W. F. RICHARDS.

CAR COUPLING.

APPLICATION FILED MAY 12, 1911.

1,041,348.

Patented Oct. 15, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

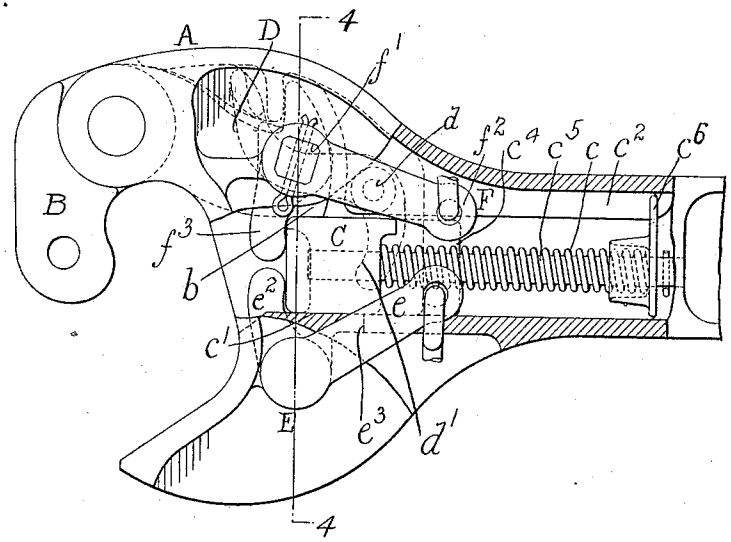
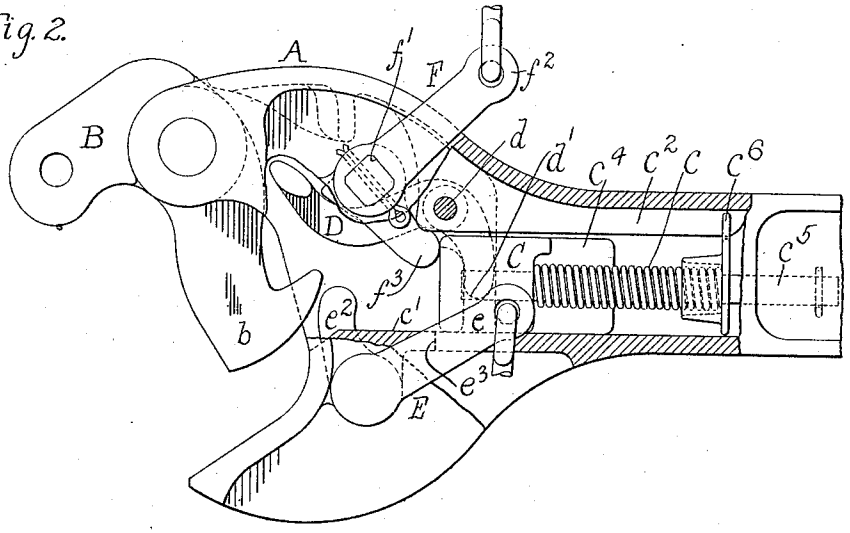


Fig. 2.



Witnesses.

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2 SHEETS—SHEET 2.

Fig. 3.

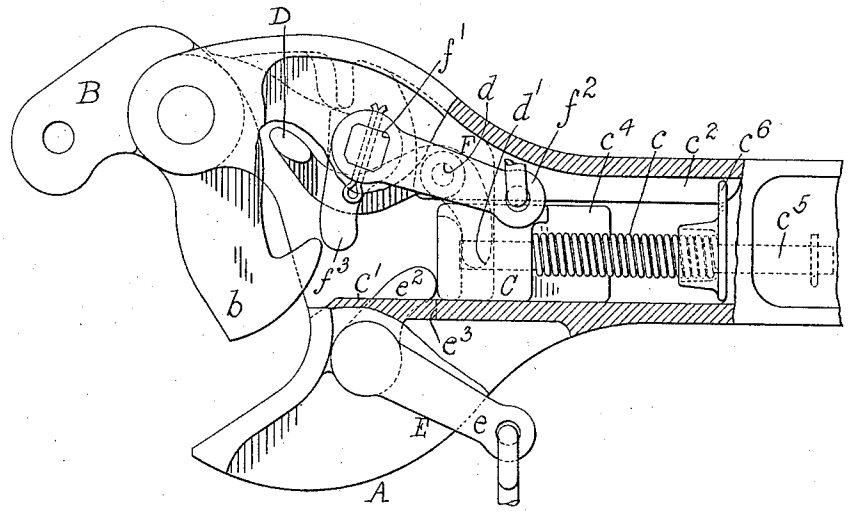
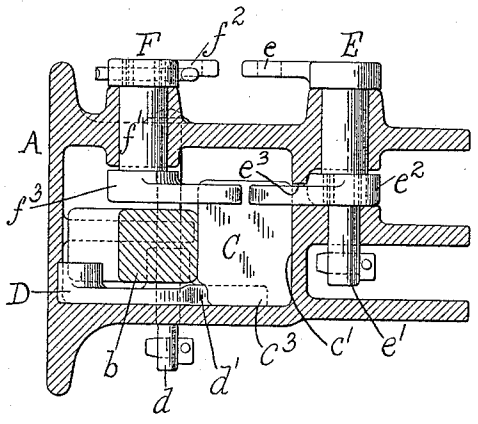


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF DEPEW, NEW YORK, ASSIGNOR TO GOULD COUPLER COMPANY, OF NEW YORK, N. Y.

CAR-COUPLING.

1,041,348. Specification of Letters Patent. Patented Oct. 15, 1912.

Application filed May 12, 1911. Serial No. 626,726.

To all whom it may concern:

Be it known that I, WILLARD F. RICHARDS, a citizen of the United States, residing at Depew, in the county of Erie and State of New York, have invented a new and useful Improvement in Car-Couplers, of which the following is a specification.

This invention relates more particularly to improvements in that type of M. C. B. car couplers which are used on passenger cars and have a lock for the knuckle which slides longitudinally in the coupler head into and out of locking engagement with the tail of the knuckle.

The object of the invention is to provide a coupler of this sort with efficient and desirable means by which the knuckle can be unlocked and thrown open from either side of the car, so that it is not necessary for the brakeman to pass between the cars to operate the coupler; and to accomplish this result with the minimum change in the construction of the coupler, and by a construction which is inexpensive, strong and durable.

In the accompanying drawings consisting of two sheets: Figure 1 is a fragmentary plan view of a coupler embodying the invention with a portion of the upper wall removed. Figs. 2 and 3 are similar views showing the parts in different positions. Fig. 4 is a transverse sectional elevation thereof on line 4—4 Fig. 1.

Like reference characters refer to like parts in the several figures.

A represents the coupler head. B the knuckle which is suitably pivoted at one side in the coupler head to swing horizontally and is provided with the usual tail *b* adapted to be engaged by the lock C for locking the knuckle in its closed position.

The lock C is arranged to slide horizontally forwardly and rearwardly in the bottom of the coupler head into and out of locking engagement with the tail of the knuckle and is pushed forwardly into position to engage with the tail of the knuckle by a coil spring *c*. The lock is guided between the side wall *c'* of the head and a longitudinal guide projection or rib c^2 on the opposite side wall of the coupler head and shank. A rib or projection c^3 extending downwardly from the bottom of the lock bears on the bottom wall of the coupler head and a rearward extension c^4 of the lock rests on the bottom of the shank of the coupler which is raised slightly above the bottom of the coupler head. The lock has a stem c^5 which projects rearwardly through a hole in a guide or bearing plate c^6 located in the shank of the coupler, and the spring *c* surrounds the stem c^5 and bears at its inner end against the plate c^6. In closing the knuckle its tail engages the outer end of the lock and forces it inwardly against the action of the spring *c* until the knuckle reaches its closed position, when the lock will be forced outwardly by the spring between the side wall *c'* of the head and the tail of the knuckle, as shown in Fig. 1.

D represents a kicker lever or knuckle opener which is preferably pivoted between the bottom wall of the coupler head and the projection or rib c^2 by means of a pin *d* secured in the coupler head. The kicker lever or knuckle opener has an arm which extends forwardly in the coupler head at one side thereof in a position to bear against the tail of the knuckle, and another arm *d'* which extends laterally underneath the knuckle lock in rear of the rib or projection c^3 thereof. When the lock is moved rearwardly, as shown in Figs. 2 and 3, the rib c^3 of the lock engages the lateral arm *d'* of the kicker lever and turns the lever D on its axis to throw the knuckle open.

The general arrangement and operation of the coupler as thus far described is not new. While the parts are preferably constructed as described, they could be of other constructions adapted to operate in a similar manner.

E and F represent oppositely disposed operating levers for moving the lock rearwardly to release the knuckle and thereby also operating the kicker lever to throw open the knuckle. The lever E is suitably pivoted outside of the coupler head adjacent to the vertical wall *c'* thereof to swing horizontally and preferably it is pivoted in two of the usual exterior strengthening ribs of the coupler head and consists of two parts, one comprising an upper horizontal arm *e* which projects above the upper wall of the coupler head and is formed integral with a pivot pin or shaft *e'*, and the other comprising a lower arm e^2 which is suitably secured on the pin or shaft *e'*. The lower arm e^2 extends through a hole e^3 in the side wall *c'* of the coupler head and is adapted

to engage the outer or front end face of the lock C and to shove the lock rearwardly to disengage it from the tail of the knuckle. This lever may be of any other suitable construction, if desired. The other lever F is pivoted at the opposite side of the knuckle lock in a bearing boss formed in the upper wall of the head and terminates at its lower end above the planes of movement of the knuckle tail and the knuckle opener. This lever is also preferably made in two parts, the pivot pin f' thereof being formed integral with the lever arm, while the upper arm f^2 is provided with a square hole in which the square upper end of the pin is secured. The lower arm f^3 of this lever is located just below the upper wall of the coupler head above the knuckle tail and engages the outer end face of the knuckle lock C. This lever, like the other lever E, operates to move the lock out of engagement with the knuckle, but it is swung for this purpose in the opposite direction. The upper arms of both levers are provided at their ends with suitable means for the attachment of operating rods or connections which extend to opposite sides of the car, so that the knuckle can be unlocked and thrown open with equal facility from either side of the car.

The coupler described possesses all the advantages of couplers of this type and also has the further advantage that it can be operated from either side of the car, thereby rendering it unnecessary for the brakeman to cross between the cars to reach the operating device which he is frequently required to do in the case of couplers having an operating device at one side only of the car. Couplers for freight cars in which the lock can be operated by means located above the coupler, are commonly arranged to be unlocked and opened from both sides of the car, but passenger couplers cannot be operated by an overhead device, since they are located immediately below the car platform.

The construction described provides a convenient and desirable means by which a passenger car coupler can be readily and easily operated from both sides of the car and the construction is such as not to materially add to the complication or cost of manufacture of the coupler. Furthermore, but a very slight change in the construction of couplers of this type is required to provide them with the double operating means.

I claim as my invention—

1. In a car coupler, the combination with a horizontally swinging knuckle provided with a tail and a longitudinally movable knuckle lock, of a pair of oppositely disposed horizontally swinging levers for actuating said knuckle lock, one of said levers being pivoted outside of the coupler head and having an arm extending into said head to actuate said knuckle lock and the other lever being pivoted in the top of the coupler head at the side thereof at which the knuckle is pivoted, and having an arm located in the head above the knuckle tail for engaging the lock, said levers being adapted to be swung in opposite directions from opposite sides of the coupler to unlock the knuckle, substantially as set forth.

2. In a car coupler, the combination with a horizontally swinging knuckle provided with a tail, a knuckle lock arranged to move longitudinally in the rear central portion of the coupler head, and a knuckle opening device actuated by the lock and located in the head at that side thereof to which the knuckle is pivoted, of a pair of oppositely disposed levers for operating said lock, said levers being pivoted on the coupler head at opposite sides of said lock to swing horizontally and having inwardly extending actuating arms for the lock, one of said levers being located above the path of movement of the knuckle tail and knuckle opening device, substantially as set forth.

Witness my hand this 9th day of May, 1911.

WILLARD F. RICHARDS.

Witnesses:
F. E. Prochnow,
A. L. McGee.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."