

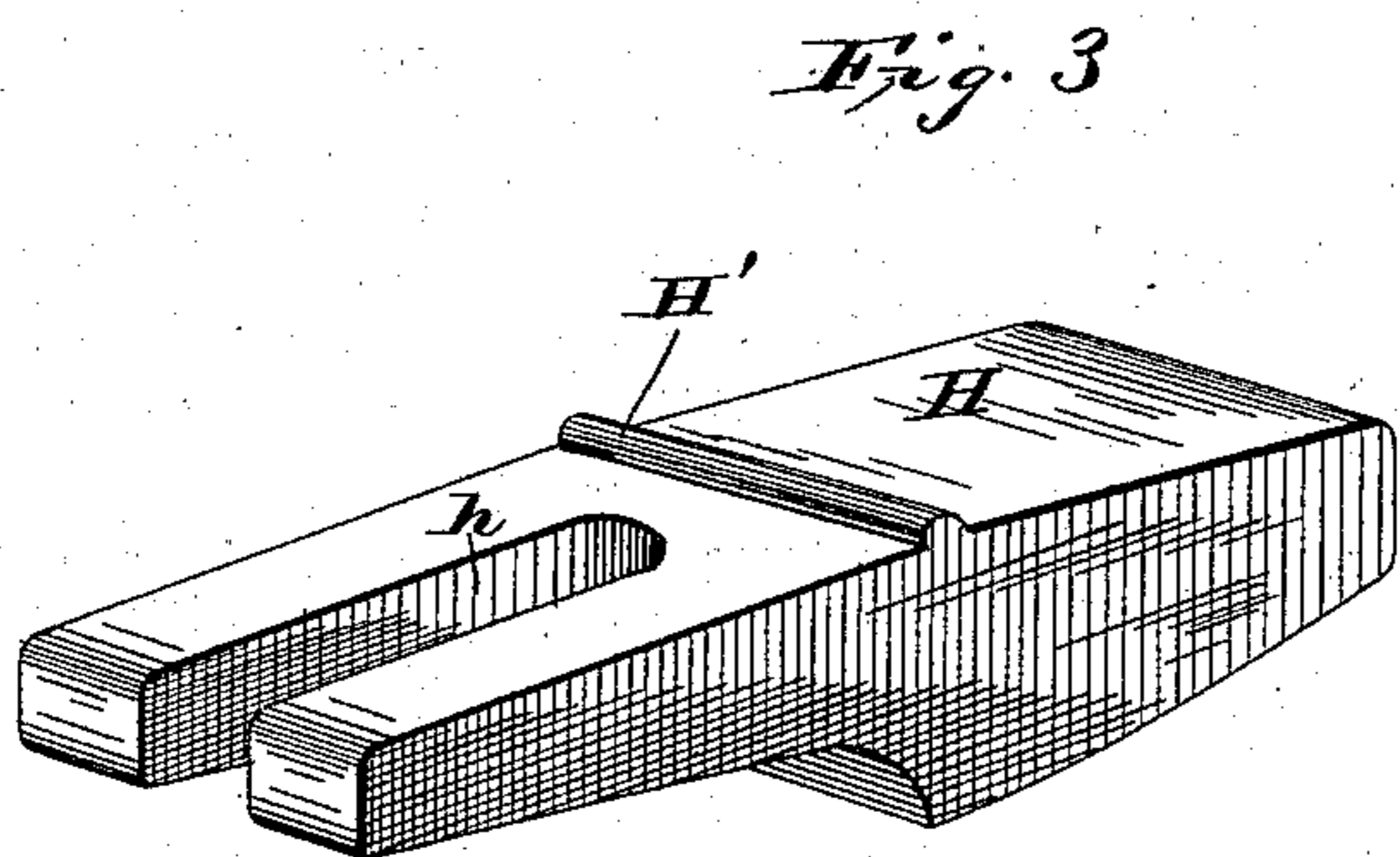
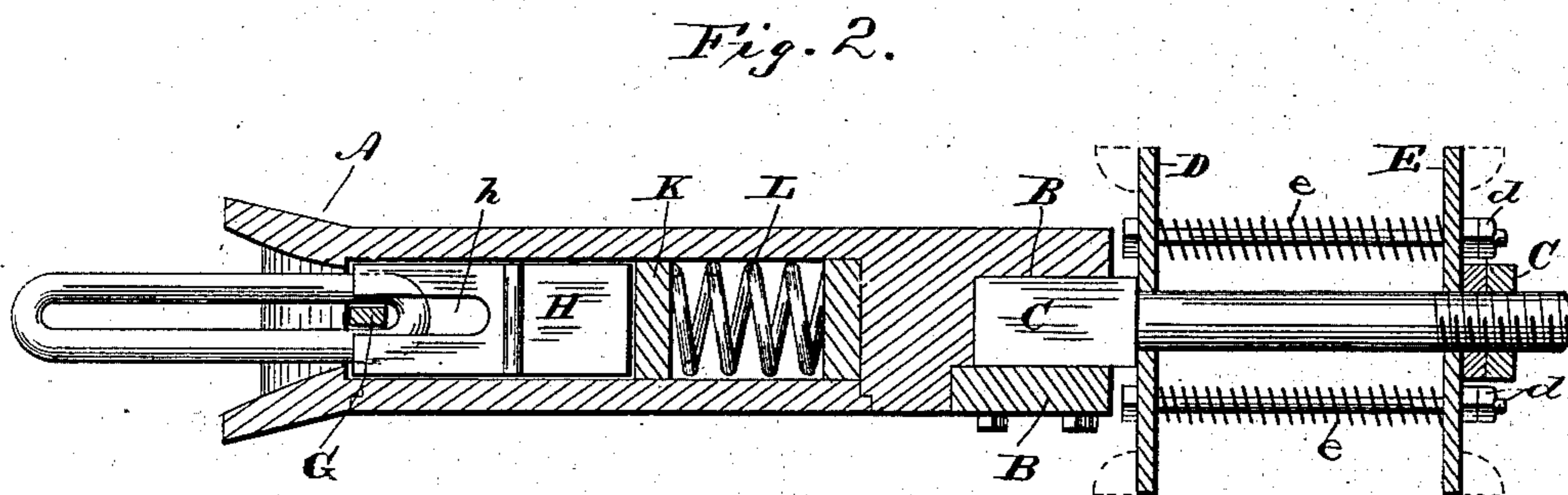
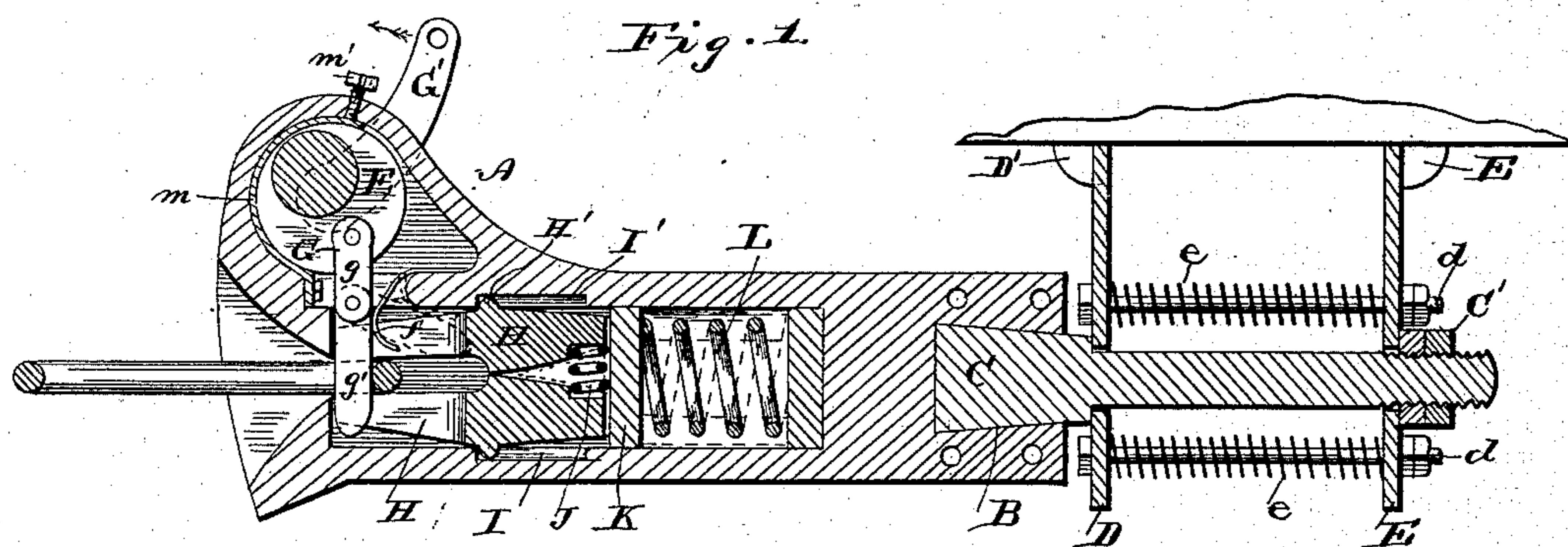
(No Model.)

C. H. GRAMBS.

CAR COUPLING.

No. 325,798.

Patented Sept. 8, 1885.



Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES H. GRAMBS, OF NORTH ABINGTON, LACKAWANNA COUNTY, PA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 325,798, dated September 8, 1885.

Application filed July 16, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. GRAMBS, of North Abington township, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

My invention relates to that class of car-couplings known as "automatic couplings," and has for its object to provide a device that will couple the cars automatically when they are brought together, and which can be uncoupled without the necessity of the brakeman or operator going between the cars; and to this end it consists in certain novel details of construction, which I will now proceed to describe, and point out particularly in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a draw-head constructed in accordance with my invention. Fig. 2 is a top plan view with the top of the draw-head removed. Fig. 3 is a detail view of the gripping-jaws.

Similar letters of reference in the several figures indicate the same parts.

Heretofore the objection has been made to the use of automatic couplings that, as some extra mechanism was necessary in their construction, the weight was increased so that two or three men could only with difficulty lift and apply one of them to a car when for any reason one became broken or injured in any way; and one of the objects of my invention is to provide for the ready application and removal of the portion of the draw-head carrying the operative parts by making it separate from the shank or portion bearing the spring-bumpers, as shown in the drawings, in which A represents the forward portion of the draw-head containing the coupling mechanism, constructed with a chamber containing the operating parts, and provided at its rear end with a dovetailed socket or recess, B, for the reception of the correspondingly-shaped head of the shank portion C, and provided with a plate, B', adapted to be secured by bolts over the recess and to confine the end

of the shank therein, as shown. The portion C is made either round or square, provided on its outer end with the nut C', and is inserted through the plates D E, the former provided with the bolts *d d*, preferably four in number, projecting from the forward plate D through the rear plate, E, and having the springs *ee* encircling them and abutting against the plates, as shown. The plates D and E are adapted to engage with the lugs D' and E', secured on the car-frame, and thus take up the shock when the draw-head is moved in either direction, as will be readily understood.

The operative parts of the coupling are inclosed within the portion A of the draw-head, and consist, broadly stated, of a device for supporting the coupling-link in horizontal position, or nearly so, a device such as a pin for holding the link and preventing its withdrawal, and suitable springs so disposed as to effectually take up all shock and prevent the breakage of any of the operative parts.

At its upper forward end the portion A is provided with a shaft or roller, F, and to this shaft or roller is eccentrically pivoted the coupling-pin G. The shaft is further provided with a handle, G', and when rotated in the direction indicated by the arrow the pin will be raised and the coupling-link released, suitable stops being provided for preventing its rotation too far in either direction. A small spring, *m*, bearing upon the roller or shaft prevents its accidental movement, and a small thumb-screw, *m'*, is also provided for tightening this spring, when desired.

The coupling-pin G is made in two sections, *g g'*, hinged together, so that its lower portion, *g'*, can move into the position indicated by the dotted lines, Fig. 1, when the link is inserted into the mouth of the draw-head. A spring, *f*, is provided for bearing against the portion *g'* of the pin and keeping it normally pressed forward.

H H represent the two jaws for grasping the link when entering the draw-head, each constructed with its face cut away, as shown, toward each end, bearing upon each other near the center and having the slots *h* in their forward ends for the accommodation of the coupling-pin and the rib or lug *h'* on their outer sides, as shown. These jaws are placed within the chamber in the draw-head from

the side with their slotted ends forward, and the ribs H' in the cut-away portions or recesses I I' in the upper and lower walls of the chamber, as shown.

5 A spring, J, of rubber or metal, is inserted between the rear ends of the jaws, which tends to bring their forward ends together, so as to close upon and hold the link when inserted between them.

10 The rear ends of the jaws abut against a plate, K, near the rear of the chamber, and behind this plate is a spring, L, either of metal or rubber, operating to prevent violent shocks to the jaws when the coupling-link is inserted
15 forcibly. The ribs on the jaws prevent the movement of the latter too far in either direction.

When the link from the approaching car enters the draw-head, it strikes the pin G and
20 moves its lower section backward against the tension of the spring. As soon as it has passed the end of the pin the latter drops down into it, and its lower end, coming in contact with the mouth of the draw-head, pre-
25 vents the withdrawal of the link. When, now, it is desired to uncouple, the handle G' is turned in the direction of the arrow, and the pin will be raised and permit the link to be withdrawn.

30 When it is desired to couple with another car, the link is inserted between the jaws H H, and the spring will cause them to grip it tightly and hold it substantially level, so that, as the cars come together, it will be inserted in the
35 draw head of the approaching car.

The top of the casing covering the upper end of the coupling-pin and the shaft to which it is pivoted may be made removable and hinged to the main portion, so that if any part
40 of the mechanism should become broken or misplaced ready access can be had to it to repair or adjust it.

It is obvious that my improved coupling can be applied to freight as well as passenger
45 cars, and that a rod can be attached to the handle G' to operate it from the side of the car, or that a cord or wire could be attached to the handle and be operated from the top of the car, all as will be readily understood.

50 I claim as my invention -

1. The combination, with the swinging coupling-pin, of the pivoted gripping-jaws

and the spring for closing said jaws, substantially as described.

2. The combination, with the swinging 55 coupling-pin, of the pivoted gripping-jaws slotted for the accommodation of the coupling-pin and the spring for closing said jaws, substantially as described.

3. The combination, with the jaws, the 60 spring for closing them, the coupling-pin made in two parts hinged together, and means for raising the latter, substantially as described.

4. In an automatic car-coupling, a draw-head made in two parts united by a dovetail 65 connection, substantially as described.

5. In an automatic car-coupling, a draw-head made in two sections, the forward one containing apparatus for coupling cars auto-
70 matically and the rear section formed into a shank, said sections being connected removably together, whereby the forward section may be removed and another substituted without removing the shank, substantially as de-
75 scribed.

6. The combination, with the two jaws con- 75 structed with the slotted forward ends and the ribs or projections on their outer faces, of the spring between the rear ends of said jaws, substantially as described. 80

7. The combination, with the two gripping-jaws, the spring between their rear ends, and the spring L, substantially as described.

8. The combination, with the coupling-pin, of the roller or shaft upon which it is pivoted, 85 and the spring bearing upon said roller or shaft to prevent accidental movement, substantially as described.

9. The combination, with the coupling-pin made in two sections hinged together, of the 90 spring for operating upon the lower section to keep it normally in position, substantially as described.

10. The combination, with the coupling-pin made in two sections hinged together and 95 eccentrically pivoted upon a shaft or roller, and a spring operating to keep the lower portion of the pin in position, the gripping-jaws and the spring between them, substantially as described.

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Witnesses:

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