergency of this kind.

I claim:

1. In a car coupler, a head having a top hole, a vertically movable lock, a link pivotally connected to the lock and extending upwardly therefrom, another link having a pin and slot connection with the first named link, and extending upwardly through the hole in the head, and an enlargement of the last named link to close said hole, and adapted to act as a fulcrum to lift the first named link when the second named link is moved rearwardly.

2. In a car coupler, a coupler head having a top hole, a vertically movable lock, a link pivoted to the lock and free to tip rearwardly into locking engagement with the head, and a second link having a pin and slot engagement with the first named link, and extending upwardly through said top hole, said second link having a curved rear edge to fulcrum against the rim of the hole, an intermediate enlargement on said second link to close the hole, and adapted to fulcrum on the top surface of the head in the rear of the hole when said link is drawn rearwardly.

In testimony whereof, I have hereunto set my hand.

WALTER E. COFFIN.

Witnesses:
CHESTER K. BROOKS,
HARRY E. ORR.