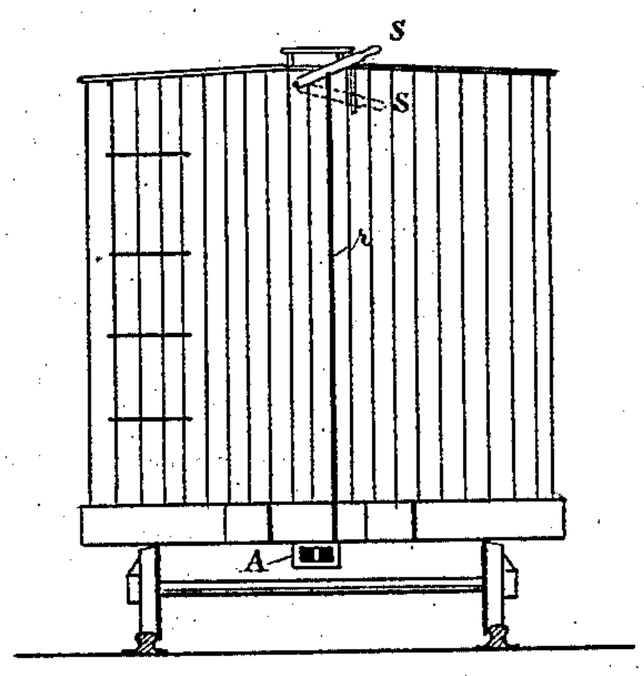
(No Model.)

# E. F. WALKER.

## CAR COUPLING.

No. 287,070. Patented Oct. 23, 1883.

*Fig. 1.*



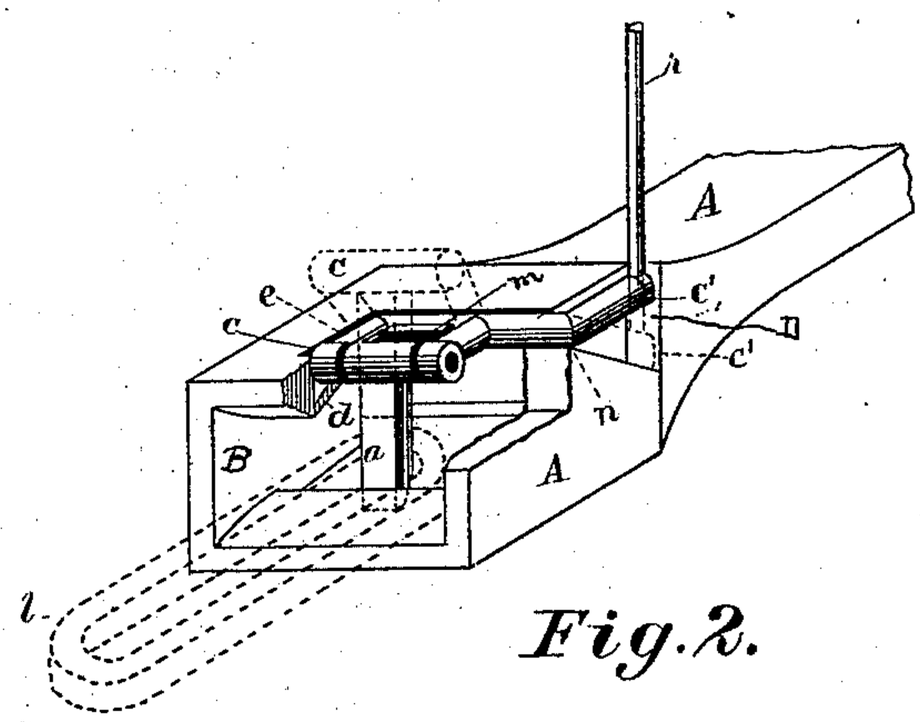




*Fig. 2.*

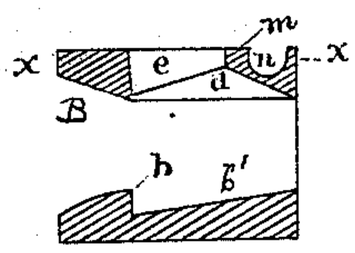



*Fig. 3.*

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# UNITED STATES PATENT OFFICE.

EDWARD F. WALKER, OF PROVIDENCE, RHODE ISLAND.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 287,070, dated October 23, 1883.

Application filed May 9, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD F. WALKER, a citizen of the United States, residing in the city and county of Providence, in the State of Rhode Island, have invented a new and useful Automatic Car-Coupling, of which the following is a specification.

My invention relates to an automatic car-coupling in which the coupling-pin oscillates upon a crank recessed and rotating in the draw-head, and raised and depressed therein by means of a rod attached to the crank-arm and extending to an operating-lever at the top of the car.

The objects of my invention are to insure safety to the employé, certainty of coupling, and simplicity and cheapness of construction. These objects are all attained by the special construction and mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents the rod and operating-lever and the manner of attaching the same to the car. Fig. 2 is a perspective view of the draw-head, a portion of the side being broken off to show the position of the crank and coupling-pin. Fig. 3 is a vertical section of the draw-head, showing in detail the shape of the mouth and throat of the draw-head and of the recess in which the crank rotates.

Similar letters refer to similar parts in all the several views.

The draw-head A is made preferably of wrought-iron, but may be of cast-iron. Its shape, aside from the special features hereinafter mentioned, may be varied as necessity or convenience may require. It is attached to the car in the usual manner, and is to be provided with springs for lessening the shock, as is usual in the ordinary draw-head. The mouth B of the draw-head is made flaring, as is shown in Figs. 2 and 3, in order to facilitate the entry of the link and to allow it to be used in coupling together cars with draw-bars of different heights. The throat *b'* of the draw-head is straight on its upper line and inclined on the lower line from the rear outward to form a shoulder, *b*, as shown in Fig. 3. This shape of the throat will bring the link into proper position and steady it there for coupling, because the link will, on entering the mouth, strike against the lower inclined side of the throat and be guided back and up against the straight upper side, the rear of the throat being narrower than the mouth of the draw-head. In addition the shoulder *b* forms a bearing for the coupling-pin *a* after the link *l* is engaged by it. I make a recess, *n*, in the top of the draw-head and depress the same at that portion nearest the mouth of the draw-head, so that it is of the shape of that part of Fig. 3 designated by the letter *e*. Between the parts *e* and *n* of the recess I leave a tongue, *m*, of the metal of the draw-head, which protrudes between the arms of the frame C, and retains it in place in the recess, the recess being channeled around the tongue, and the frame and recess being coincident in outline. The frame C is provided with two arms, between the outer ends of which I pivot the coupling-pin *a*, which depends and oscillates in an orifice from the recess *n* into the mouth of the draw-head. The pin, when in position, as shown in Fig. 2, to engage the link *l*, bears against the shoulder *b*, and, being tapered on its inner side, the link will tend to slip downward at all times on the pin and keep it against the shoulder *b* by the force of traction. The frame is provided with a crank-arm, C', which extends out to the side of the draw-head to engage a rod, *r*, connecting with a lever, *s*, attached to the car near the top. The draw-head is further recessed on the side, as at D, to allow the crank-arm to lie in flush with its face and to have free vertical movement in said recess responsive to the rod and lever.

In practical operation, the crank and coupling-pin being in their normal position, as shown in Fig. 2, and the lever *s* in its normal position, as shown in Fig. 1, the link *l* enters the mouth of the draw-head, and presses backward and upward the coupling-pin *a* until the pin, which has a free oscillatory movement independent of the crank movement, falls into the link-opening and swings down against the shoulder *b*, when the link is drawn out to engage it, and the cars are then coupled together automatically. To uncouple the cars the lever *s* is depressed, as indicated by the dotted lines in Fig. 1, thus throwing up the crank, and with it the coupling-pin, into the position indicated by the dotted lines in Fig. 2, when the link is disengaged from the pin and the cars are unshackled. The same movement can be imparted to the crank by a person standing on the ground at the point where the rod *r* and

crank unite. This latter mode may be convenient at times when the cars are not in motion, and saves the necessity of climbing to the top of the car to operate the crank by the lever. If it is desirable to retain the pin in its raised position, the lever *s* may be secured in the dotted-line position in Fig. 1 by a ratchet or other suitable fastening.

I claim as my invention and desire to secure by Letters Patent—

1. The combination, substantially as set forth, of the draw-head formed with an open mouth, B, and a shoulder, *b*, at the back of the mouth, to constitute a bearing for the coupling-pin, the crank, journaled in the draw-head, the rocking frame carried by the crank, and the coupling-pin pivoted in the rocking frame.

2. The combination, substantially as set forth, of the draw-head, the coupling-pin pivoted therein and formed with an inclined side, and a shoulder against which the pin is drawn by the strain of the link, for the purpose described.

3. The combination, substantially as set forth, of the draw-head formed with an opening in its upper side, a rocking frame pivoted within said opening, a coupling-pin pivoted in the rocking frame, and means for rocking the frame to uncouple.

4. The draw-head A, formed with a top recess, *n*, a tongue, *m*, dividing the recess, and a side recess, D, in combination with the double-armed frame C, the coupling-pin pivoted thereto, and the operating-crank C′, extending to the side of the draw-head and working in the recess D, substantially as described.

5. The combination, substantially as set forth, of the draw-head, the crank C′, journaled in the draw-head, the rocking frame carried by the crank, and the coupling-pin pivoted in the rocking frame.

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Witnesses:
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