

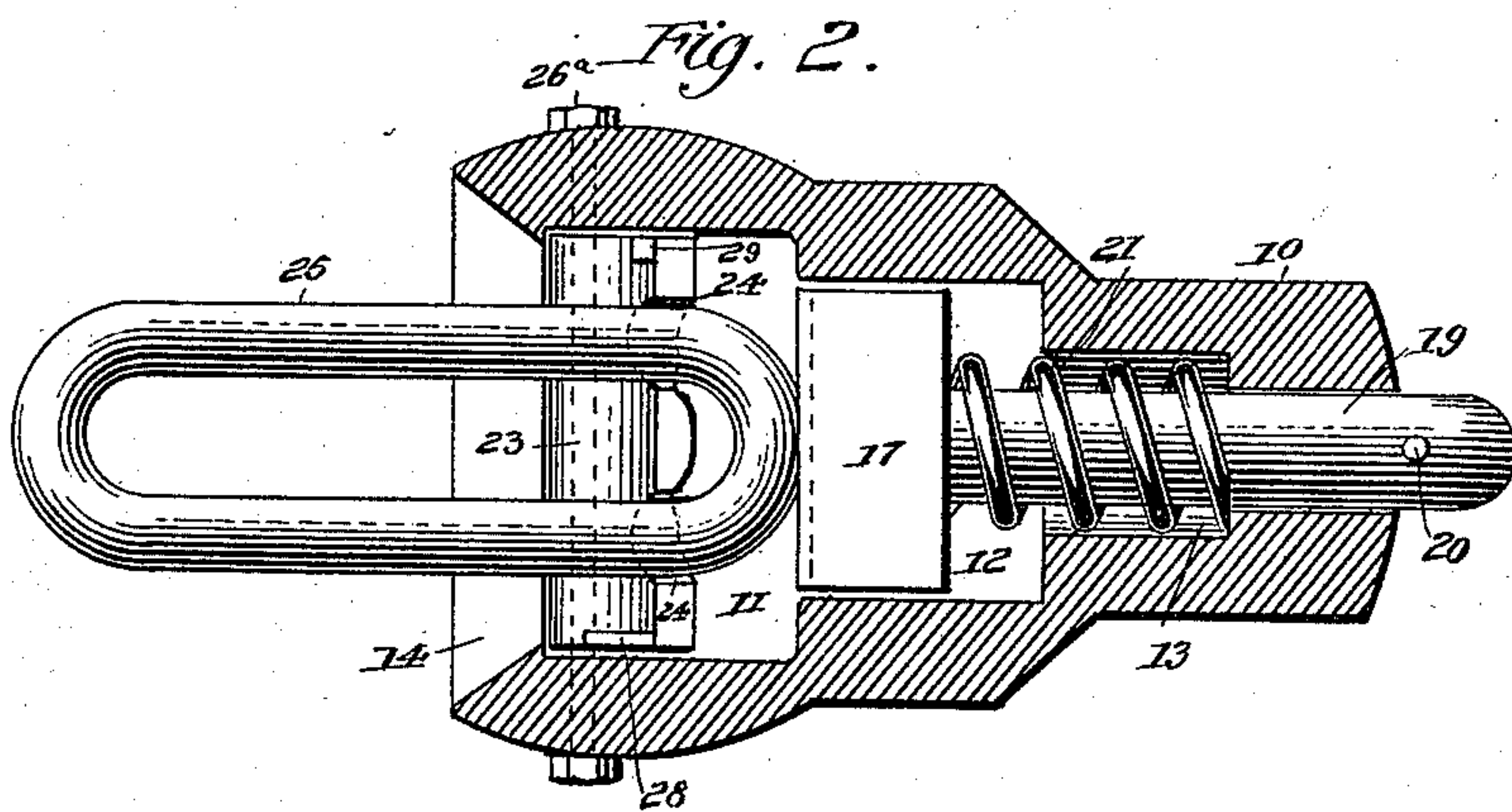
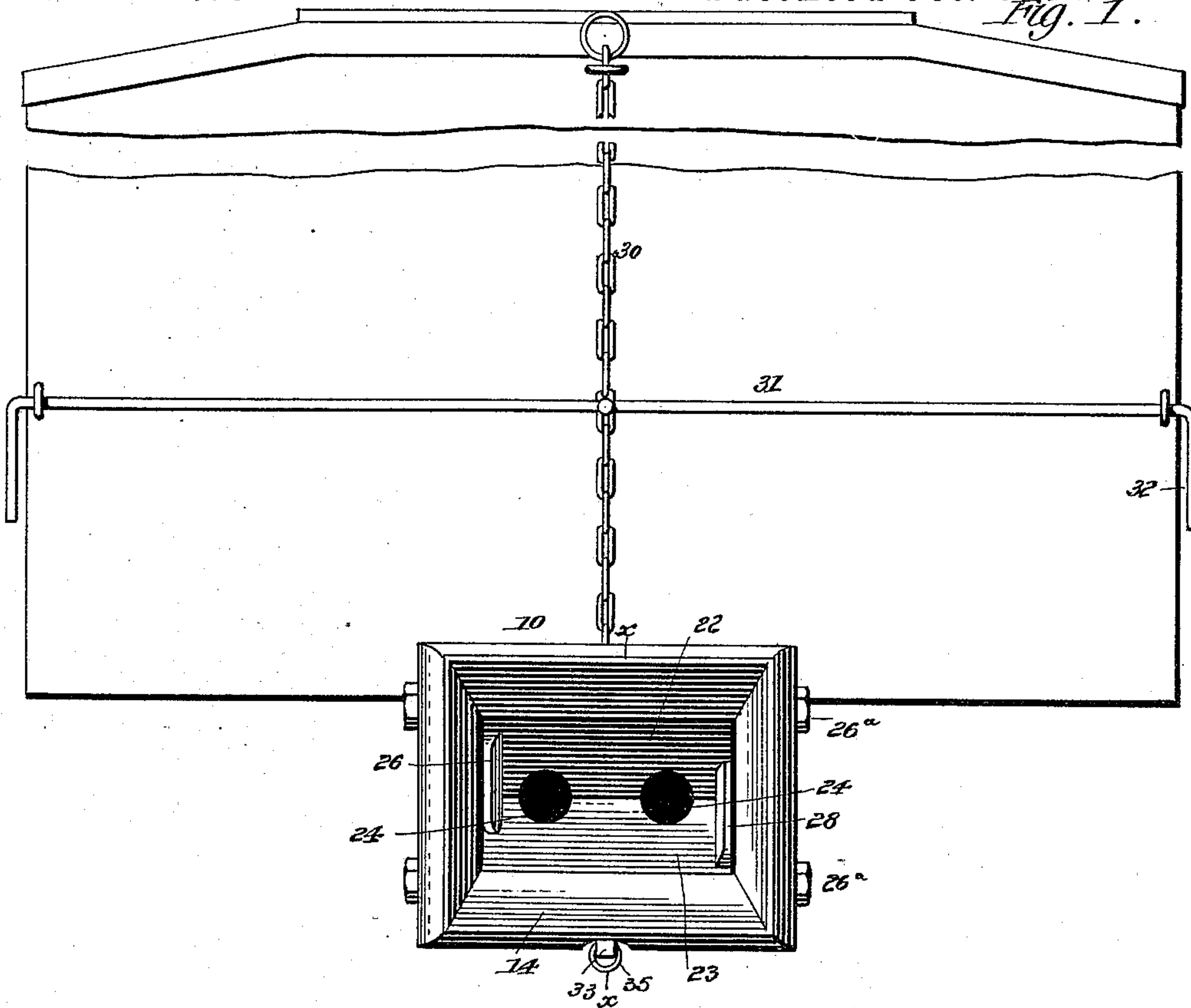
(No Model.)

2 Sheets—Sheet 1.

F. PARDEE.  
CAR COUPLING.

No. 412,536.

Patented Oct. 8, 1889.



WITNESSES:

*J. H. Clark.*  
*C. Sedgwick*

INVENTOR:

*F. Pardee*  
BY *Munn & Co.*  
ATTORNEYS.

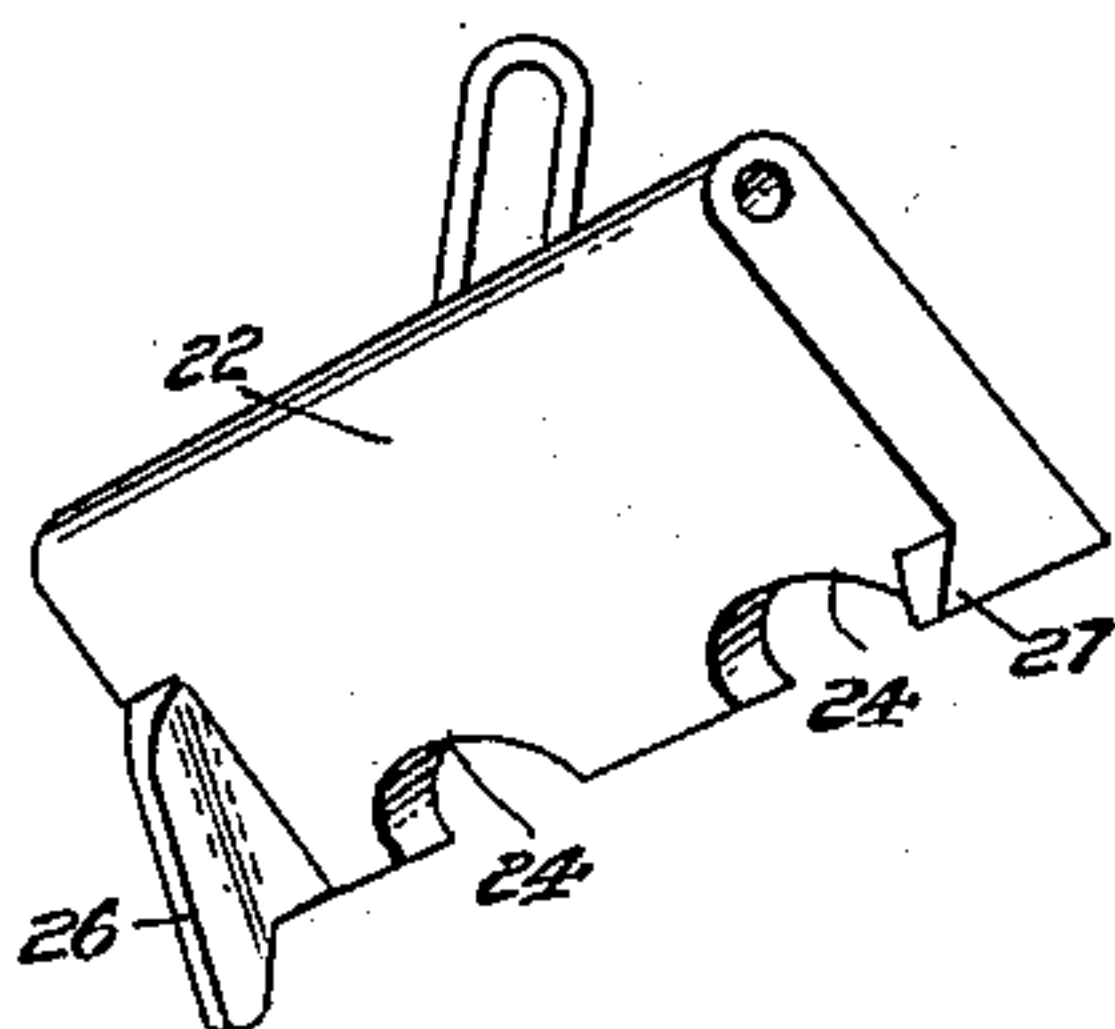
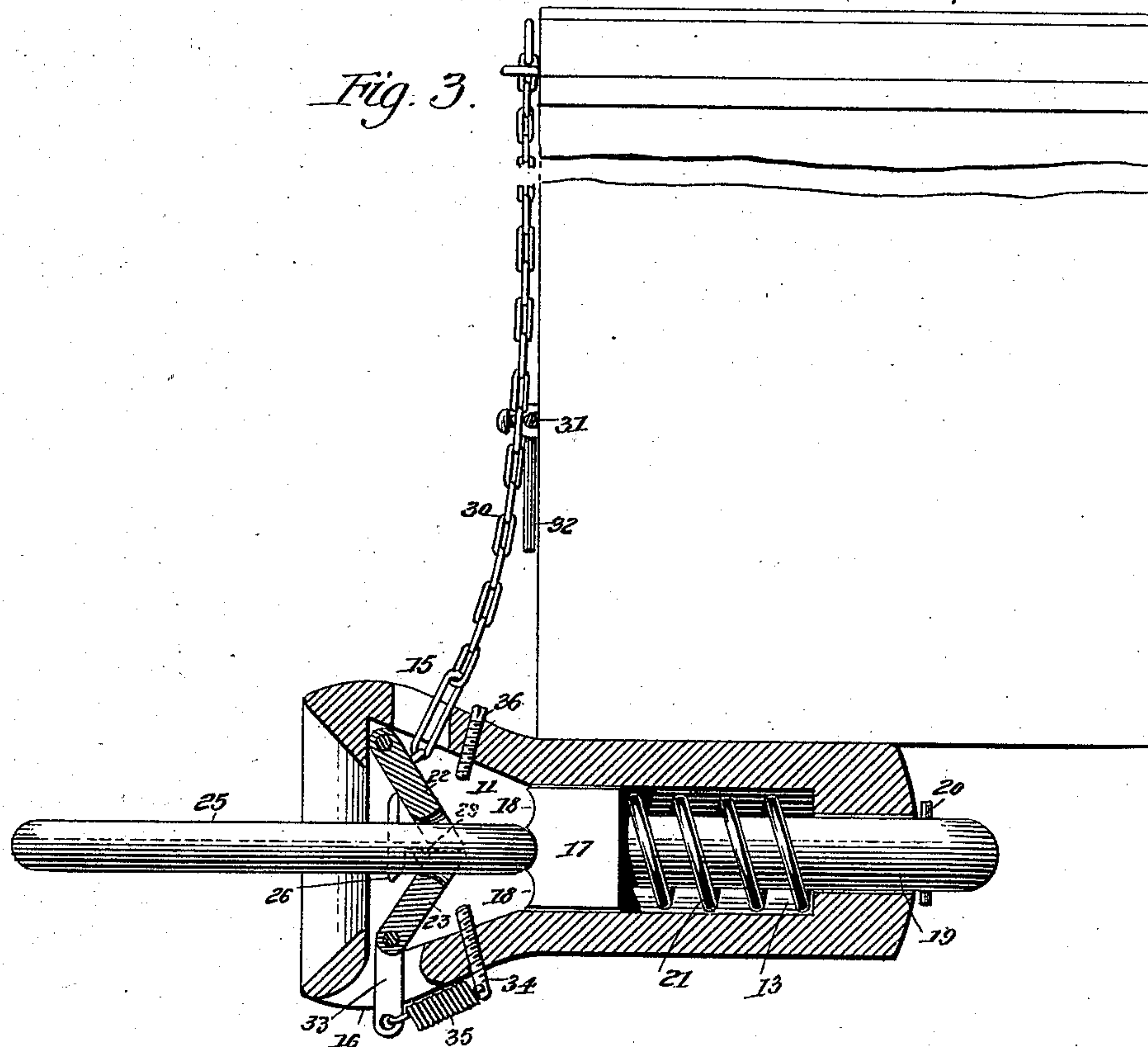
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# UNITED STATES PATENT OFFICE.

FRANK PARDEE, OF HAZLETON, PENNSYLVANIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 412,536, dated October 8, 1889.

Application filed January 30, 1889. Serial No. 298,080. (No model.)

### *To all whom it may concern:*

Be it known that I, FRANK PARDEE, of Hazleton, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car-couplers, and has for its object to provide a simple, effective, and durable coupler, capable of manipulation from the sides or top of a car; and a further object of the invention is to provide a coupler in connection with which the ordinary link may be employed, and wherein the link may be elevated or depressed in coupling with an opposing draw-head of greater or less height.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of my improved coupler attached to a car. Fig. 2 is a horizontal section through the draw-head. Fig. 3 is a longitudinal vertical section taken partially on line *x x* of Fig. 1, and Fig. 4 is a detail perspective view of the pivotal clamping-jaws.

In carrying out the invention the draw-head 10 is provided with a central chamber divided, preferably, into three connecting compartments 11, 12, and 13, the forward compartment 11 being the largest and the rear compartment 13 the smallest. The rear compartment and the intermediate compartment are preferably rectangular. The said draw-head 10 is further provided with the usual link-opening 14, leading into the forward compartment 11, as best shown in Figs. 2 and 3, and an upper vertical slot 15, as well as a lower aligning slot 16, which slots also lead into the forward compartment 11, and are located, preferably, at or about the center of the draw-head and near the front, as best shown in Fig. 3. In the central compartment 12 a buffer-block 17 is held to slide, in the front face of which block three trans-

verse concave grooves or channels 18 are produced, one channel being above the other. To the rear surface of the block 17 a bar 19 is attached or formed integral therewith, which bar, passing through the rear compartment 13, also extends through and beyond the rear portion of the draw-head. The rear extremity of the bar 19 is provided with a suitable aperture, through which a pin 20 is passed, adapted to limit the inward movement of the bar. The buffer-block 17 is normally held in such position that the front face will be essentially flush with the rear wall of the forward compartment by means of a spring 21, coiled around the bar 19 and having a bearing against the rear face of the buffer-block and the rear wall of the rear compartment 13. The buffer-block 17 is of less thickness than the depth of the intermediate compartment 12, whereby the said block may be moved a suitable distance rearward. In the forward compartment 11, adjacent to the front of the draw-head, two clamping-jaws are pivoted—namely, an upper clamping-jaw 22 and a lower jaw 23. The clamping-jaws are illustrated in position in Fig. 3 and in detail in Fig. 4. By reference to the latter figure it will be observed that the contiguous edges of the two jaws are beveled in opposite directions, and that in the said beveled edge, at each side of the center, a semicircular recess 24 is produced, the recesses 24 being of such size that when the approaching edges of the two jaws are brought in contact, or essentially so, a practically circular opening will be produced of sufficient size to just receive the members of the ordinary link 25. The upper jaw 22 is pivoted at the upper edge in the draw-head by means of a pin 26<sup>a</sup> passing through the jaw near the said edge, and also through the sides of the draw-head, the outer extremities of the said pin being secured in any suitable or approved manner. The lower jaw 23 is pivoted in like manner, the pin 26<sup>a</sup> passing through near the lower or bottom edge of the same. The upper jaw 22 is provided at the left side with a lip 26, cast integral therewith, which lip extends outward at a right angle from the outer face of the jaw, and at an inclination downward and beyond the bottom



or beveled edge. At the right side of the said upper jaw 22 a lug 27 is cast or otherwise formed integral with the bottom, which lug, projecting outward from the front face, is provided with an upwardly and rearwardly inclined upper surface, as best illustrated in Fig. 4. The lower jaw 23 is provided with a lug and lip in like manner to the upper jaw, but the positions of the said lug and lip are reversed. The lip 28 of the lower jaw is cast integral with the right side and made to project upward beyond the upper beveled surface, and the lug 29 is located at the left side, and the surface is beveled rearward and downward. The upper jaw 22 is manipulated through the medium of a chain 30, attached to the rear face of the jaw, which chain is usually carried upward to the top of the car. A shaft 31 is journaled at the end of the car transversely of the same above the draw-head, which shaft is attached to one of the links of the chain 30 in any approved manner, as illustrated in Fig. 1, and is provided at each end with a crank-arm 32. Thus the upper jaw 22 may be manipulated from the top of the car by pulling directly upon the chain, or from the side of the car by rotating or rocking the shaft 31. From the lower edge of the lower jaw 23 a stud 33 is projected, which stud is passed downward through the lower slot 16 in the draw-head. To the rear of the said slot 16 a pin or screw 34 is introduced into the draw-head, the ends whereof project, respectively, outside of the same and within the forward compartment 11, as best shown in Fig. 3. The outer end of the pin or screw 34 is attached to the stud 33 of the lower jaw by means of a coil or spiral spring 35, whereby the lower jaw is normally held in an essentially perpendicular position, and the inner end of the said pin or screw extends within the compartment 11 and serves to limit the downward motion of the lower jaw when pressed inward by the link. A similar pin or screw 36 is introduced into the draw-head in like manner to the lower screw 34, immediately to the rear of the upper slot 15, through which the chain 30 passes. The upper screw or pin 36 serves to limit the rearward movement of the upper jaw 22. Normally the lower jaw is held in an essentially vertical position, as heretofore stated, by the spring 35, and the upper jaw 22 is retained in contact with the lower jaw by gravity. When the two jaws are thus in contact, the lip 26 of the upper jaw is held in contact with the lug 29 of the lower jaw, and the lip 28 of the lower jaw is in contact with the lug 27 of the upper jaw. Thus, for instance, should the link in entering strike the lower jaw and press it inward, the lip 28 of the lower jaw will so bear upon the lug 27 of the upper jaw that the said upper jaw will move inward simultaneously with the lower one, and should the link strike the upper jaw only the lip of the said upper jaw engaging with the lug of the lower jaw will carry the latter also simultaneously in the

same direction. The lip upon the upper jaw also acts to prevent the same from moving forward in advance of the lower jaw.

In the operation of the coupling one end of an ordinary link is brought in contact with the jaws 22 and 23 at their intersection, or in contact with either of the jaws and pressed inward, whereupon the jaws separate and the link, passing within the forward compartment 11, comes in contact with the buffer-block 17, which receives the shock. The jaws immediately after the passage of the link within the forward compartment drop down and engage, and the walls of the recesses 24 clamp the sides of the link, as illustrated in Fig. 2. In uncoupling, as heretofore stated, the chain 30 is either drawn upward or the shaft 31 is manipulated, whereupon the upper jaw, by means of the chain-connection, is drawn inward, which movement also causes the lower jaw to simultaneously follow in the same direction. It is evident that the jaws need to fall back but a short distance only before gripping the link. The several transverse grooves or channels 18 in the buffer-block 17 are purposed to receive the link, and hold it in the horizontal position illustrated, or in an upwardly or downwardly inclined position when coupling with an opposing draw-head of greater or less height. It will be observed that the two jaws will, by reason of their grip within the buffer-block, hold the link in a horizontal position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a draw-head provided with a link-opening, of an upper and a lower jaw pivoted in the said draw-head contiguous to the link-opening, said jaws having their approaching surfaces beveled in opposite directions and recessed at each side of the center, substantially as shown and described.

2. The combination, with a draw-head having a link-opening, of an upper and a lower jaw pivoted in said draw-head contiguous to the link-opening, having their contiguous edges beveled in opposite directions and provided with a recess at each side of the center, and a lip integral with one jaw capable of engaging with a lug integral with the other jaw, all combined for operation substantially as shown and described.

3. The combination, with a draw-head provided with a link-opening, of an upper and a lower jaw pivoted in the said draw-head contiguous to the link-opening, having their free or contiguous edges beveled in opposite directions and provided with a recess at each side of the center, a spring attached to the lower jaw and to the draw-head, and a chain secured to the upper jaw and leading out through the draw-head, all combined for operation substantially as shown and described.

4. The combination, with a draw-head provided with a link-opening, an upper and a



lower jaw pivoted in the said draw-head contiguous to the link-opening and having their free or contiguous edges beveled in opposite directions, and also having a semicircular recess at each side of the center, of a lip integral with the outer face of the said jaws at opposite sides engaging with a lug upon the opposite jaw, a spring attached to the draw-head and to the lower jaw, and a link projecting outward from the draw-head secured to the upper jaw, all combined for operation substantially as shown and described.

5. The combination, with a draw-head having a link-opening and an upper and a lower jaw pivoted in the said draw-head contiguous to the link-opening, having their free or contiguous edges beveled in opposite directions and provided with recesses at each side of the center, and a lip integral with each jaw adapted to engage with the opposite jaw, of a sliding spring-actuated buffer-block provided with a series of transverse grooves or channels upon its outer face, a spring connecting the lower jaw and the draw-head, and means for limiting the movement of the said jaws, substantially as shown and described.

6. The combination, with a draw-head having a link-opening and an upper and a lower jaw pivoted to the draw-head contiguous to the link-opening, the contiguous or free edges of which jaws are recessed at each side of the

center and beveled in opposite directions, of a lip attached to opposite sides of each jaw engaging with lugs upon the opposite jaw, stop-pins passed through the draw-head at top and bottom to the rear of the jaws, a spring connecting the lower stop-pin of the lower jaw, and a link projected from the rear surface of the upper jaw, all combined for operation substantially as shown and described.

7. The combination, with a draw-head having a link-opening and an upper and a lower jaw pivoted in the draw-head contiguous to the link-opening, the contiguous or free edges of which jaws are recessed at each side of the center and beveled in opposite directions, of a lip attached to opposite sides of each jaw engaging with lugs upon the opposite jaw, stop-pins passed through the draw-head at top and bottom to the rear of the jaws, a spring connecting the lower stop-pin of the lower jaw, and a link projected from the rear surface of the upper jaw, a spring-actuated buffer-block held to slide in the said draw-head to the rear of the jaws and provided with a series of transverse grooves or channels in the forward face, substantially as shown and described.

FRANK PARDEE.

Witnesses:

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CHRISTIAN BACHMAN.