

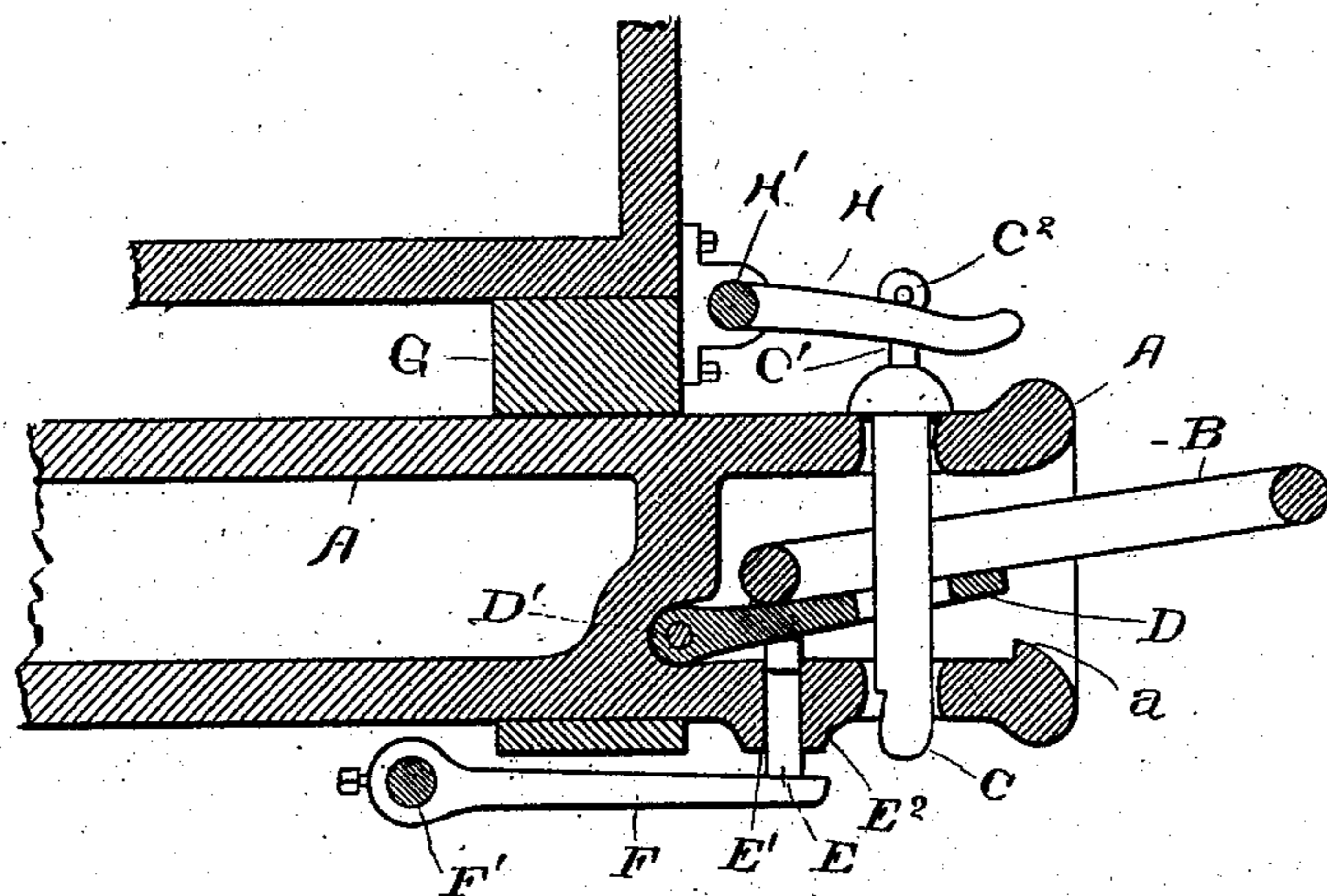
(No Model.)

W. A. BENJAMIN.

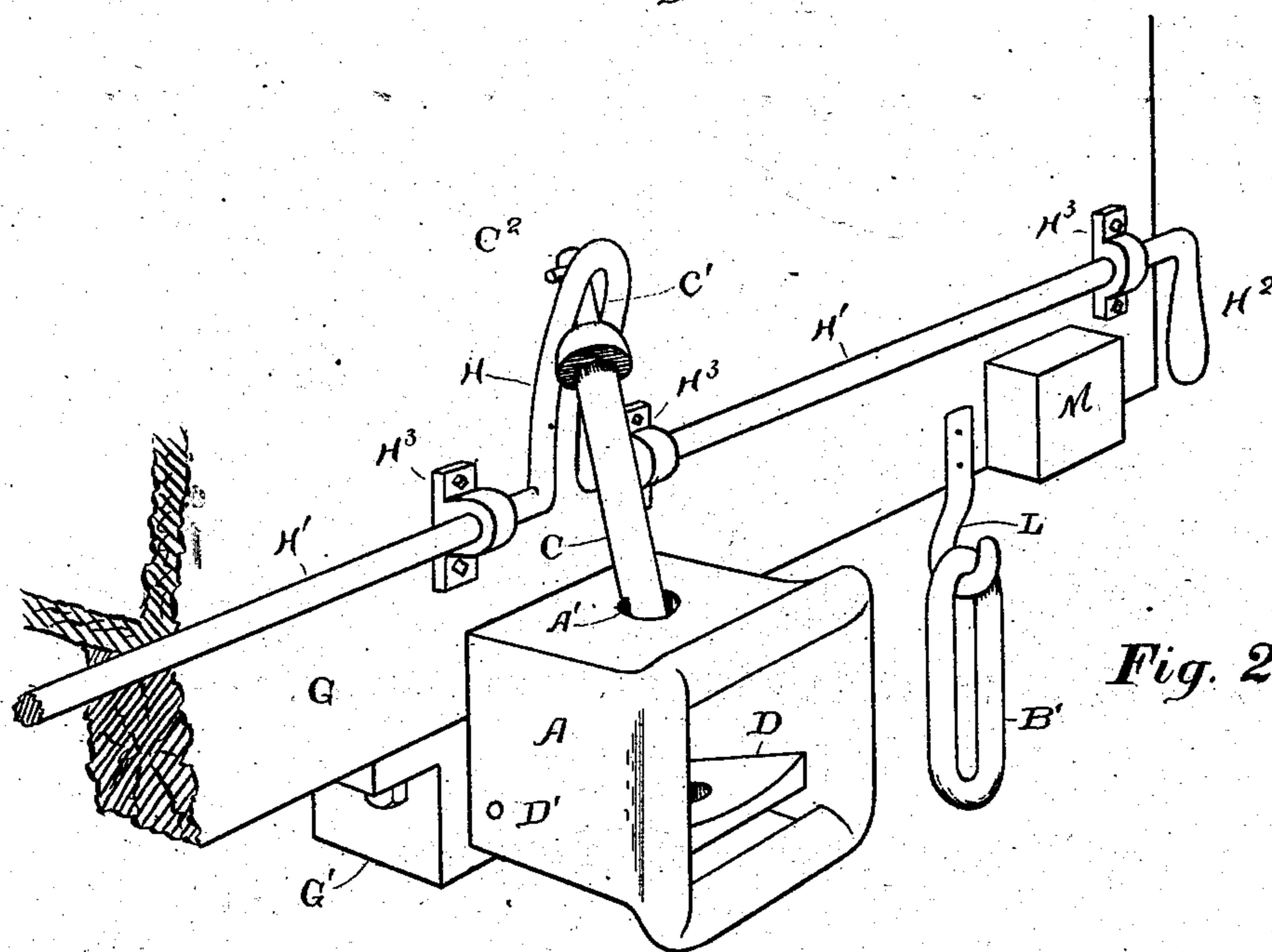
## CAR COUPLING.

No. 294,565.

Patented Mar. 4, 1884.



*Fig. 1.*



*Fig. 2.*

Witnesses;

J. H. Wells

Richard A. Goldsborough.

*Inventor,*

William A. Benjamin,

per A. B. Upham,  
Attorney in fact.

# UNITED STATES PATENT OFFICE.

WILLIAM A. BENJAMIN, OF CLEVELAND, OHIO.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 294,565, dated March 4, 1884.

Application filed November 12, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. BENJAMIN, of Cleveland, in the county of Cuyahoga, in the State of Ohio, have invented an Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a vertical longitudinal section of the car-coupling; Fig. 2, a perspective view.

The object of this invention is the construction of a car-coupling in which the pin can be raised out of the link by mechanism operated at the outside of the car, thereby obviating the necessity of the operator going between the ends of the cars, in which the pin, when thus raised, is retained and dropped automatically, and in which the link of one draw-head can be vertically shifted to suit the height of the approaching draw-head by means of mechanism operated at the outer side of the car.

My invention consists of a rotative arm running from side to side at the end of the car, and having at its center an arm by which the pin of the draw-head can be raised, and of a plate pivotally secured at the bottom of the opening in the draw-head, and having means for raising and lowering it.

In the drawings, A is the draw-head, constructed similar to those ordinarily used, and having, as in others, a slight elastically-controlled longitudinal play between the cross-beam G and stirrup G'.

B is the link, and C the pin, which are shown in Fig. 1 in place, the former being also exhibited as being vertically adjusted to fit the height of the draw-head to be coupled with. The plate D, by which this adjustment is accomplished, is pivoted at its rear end by the horizontal bolt or pin D', running through it and the sides of the draw-head. The front edge of this plate D, when resting upon the lower side of the draw-head's opening, is protected from collision with an incoming link by means of the guard a. Vertically through this plate D is of course a sufficient opening to make way for the pin C. Below the plate

D, projecting through an opening strengthened by the boss E' at the under side of the draw-head, is a pin, E, at the upper end of which is a cross-bar equal in length to the width of the plate D. The said plate being raised by the upward pressure of said pin E, the wear between the two is decreased by having the latter thus T-shaped, and it is also retained thereby in place. To raise said T-pin E, I usually employ a lever pivoted near its center and running from said pin to the outer side of the car. By the depression of the outer end of said lever, the inner end, and therefore the pin E, are raised. In Fig. 1, I show, however, a shaft, F', having suitable bearings and running from side to side beneath the car. From this shaft F' extends an arm, F, which, as said shaft is partially revolved, raises the pin E, or permits it to drop by its own weight and that of the plate D. The upper surface of the plate D, I make somewhat concave, as shown in Fig. 2, so that the link B may be held thereby in the center of the draw-head.

To enable the link-pin C to be withdrawn from the outer side of the car, I have designed the rod H', having at its center the arm H, between the two parts of which extends a neck, C', from the upper end of the pin C. A cross-pin, C<sup>2</sup>, at the head of said neck C', retains the same in the arm H. As shown in Fig. 2, the arm H is made from the same rod H', the center portion of which is bent to form said arm. Said arm H may be a broad bar slotted through its center and made fast to the rod H'; but the former way I deem preferable. Suitable bearings, H<sup>3</sup> H<sup>3</sup>, are provided for said rod H', and handles or cranks H<sup>2</sup>, constructed at its ends, to enable the turning of the same. To prevent loss of the links by the dropping to the ground of the extra one, in the case where two contiguously-coming draw-heads have each a link, I have designed the hooks L—one at each side of the car's end—upon which the extra link may be hung until wanted again.

In using my car-coupling, the pin C of one draw-head is raised by turning the rod H' until the notch at the lower end of the pin rests on the edge of its opening A', and holds said pin in position, as shown in Fig. 2. The plate D is of course resting upon the lower side of

the opening of the draw-head A, and having its front edge behind the guarding-ridge *a*. In the draw-head to be coupled with this one the link B is resting upon the plate D, and the link-pin C down through the same. If the two draw-heads are not of the same height, the plate D is raised or lowered by means of its operating mechanism, previously described, until the outer end of the link B is at the proper height to suit the oncoming draw-head. As the draw-heads come together, they are each pressed backward by the yielding of the springs usually constructed therewith, until the opening A', coming directly beneath the upper end of the link-pin C, the pin has its notch released therefrom, and therefore drops through the link B, which had entered in beneath.

What I claim as my invention, and for which I desire Letters Patent, is as follows, to wit:

1. In a coupling for cars, the draw-head A, in combination with the plate D, T-pin E, and means, substantially as shown, whereby said pin is elevated, for the purpose set forth.

2. The draw-head A, in combination with

the concave plate D, having pivot D', T-pin E, and the shaft F', having arm F, by means of which said pin and plate D, resting thereon, are raised and lowered, substantially as and for the purpose specified.

3. The draw-head A, having boss E<sup>2</sup> and opening E', in combination with the T-pin E, concave plate D, having pivot D' and central opening, and the shaft F', having arm F, whereby said pin E and plate D are moved vertically, for the purpose set forth.

4. The draw-head A, opening E', and boss E<sup>2</sup>, T-pin E, plate D, having pivot D', arm F, and shaft F', in combination with the link B, pin C, having neck C', and cross-pin C<sup>2</sup>, rod H' and arm H, suitable bearings and handles, H<sup>2</sup>, as set forth.

In testimony that I claim the foregoing invention I have hereunto set my hand this 7th day of November, A. D. 1883.

WILLIAM A. BENJAMIN.

Witnesses:

JAMES M. MORSE,

RICH'D. A. GOLDSBROUGH.