

(No Model.)

M. M. CLARKE.
CAR COUPLING.

No. 482,546.

Patented Sept. 13, 1892.

Fig. 1.

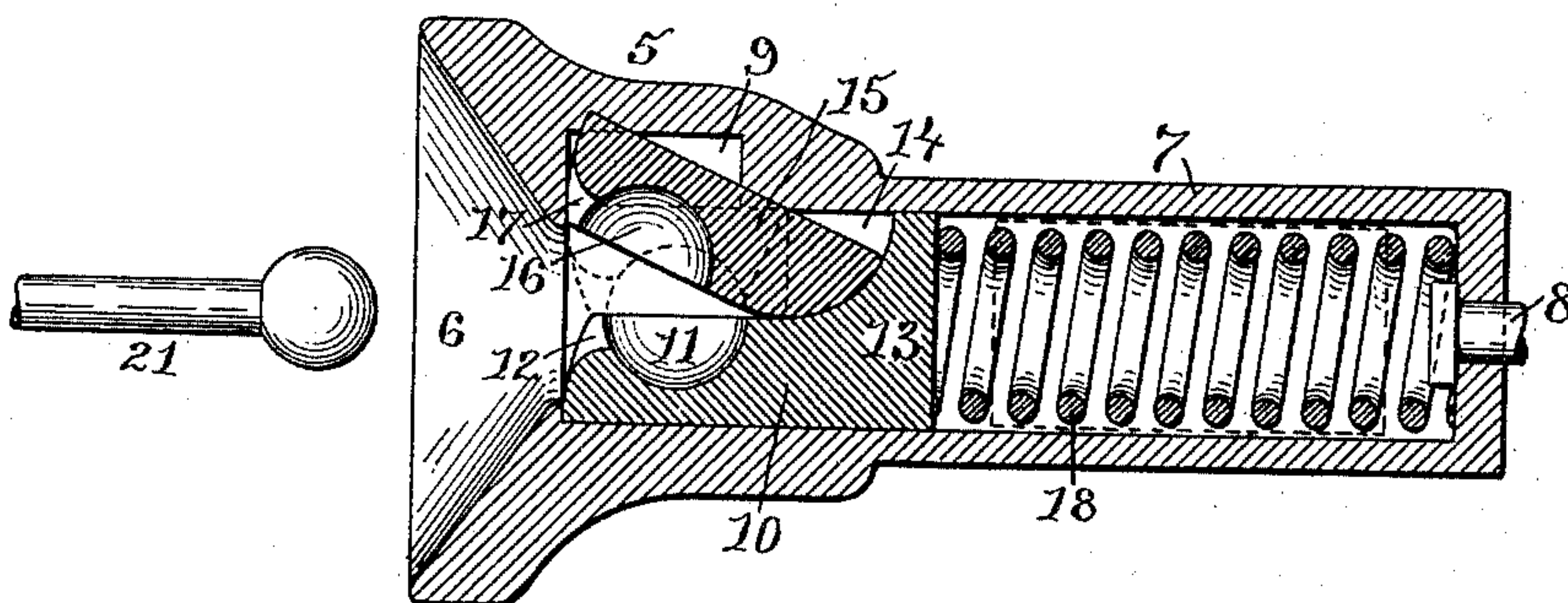


Fig. 2.

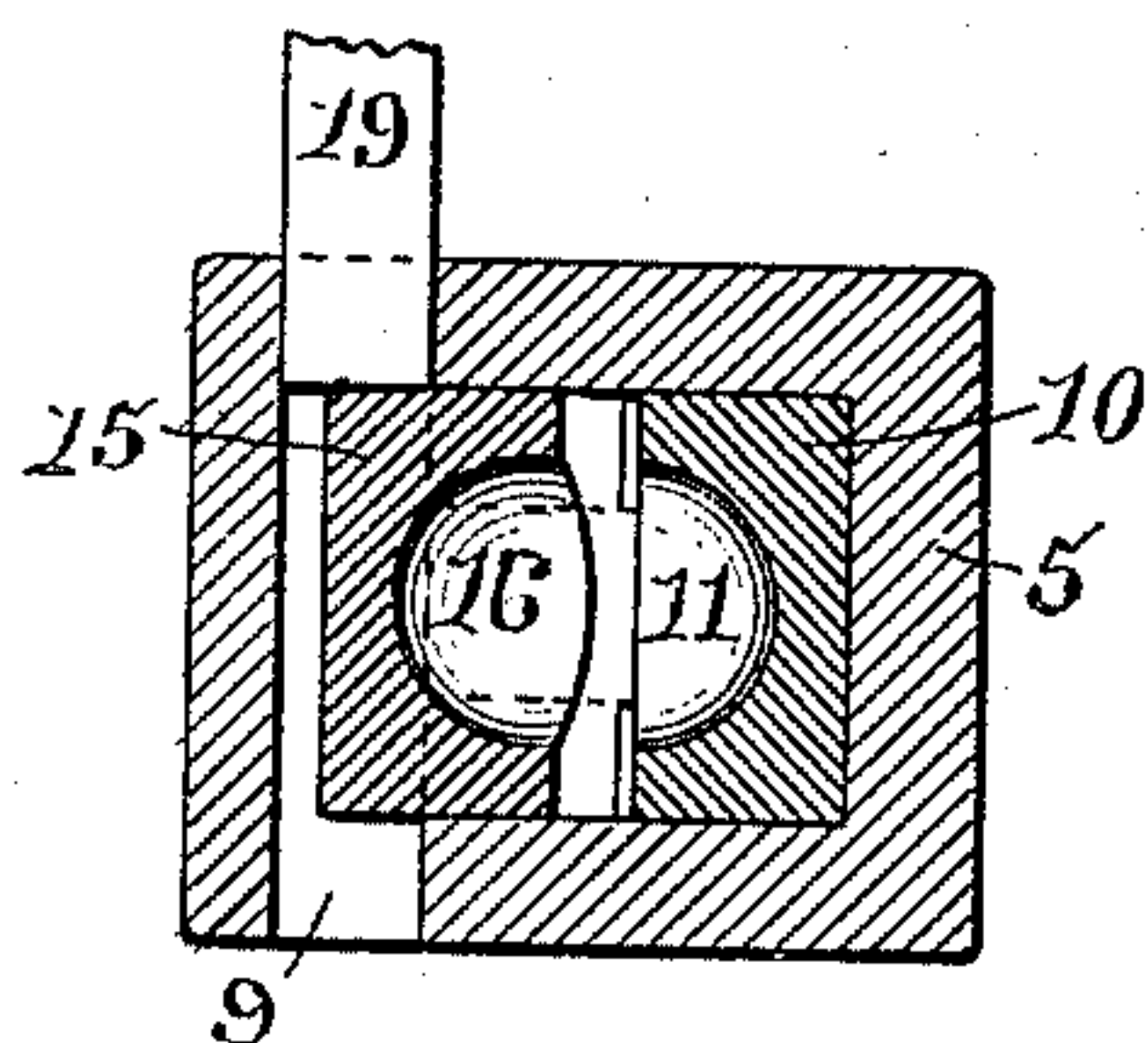
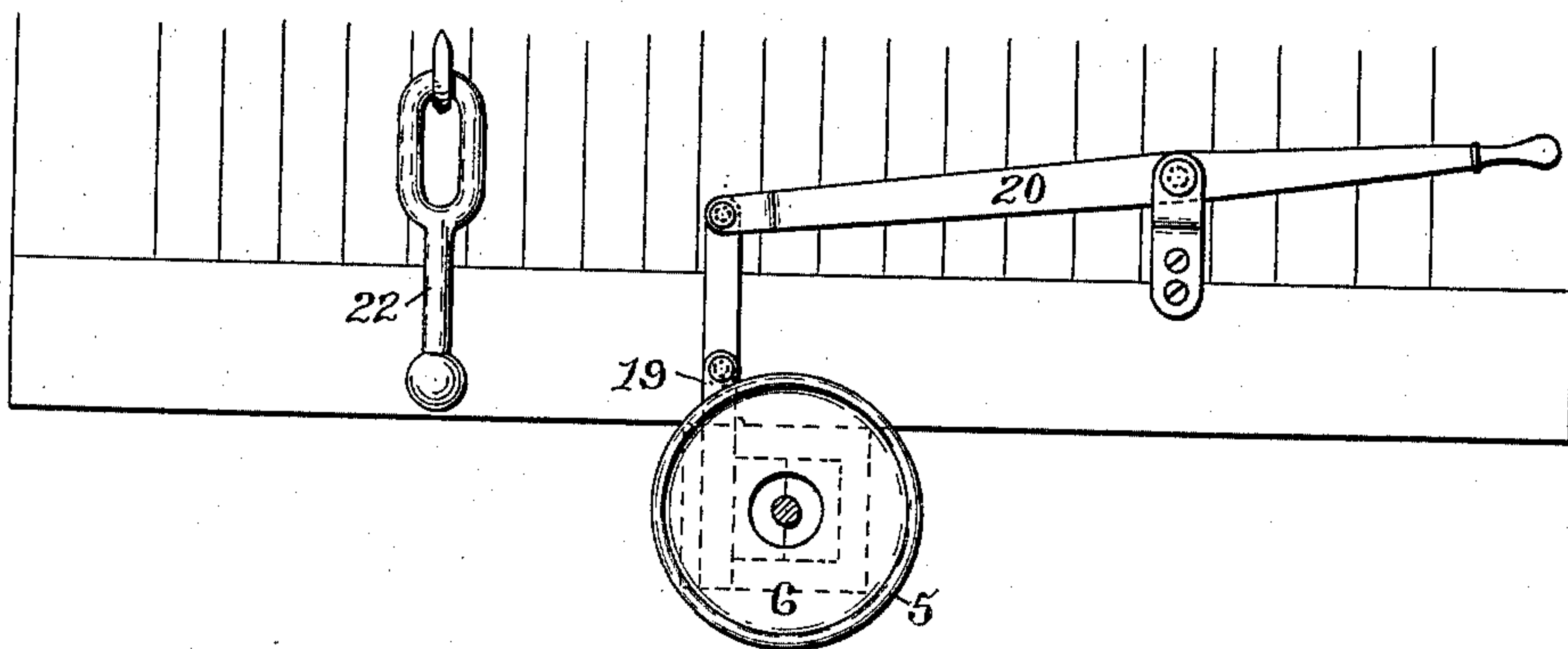


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MILO M. CLARKE, OF WESTERLY, RHODE ISLAND.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 482,546, dated September 13, 1892.

Application filed January 6, 1892. Serial No. 417,161. (No model.)

To all whom it may concern:

Be it known that I, MILO M. CLARKE, of Westerly, in the county of Washington and State of Rhode Island, have invented certain new and useful Improvements in Car-Couplers; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in automatic car-couplers.

The object of this invention is to produce a car-coupler which will automatically operate to engage the end of a connecting-pin pressed into the open end thereof and to lock the same in place until released by the removal of the locking-pin.

The further object of the invention is to produce an automatic car-coupler adapted to serve as a spring-buffer.

The invention consists in the peculiar construction of the coupler head and case and the novel combination therewith of the jaws, locking-pin, and buffer-spring, together with other peculiar features of construction and combination of parts, which will hereinafter be more fully described, and pointed out in the claims.

Figure 1 represents a longitudinal sectional view of the improved car-coupler to show the construction and to indicate the operation of the same. Fig. 2 represents a cross-sectional view of the same, taken through the jaws. Fig. 3 represents an end view of the coupler secured to the end of the car and a connecting-pin held therein.

Similar numbers of reference designate corresponding parts throughout.

In the drawings, 5 indicates a hollow coupler-head of substantially the usual outer shape and having a bell-shaped mouth 6 and a hollow shank 7, through the rear end of which the headed draw-rod 8 extends. In the upper surface of the hollow shank 7 is formed an opening of sufficient size to allow of the insertion of the working parts, this opening being closed by a suitable cover.

Adjoining the hollow portion of the coupler-head is a vertical slot 9, extending from the upper outer surface of said head to the lower portion thereof.

The jaw 10 has a cavity 11 formed on its

vertical inner surface and a flaring opening 12 at its rear end. It has a base 13 of a size to loosely fit the interior walls of the head and shank, the central portion of this base being extended to form the rib 14, on each side of which the metal of the base is curved longitudinally to the main portion of the jaw. The jaw 15 has also a cavity 16 at the forward portion of its vertical inner surface and a flaring opening 17 connecting therewith. At the rear portion this jaw is furnished with a central transverse slot to receive the rib 14 of the jaw 10, this end of the jaw being rounded away to correspond with the curves in the base portion of the jaw 10. The jaws 10 and 15 are introduced to the interior of the hollow shank 7 through the opening above mentioned and pushed forward until their front ends come in contact with the front wall of the head, thus bringing the flaring openings 12 and 17 directly in the center of the contracted portion of the mouth 6. A coiled spring 18 is now forced into the hollow shank 7, the ends bearing against the base of the jaw 10 and the end of said shank, and the locking-bar 19 is inserted in the vertical slot 9 to prevent the jaws from spreading, the upper end of this locking-bar being pivotally connected with one end of the pivoted lever 20, which extends toward one side of the car. The end of this lever supporting the locking-bar may also be provided with a chain or rod extending to the roof of the car.

The connecting-pin 21, used with this car-coupler, is formed with a shank having a ball at either end. Additional pins may also be provided similar to that marked 22, the shank having a ball at one end and a link at the other for use in coupling a car provided with the improved coupler with one on which the link-and-pin coupler is used. The locking-bar 19 being withdrawn from the slot 9, the jaws 10 and 15 are free to open, that marked 15 swinging into the slot 9. As the ball on the end of the connecting-pin is inserted through the bell-mouth 6 its entrance between the jaws is facilitated by the flaring openings 12 and 17, thus separating the jaws until it strikes the rear walls of the cavities 11 and 16. The pressure will now be exerted to force the jaws backward against the spring 18, which acts as a buffer to prevent a sudden jar. As this

spring is forced back the rear portions of the jaws are driven into the hollow of the shank, which automatically closes, thus confining the ball end of the connecting-pin in the cavities 5 11 and 16. As the jaw 15 is forced inward, the locking-bar 19, the lower end of which has been supported in the slot 9 by said jaw, as shown in Fig. 2, is allowed to drop, securely locking the jaws together. As the pressure 10 on the pin 21 is relieved the spring 18 will again force the jaws forward against the open end of the mouth. When the locking-pin 19 is withdrawn in the slot 9 above the top of the jaw 15, this jaw is again free to move 15 sidewise and release the ball.

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

1. In a car-coupler, the combination, with a 20 hollow coupler-head having a hollow shank and a bell-shaped mouth and a forward vertical slot adjoining said hollow portion, of two separable spring-operated blocks longitudinally movable in said hollow portion and having 25 ing cavities in their adjoining surfaces, a con-

necting-pin having an end adapted to be contained in said cavities, and means adapted to be contained within said vertical slot for locking said blocks together, as described.

2. The combination, with the hollow coupler-head having the mouth 6, hollow shank 7, 30 and vertical slot 9, of the jaw 10, having the cavity 11 and flaring opening 12 at the forward portion and the base 13 and rib 14, the jaw 15, having a central transverse slot en- 35 gaging the rib 14 of the jaw 10 and the forward cavity 16 and flaring opening 17, a coiled spring 18, contained within the hollow of said base and pressing against the base of the jaw 10, the locking-bar 19, adapted to move in the 40 slot 9, and means for operating the same, and a connecting-pin 21, having a ball end adapted to be engaged by said cavities, as and for the purpose described.

In witness whereof I have hereunto set my 45 hand.

MILO M. CLARKE.

Witnesses:

JOSEPH A. MILLER, Jr.,
M. F. BLIGH.