(No Model.) 2 Sheets—Sheet 1.

P. BOGLER.

CAR COUPLING.

No. 496,849. Patented May 9, 1893.

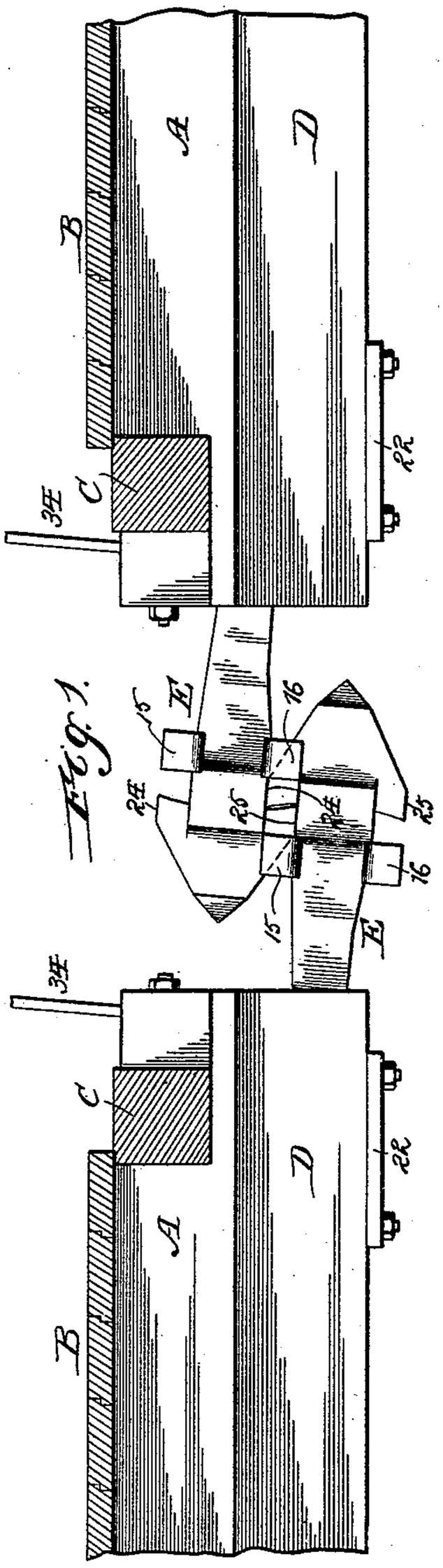

Fig. 1.

Fig. 4.

Fig. 5.

Witnesses:
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Inventor:
Philip Bogler
By Lotz & Kennedy Attys.

(No Model.) 2 Sheets—Sheet 2.

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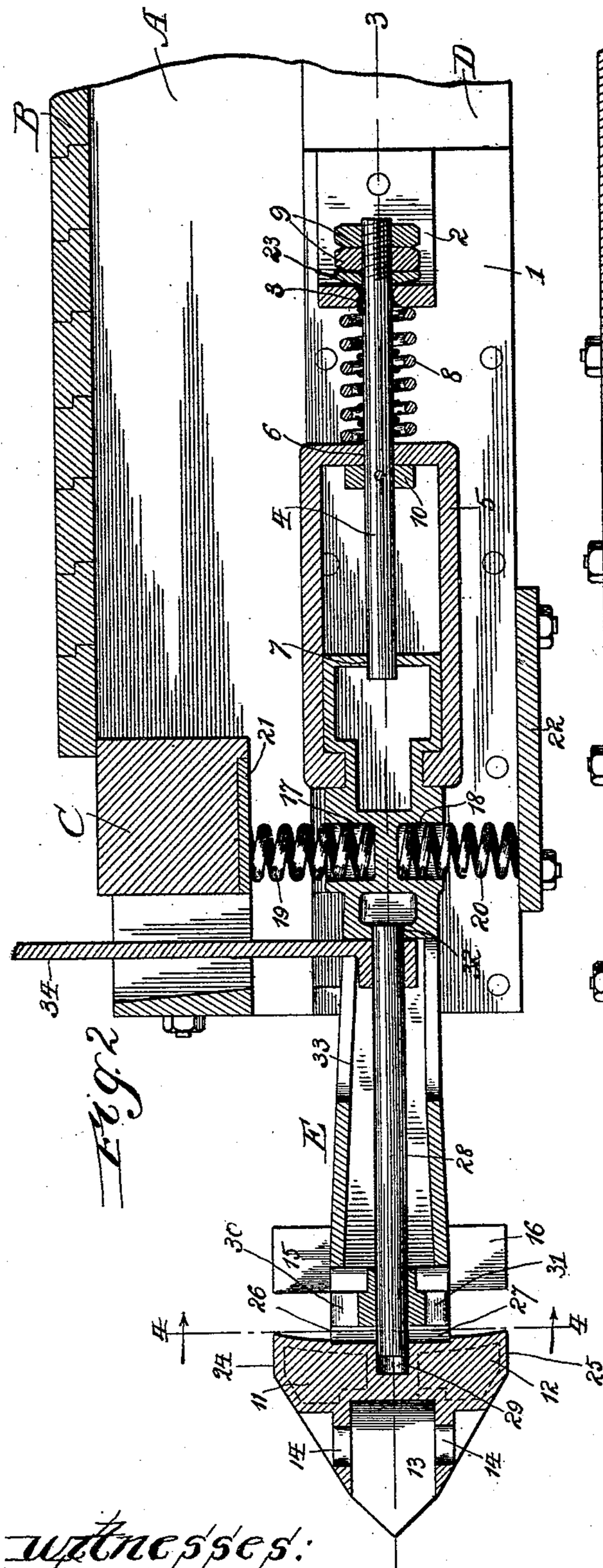

Fig. 2.

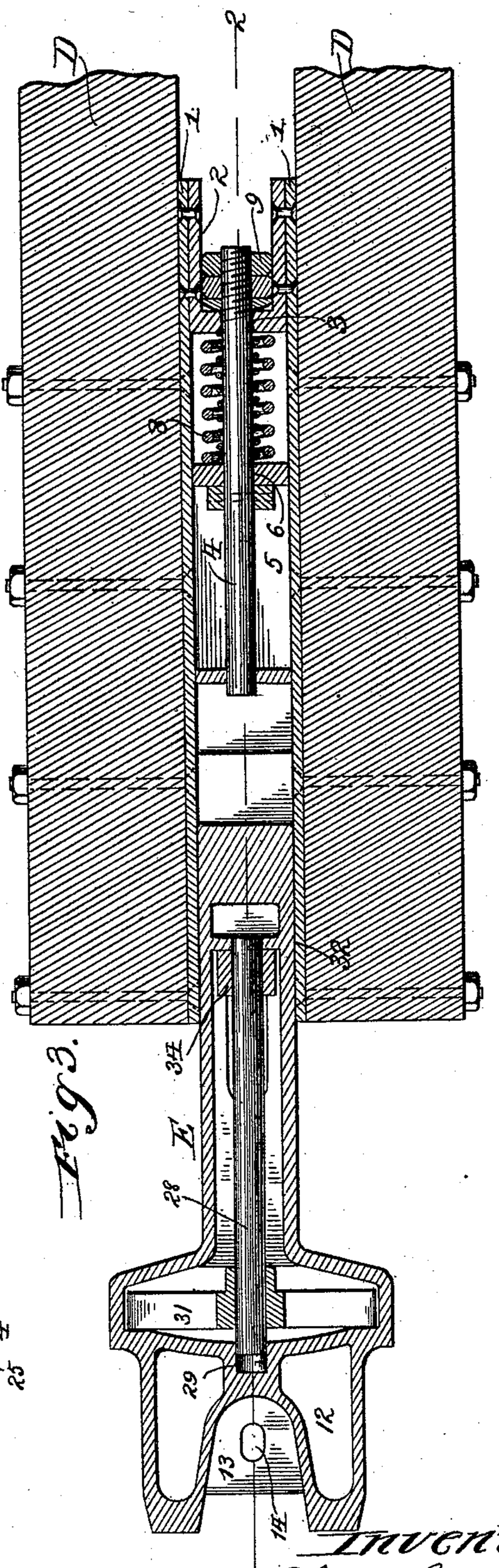

Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

PHILIP BOGLER, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 496,849, dated May 9, 1893.

Application filed April 26, 1892. Serial No. 430,799. (No model.)

To all whom it may concern:

Be it known that I, PHILIP BOGLER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, 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 invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a novel construction in automatic car couplings which comprise two mutually grasping heads of similar construction that are arranged in the ends of each car, and the invention consists in the features of construction hereinafter fully described and specifically claimed.

In the accompanying drawings illustrating my invention,—Figure 1 is a view partly in elevation and in section of the end portions of two cars provided with couplings constructed in accordance with my invention and shown in side elevation in their mutually grasping position. Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 3. Fig. 3 is a horizontal section on the line 3—3 of Fig. 2. Fig. 4 is a vertical cross section on line 4—4 of Fig. 2. Fig. 5 is an end elevation of a car and uncoupling devices.

Referring now to said drawings, A indicates the floor beams of a car, B the flooring, C the end cross beams, and D the draw-bar beams located beneath the floor beams A. The said draw-bar beams D are parallel with each other and extend back from the end of the car in an obvious manner, and are provided on their adjacent side faces with guide plates 1 securely bolted or riveted thereto. Between the rear end portions of said guide plates 1 is located a cross piece or guide 2 that is secured at its sides to said guide plates and is provided with an opening or perforation 3 to receive the pin 4 carried by the draw-bar E and buffer block 5. The said draw-bar E is connected at its rear end with said buffer block, and the rear end portions of said draw-bar and buffer block are located between the guide plates, and the pin 4 passes also through apertures 6 and 7 in the ends of the buffer block and draw-bar respectively. Between the rear end of the buffer block and the cross piece or guide are arranged the buffer springs 8 which act in the usual manner to cushion the shock or impact to which the coupling may be subjected, and it will be noted that said buffer block is free to move back to compress the springs 8, while its forward movement is limited to the extent shown in Figs. 2 and 3, by nuts 9 upon the rear end of pin and in the rear of guide 2 and a collar 10 secured to said pin between the end of the draw-bar and the buffer block.

My coupling is constructed upon what is known as the "arrow-head" principle, that is to say the front end of the draw-bar is provided with an arrow-head embracing an upper and lower barb 11 and 12. The end of said arrow-head is provided with a recess 13 to receive the end of an ordinary coupling link, and with two openings 14 above and below the same for the reception of a coupling pin, whereby a car provided with my coupling can be coupled with cars having other couplings. In the rear of the said barbs 11 and 12 of the arrow head, the draw-bar is provided with upwardly and downwardly extending lateral wings or projections 15 and 16.

It is of course obvious that means must be provided for normally holding the draw-bars in a horizontal position but which permit a vertical deflection thereof to accomplish the coupling and uncoupling operations, and to this end the drawbar is provided on its upper and lower faces just in front of its connection with the buffer block, with two sockets 17 and 18, which receive the ends of two springs 19 and 20, which bear at their other ends respectively against a plate 21 on the lower face of the end cross beam C, and upon a bearing plate 22 secured to said draw-bar beams D. The said springs 19 and 20 serve to hold the draw-bar in horizontal position, and to permit the vertical deflection thereof, the pin 4 has a pivotal connection with said guide 2 by reason of the chamfered edges of said aperture 3 in said guide, and the chamfered washer 23 located upon said pin between the nuts 9 and the rear face of the guide.

When the two arrow heads are in their mutually grasping position as shown in Fig. 1, the rear faces of two of the barbs are in en-

gagement with each other, with the flat upper and lower faces 24 and 25, respectively, resting against the face of the draw-bar in the rear of the barb, while the end of the arrow head is located between the lateral wings or projections 15 and 16 to prevent the lateral separation or uncoupling of said arrow heads.

The devices for uncoupling the two couplers are constructed as follows:—In the rear of the barbs 11 and 12, the draw-bars are open at top and bottom, as at 26 and 27, and a shaft 28 extends longitudinally through the draw-bar from the head thereof in which is formed a bearing 29 for the end of said shaft. In vertical alignment with the openings 26 and 27 in the head of the draw-bar, said shaft 28 is provided with two upwardly inclined and two downwardly inclined arms 30 and 31 (Figs. 2, 3, and 4) whose ends are normally located near the upper and lower faces of the draw-bar and near the outer sides of said openings 26 and 27. The shaft 28 bears in another bearing 32 near the rear end of the draw-bar, and through an opening 33 in the upper side of said draw-bar an arm or lever 34 that is rigidly secured to said shaft 28, so that by moving said lever 34 the shaft will be rocked to throw the arms 30 and 31 up and down through the openings 26 and 27 against the straight edge of the barb of the arrow head in engagement therewith, and thereby separate the two couplings in an obvious manner.

In Figs. 4 and 5 I have shown devices for swinging the lever 34 from either the sides or top of the car. A horizontally sliding bar 35 is located in guides 36 on the end of the car, and is connected by means of a link 37 with the lever 34, so that by sliding said bar 35 in either direction the lever will be moved to uncouple the cars.

The device for uncoupling the cars from the top consists of an upright lever 37 pivoted to the end of the car and having its upper end located adjacent the brake wheel, while to its lower end is pivoted a link 38 that is also pivoted to the sliding bar 35, so that by swinging the upper end of the lever 37 the couplers can be disconnected through the intermediacy of connections described.

I claim as my invention—

1. The combination with the draw-bar beams of a car, of a draw-bar and buffer block located between the same and yieldingly sustained near the forward ends of said beams by cushions located before and below the draw-bar, a pin carried by and having a longitudinal sliding connection with said draw-bar and buffer block and having also a sliding and pivotal connection with the cross-piece or guide secured to said beams.

2. The combination with the draw-bar beams of a car, of a draw-bar and buffer block located between the same and yieldingly sustained near the forward ends of said beams, a pin carried by said draw-bar and buffer block, a cross piece or guide secured to said beams and having a chamfered opening 3 therein to receive said pin, and a chamfered washer 23 secured upon said pin and against said cross-piece.

3. The combination with the draw-bar beams of a car, having guide plates 1 secured upon their adjacent faces, of a draw-bar and buffer block located between the same and yieldingly sustained near the forward ends of said beams, and a pin carried by said draw-bar and buffer block, and having pivotal connection with a cross piece or guide secured to said beams.

4. The combination with the draw-bar beams of a car, and a draw-bar and buffer block located between said beams, and having a pivotal connection therewith at their rear ends, sockets 17 and 18 in the upper and lower faces, of said draw-bar and springs 19 and 20 having one end located within said sockets and bearing at the other ends respectively against the end cross beam C of the car, and a bearing plate 22 secured to said draw-bar beams.

5. A car coupling comprising the draw-bar having upper and lower barbs 11 and 12 at its forward end portion, openings 26 and 27 in the upper and lower faces of said draw-bar in the rear of said barbs, and movable arms located within said draw-bar adapted to project through said openings 26 and 27.

6. A car coupling comprising the draw-bar having upper and lower barbs 11 and 12 at its forward end portion, openings 26 and 27 in the upper and lower faces of said draw-bar in the rear of said barbs, a rock-shaft 28 supported in bearings within said draw-bar, and provided with upwardly and downwardly inclined arms 30 and 31.

7. A car coupling comprising the draw-bar having upper and lower barbs at its forward end portion, openings 26 and 27 in said draw-bar in the rear of said barbs, the shaft 28 located within said draw-bar and supported in suitable bearings, and two upwardly and two downwardly inclined arms secured upon said shaft in vertical alignment with said openings 26 and 27, and devices for turning said shaft in its bearings to cause said arms to project above and below the upper and lower faces of the draw-bar.

8. A car coupling comprising the draw-bar having upper and lower barbs 11 and 12 at its forward end portion, openings in said draw-bar in the rear of said barbs, a shaft located within said draw-bar and supported in suitable bearings, and carrying arms 30 and 31 located in vertical alignment with said openings in rear of said barbs, a lever 34 rigidly secured to said shaft and projecting upwardly from the same, and provided with devices for swinging said lever to turn said shaft in its bearings.

9. A car coupling comprising the draw-bar having upper and lower barbs 11 and 12 at its forward end portion, openings in said

draw-bar in the rear of said barbs, a shaft located within said draw-bar and supported in suitable bearings, and carrying arms 30 and 31 located in vertical alignment with said openings in rear of said barbs, a lever 34 rigidly secured to said shaft and projecting upwardly from the same, and a longitudinally movable bar 35 confined by suitable guides upon the car and connected by means of a link 37 with said lever 34.

10. A car coupling comprising the draw-bar having upper and lower barbs 11 and 12 at its forward end portion, openings in said draw-bar in the rear of said barbs, a shaft located within said draw-bar and supported in suitable bearings and carrying arms 30 and 31 located in vertical alignment with said openings in rear of said barbs, a lever 34 rigidly secured to said shaft and projecting upwardly from the same, and an upright pivoted lever 37 upon the end of the car having its lower end pivotally connected with the upper end of said lever 34, and its upper end extending to the top of the car.

11. A car coupling comprising the draw-bar having upper and lower barbs 11 and 12 at its forward end portion, openings in said draw-bar in the rear of said barbs, a shaft located within said draw-bar and supported in suitable bearings and carrying arms 30 and 31 located in vertical alignment with said openings in rear of said barbs, a lever 34 rigidly secured to the shaft and projecting upwardly from the same, and a longitudinal sliding bar 35 connected by means of a link 37 with said lever 34, and an upright pivoted lever 37 having its lower end connected with said bar by a link 38.

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

PHILIP BOGLER.

Witnesses:

CHRISTIAN DIETZ,

HERMAN VOLLMER.