

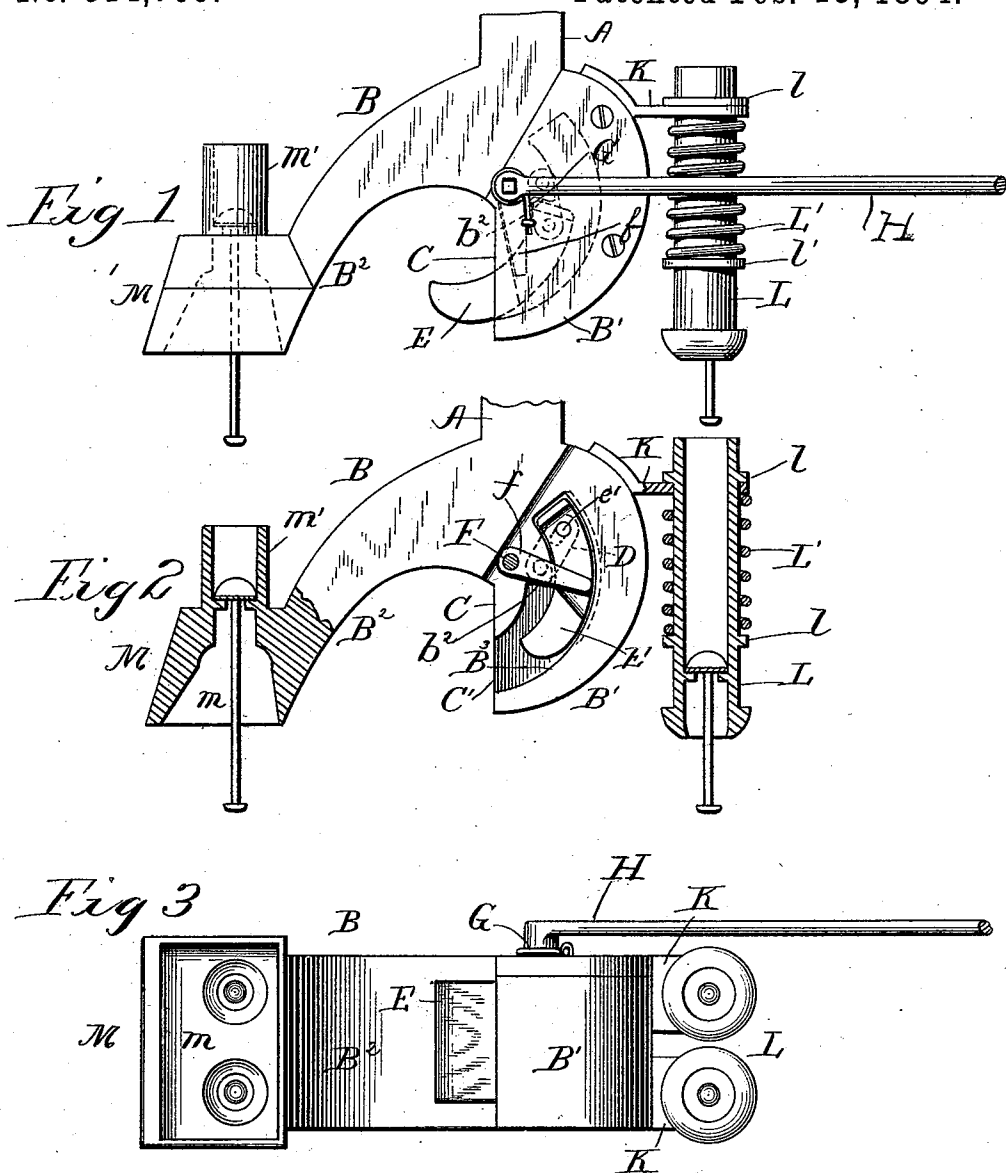
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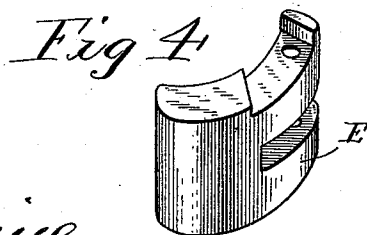
G. R. J. NEWMAN.
COMBINED CAR AND AIR BRAKE COUPLING.

No. 514,769.

Patented Feb. 13, 1894.



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Attorneys

(No Model.)

2 Sheets—Sheet 2.

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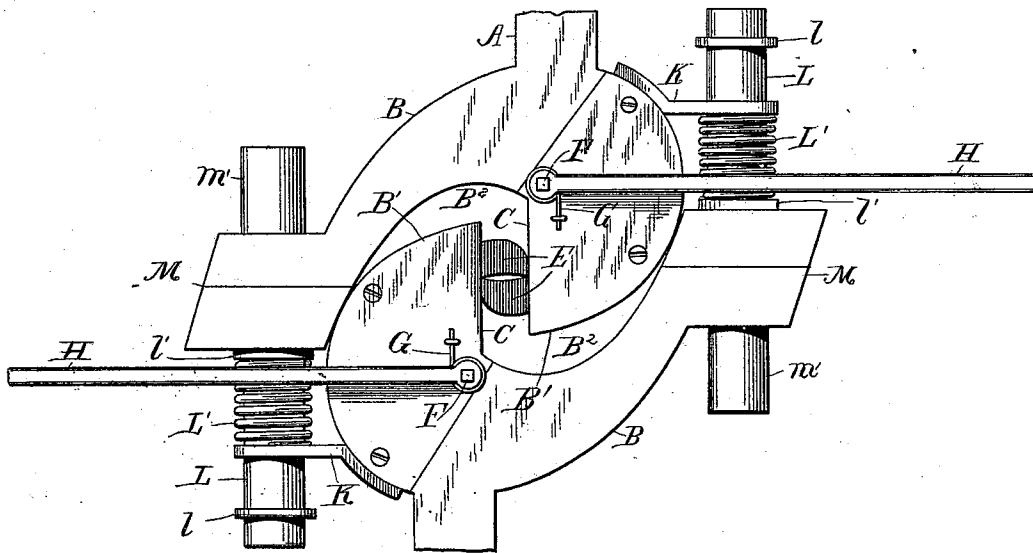


Fig. 5.

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UNITED STATES PATENT OFFICE.

GEORGE R. J. NEWMAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

COMBINED CAR AND AIR-BRAKE COUPLING.

SPECIFICATION forming part of Letters Patent No. 514,769, dated February 13, 1894.

Application filed August 9, 1893. Serial No. 482,737. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. J. NEWMAN, a citizen of the United States, residing at Washington, in the District of Columbia, have
5 invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the same.

This invention relates to an improvement in car couplers and consists in the construction and arrangement of parts hereinafter described and definitely pointed out in the
15 claims.

The aim and purpose of the invention is the provision of an improved automatic car coupler having provisions for uncoupling extending to the side of the car and further in
20 providing an automating coupler with improved means for automatically coupling train pipe hose. These objects are attained by the construction shown in the accompanying drawings wherein like letters of reference indicate corresponding parts in the several
25 views and in which—

Figure 1 is a top plan view of the drawhead. Fig. 2 is a similar view showing the upper walls removed. Fig. 3 is a side elevation and
30 Fig. 4 is a detail view of the coupling hook. Fig. 5 is a top plan view of two coupling heads shown in a coupled position with the hooks in a locked position.

In the drawings A represents the drawbar and B the drawhead, formed of two rigid jaws B' B² the former having a curved chamber B³ therein, and the latter is formed solid throughout. The chamber in the jaw B' is formed with a curved outer wall having a common
40 center whereby a perfect segment is formed. A longitudinal groove *b* is formed centrally in the rear portion of the outer wall, for purposes hereinafter stated. The inner wall of the chamber B' at the rear is curved parallel
45 with the outer wall and terminates in a shoulder b², which shoulder terminates in the curved sides B³. The jaw B' has a straight inner face C which has the opening C' at its outer end forming the mouth for the chamber. The in-
50 ner wall of the chamber is grooved longitudinally and has pivotally secured therein a link

D formed with an elongated slot at its outer end, the length of the link being such that its end passes in the groove *b* of the outer wall.

E represents the coupling hook which is
55 formed of a curved metal plate of the requisite strength, the curvature of which corresponds with the curvature of the outer wall of the chamber. The coupling hook is of a
60 length sufficient to pass entirely into the chamber, and has a central longitudinal groove formed therein in which the link D loosely fits and is secured by a pivot pin *e'*. By this construction it will be seen that when
65 the coupling hook is extended and pressure is brought to bear on the inner face of the protruding end, the rear end thereof will be brought in direct contact with the shoulder
70 b² and thereby held against rearward movement while the cars are coupled.

To normally retain the coupling hook in its protruding position a shaft F, is passed through the casing and carries on its under side a trigger *f* which fits in a recess in the
75 upper edge of the inner wall of the chamber and projects into a groove in the upper edge of the coupling hook. On the outer portion of the shaft is secured a spiral spring G, the tendency of which is such as to throw the
80 trigger onto the front wall of the groove in the top of the coupling hook and thereby force the end of the hook out into position for coupling.

H is a lever arm extending out from the top
85 of the shaft to a position where it may be readily reached. By forcing the end of the lever back the shaft is turned carrying the trigger into engagement with the rear wall of the groove in the coupling hook, thereby
90 drawing the hook back and uncoupling the cars.

To enable the cars to be coupled automatically the forward outer face of the coupling hook is beveled or inclined so that as the ad-
95 jacent hook engages therewith it will force the same back, the spring immediately returning the hook to its normal position and effecting the coupling, all of which is automatic.

On the side of the jaw B' is a bracket K rigidly secured and formed with flat rear and
100

front faces and with circular apertures in its outer end through which pass tubular hose coupling members L. The members L are formed with flat shoulders *l* closely fitting against the rear face of the bracket.

At or near the forward end of the coupling members are collars *l'* and between these collars and the bracket are sleeved spiral springs *L'* which normally hold the collars *l'* in close contact with the bracket thereby retaining the coupling members in a yielding horizontal position. The coupling members have ball-heads in which suitable flap-valves are secured which valves carry outwardly projecting stems adapted to be engaged by similar stems on the valves of the adjacent car so that the valves may be forcibly opened against the pressure.

On the jaw *B*² is secured a casing *M* having socketed seats *m*, a chambered front and tubular extensions *m'* to which extensions the hose are secured. At or near the sockets are pivoted suitable flap valves having stems adapted to engage the stems on the coupling members of the adjacent car.

In operation the coupling hooks striking each other as the cars approach force out the inner ends of the hooks from the shoulder against which they are normally held and permit the hook to pass entirely into the chamber, the spring returning the same, as above stated. At the same time that the coupling is being made the heads of the coupling members *L* enter the chamber and casing *M* and engage in the sockets *m*, the springs on the coupling members being compressed and, while the cars are coupled, form a constant pressure to closely seat the balls in the sockets, thus making a secure hose coupling.

It is evident that many minor changes in the construction and arrangement of the parts of the device can be made and substituted for those herein described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car coupler, the combination with a drawhead, having a chambered jaw, the chamber of which is formed with a curved outer wall, and a shoulder on the inner wall, a

curved coupling hook having a link connecting with the drawhead and fitted in the chamber its outer end being formed with a curved outer face, and a spring for normally holding the hook out, substantially as described.

2. In a car coupler, the combination with a drawhead, of a chambered jaw thereon having a segmental outer wall, of a curved coupling hook working in the chamber and of a curvature substantially that of the outer wall, a shoulder on the inner wall of the chamber, a link connection between the drawhead and coupling hook, a spring actuated trigger engaging the hook and normally forcing the same out and a lever for moving the trigger against the tension of the spring, substantially as described.

3. In a car coupler, the combination with a solid jaw, of a chambered jaw, the chamber of which is formed in the arc of a circle, a shoulder formed on the inner wall of the chamber, a link pivoted in said inner wall and having an elongated slot at its outer end, a curved coupling hook having a curvature corresponding to that of the chamber, and a recess in which the link rests, a pivot pin in the hook passing through the slot in the link, means for normally forcing the hook out, and a lever for uncoupling the hook, substantially as described.

4. In a car coupler, the combination with a drawhead, of a bracket on the head having openings therein, hose couplers formed with ball-heads, having valves therein, collars on the rear of the couplers, projections at or near the heads springs sleeved on the couplers between the projections and brackets, and a socket member on the opposite side of the drawhead having valves therein, substantially as described.

5. In a car coupler the combination with a drawhead, a coupling member secured on one side thereof, a casing on the opposite side of the drawhead having a chambered forward face, tubular extension on the casing, socketed heads for said extension, and valves in the heads, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE R. J. NEWMAN.

Witnesses:

ALEX. S. STEUART,
J. M. FOWLER, Jr.