

(No Model.)

2 Sheets—Sheet 1

H. C. BUHOUP.  
CAR COUPLING.

No. 559,322.

Patented Apr. 28, 1896.

FIG. 1.

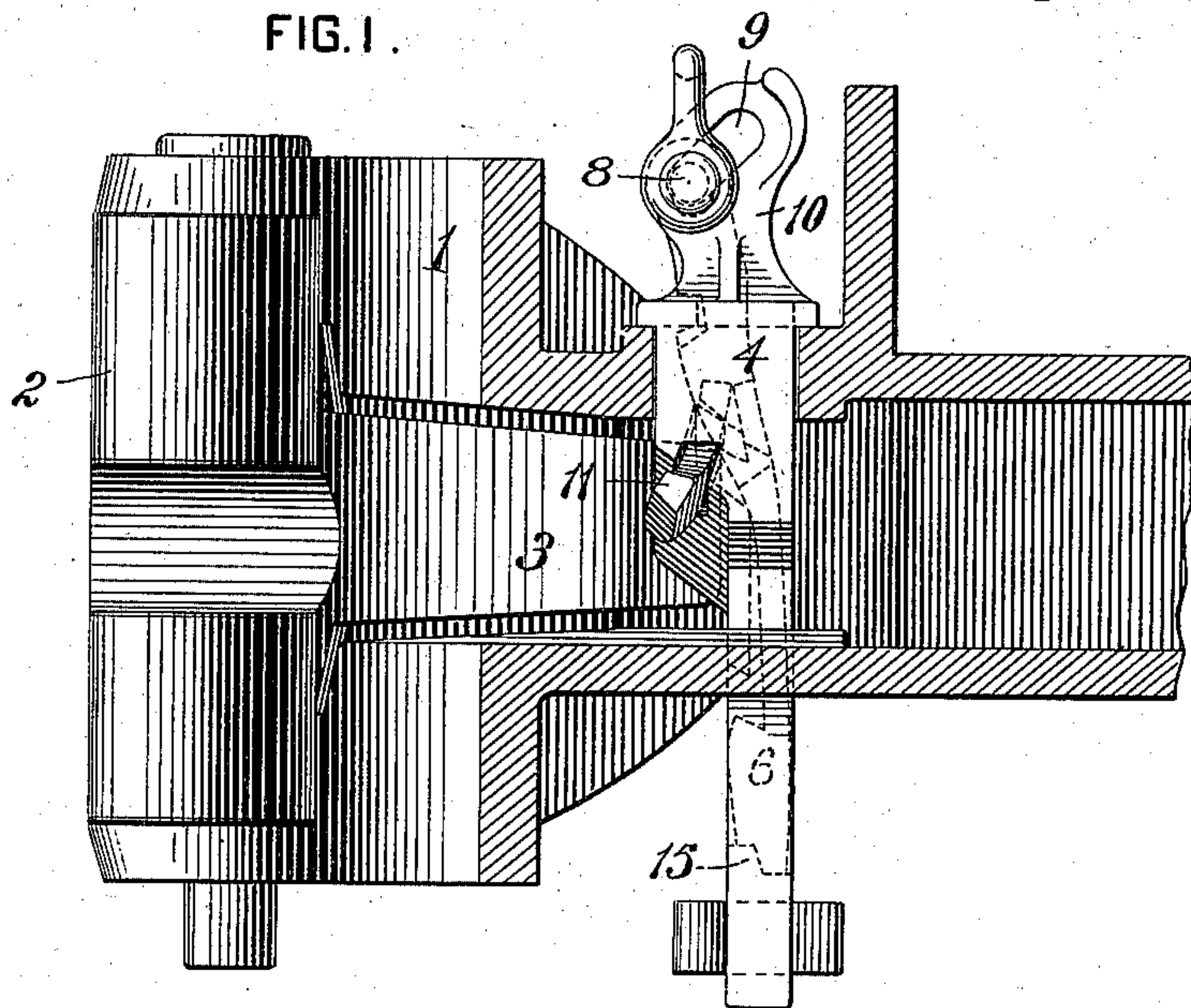
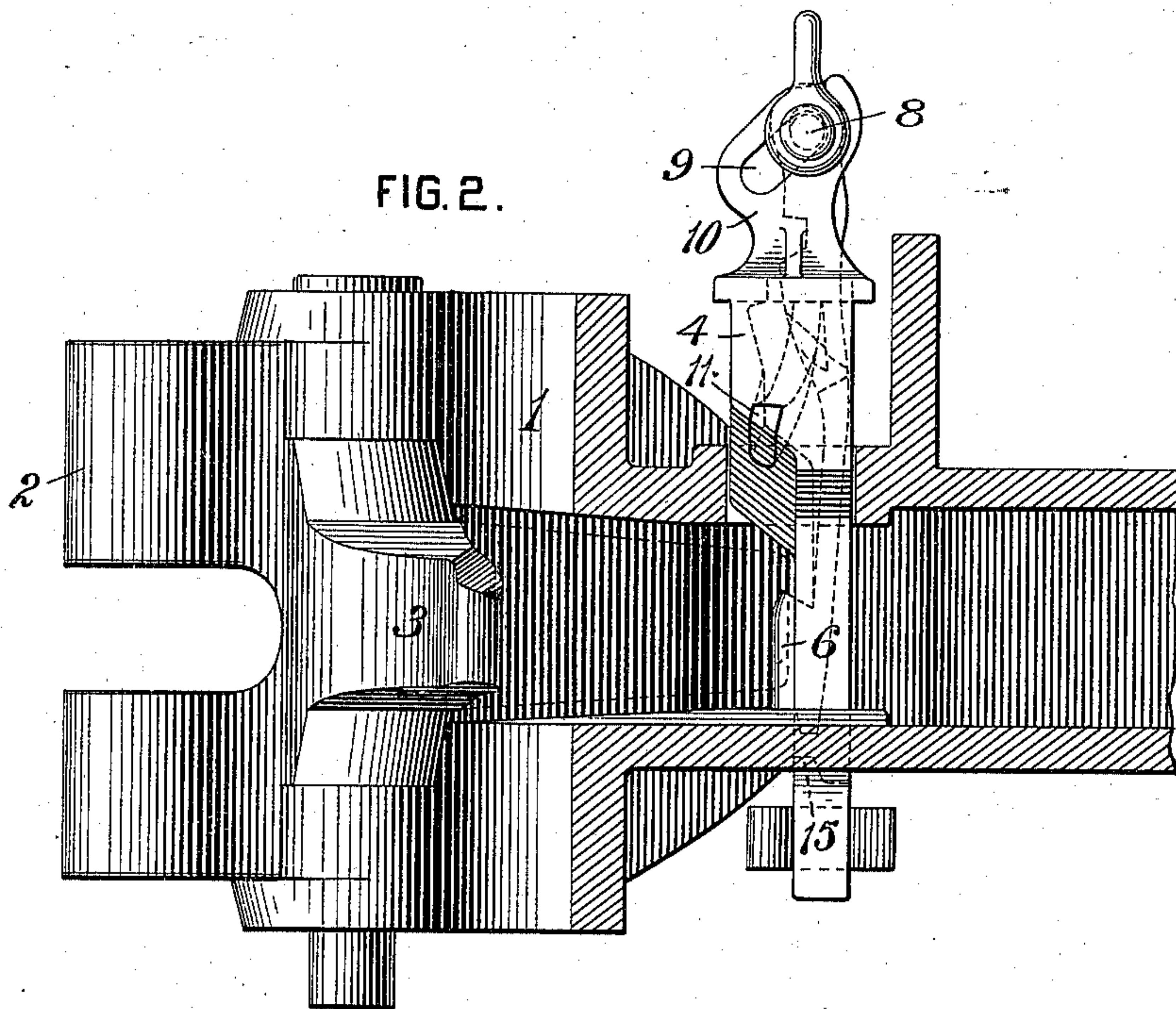


FIG. 2.



WITNESSES:

*Chas. F. Miller.*  
*A. E. Gaither.*

INVENTOR,

*Harry C. Buhoup*  
by *Dennis S. Wolcott* Att'y.

(No Model.)

2 Sheets—Sheet 2.

H. C. BUHOUP.  
CAR COUPLING.

No. 559,322.

Patented Apr. 28, 1896.

FIG. 3.

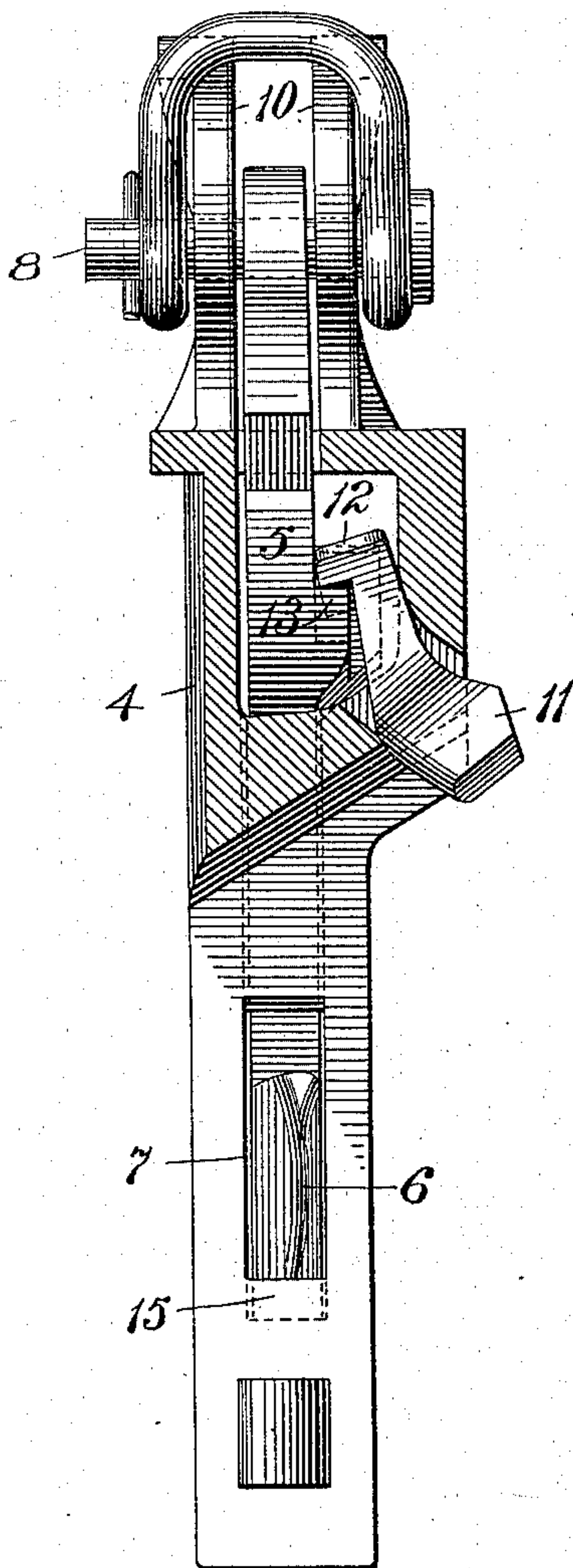


FIG. 4.

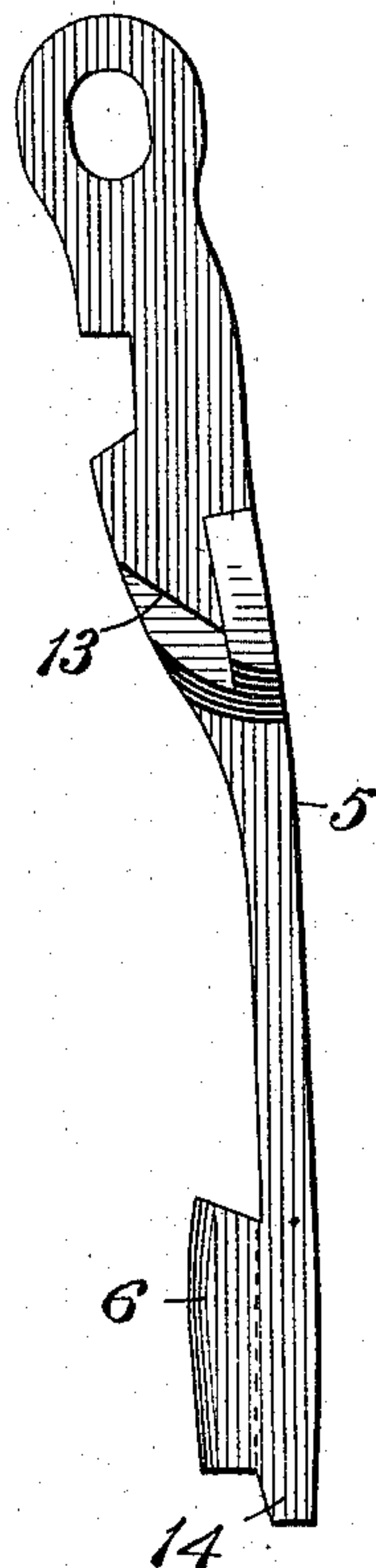
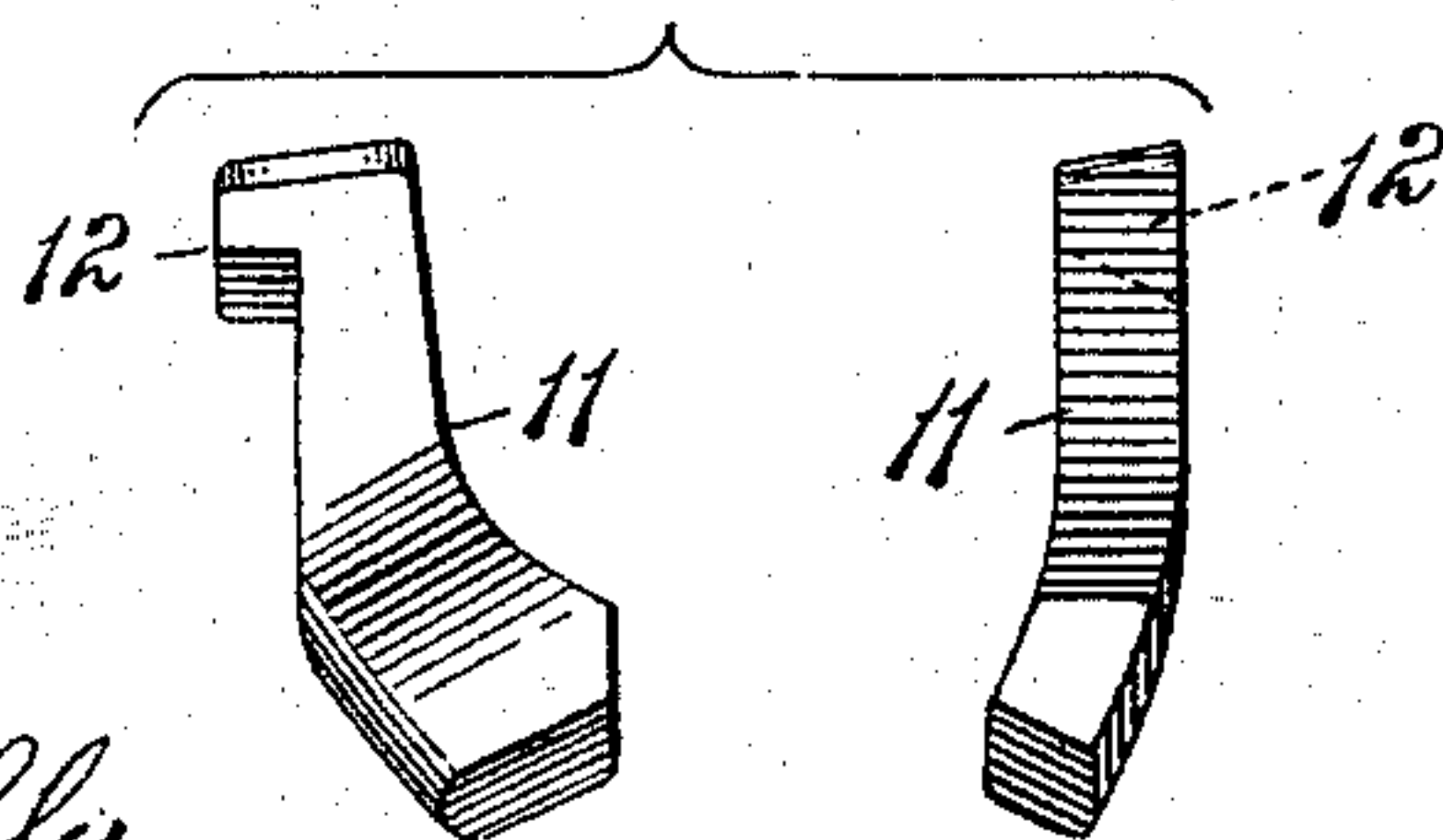


FIG. 5.



WITNESSES:

*Chas. F. Miller.*  
*J. C. Gaither*

INVENTOR,

*Harry C. Buhoup*  
*by Dennis S. Wolcott*

Att'y.



# UNITED STATES PATENT OFFICE.

HARRY C. BUHOUP, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MCCONWAY & TORLEY COMPANY, OF PITTSBURG, PENNSYLVANIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 559,322, dated April 28, 1896.

Application filed January 25, 1896. Serial No. 576,765. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY C. BUHOUP, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented or discovered certain new and useful Improvements in Car-Couplers, of which improvements the following is a specification.

The invention described herein relates to certain improvements in car-couplers whereby provision is made to prevent any accidental upward movement of the pin from unlocking position, to provide for so supporting the pin in unlocking position that it can be tripped by the tail of the knuckle in its opening or closing movements, to arrange the detent so as to be shifted to release position by the tail of the knuckle in its closing movement, and to so arrange the detent and support that the shifting of the latter to operative position by the pin-lifting mechanism must be preceded by the shifting of the detent to release position.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of a car-coupler of the Janney or swinging-hook type, having my improvements applied thereto, the pin being shown in locking position. Fig. 2 is a similar view showing the pin in raised or unlocking position. Fig. 3 is a sectional elevation of the locking-pin on an enlarged scale. Figs. 4 and 5 are detail views of the supporting-catch and pin-locking detent respectively.

The coupler, consisting of the head 1, knuckle 2, and tailpiece 3, is preferably of the Janney type of swinging-hook coupler. The locking-pin 4 is formed with a head or enlargement at its upper end and the lower end of said head is inclined or beveled, so that the tail 3 in its closing movement will by impact on such incline lift the pin sufficiently far to allow the tail to pass to the rear of the head, which, when the pin drops, will lock the knuckle and tailpiece in closed position.

As shown, described, and claimed in Letters Patent No. 546,738, dated September 24, 1895, the locking-pin is formed with a longitudinal recess for the reception of a catch for

supporting the pin in unlocking position. This catch consists of a stem 5, provided at or near its lower end with an ear or lug 6, adapted to project through a slot 7, extending from the longitudinal recess in the pin, and engage a stationary portion of the coupler-head to support the pin in unlocking position, as shown in Fig. 2. The catch device is so arranged that when shifted to its pin-supporting position a portion thereof will be in the path of movement of the tail 3 and will be tripped by the tail of the knuckle in its opening or closing movements, thereby permitting the pin to drop to locking position. The stem of the catch is pivotally mounted on a pin 8, passing through upwardly-inclined slots 9, formed in lugs 10 on the upper end of the locking-pin 4, which is raised to unlocking position by a chain, lever, or other suitable mechanism attached to the pin 8.

In order to prevent the supporting-catch being brought into operation when the locking-pin is raised by the tail of the knuckle and at the same time provide for its being brought into operation when the locking-pin is raised by the lifting mechanism, the catch is so constructed as regards the length of the stem and the location of the ear or lug that when the pin 8 is at or near the lower end of the slot 9 the catch, lug, or ear will be in such position with relation to the locking-pin that the upward movement of the latter by the tail of the knuckle, the catch, lug, or ear will not be lifted sufficiently to permit of its projecting out through the slot 7 over the lower wall of the coupler-head. As the catch is connected to the lifting-pin 8, which has a considerable vertical movement independent of the locking-pin, the catch will be adjusted by the lifting mechanism along the locking-pin sufficiently far to permit the catch-lug 6, when the locking-pin is raised to unlocking position, to project through the slot over the lower wall of the coupler-head, and thereby hold the locking-pin in inoperative or unlocking position. Thus it will be seen that the catch is so arranged as to be inoperative when the locking-pin is lifted by the tail of the knuckle, but is adjusted by the initial movement of the pin-lifting mechanism, so as to become operative when the locking-pin is



raised by the further movement of the lifting mechanism.

In order to prevent an accidental creeping up of the locking-pin by reason of the independent oscillation of the cars, a detent 11 is so mounted on the locking-pin as to normally project therefrom and to engage a stationary part of the coupler-head—as, for example, the underside of the top wall of the coupler-head—and thereby prevent such upward movement of the locking-pin as will release the knuckle. The detent is preferably made in the form of a curved or bent finger projecting through an opening in the locking-pin into the longitudinal recess therein and is provided at its inner end with a laterally-projecting lug 12, which normally rests upon a shoulder 13 on the stem 5 of the supporting-catch. The finger or detent is so supported by the stem, when the locking-pin and catch are in normal position, that its lower end will project into the path of the closing movement of the tail of the knuckle, so as to be pushed out of operative position before the locking-pin is lifted by the tail of the knuckle operating on the inclined surface of the locking-pin. It will be observed that the finger or detent is so supported by the catch as to be free to move independent thereof when operated on by the tail of the knuckle, and also to be withdrawn or shifted to inoperative position by the catch during its initial independent upward movement.

As will be seen by reference to Figs. 1 and 2, the catch is so shaped at its point of connecting with the pin-lifting mechanism that when lifted the lower portion of the catch will swing in a direction to cause the ear or lug to project out through the slot 7. Such lateral movement of the catch cannot take place until the locking-pin and catch have been raised to a point where the lower end of the lug or ear 6 is above the lower wall of the coupler-head, as during the initial upward movement of the catch the toe 14 lies behind the shoulder or stop 15 on the locking-pin, and the toe, stop, and ear or lug are so proportioned and arranged that the upper portion of the ear or lug will be within the pin-opening in the lower wall of the coupler-head before the toe will be raised clear of the stop. Thus it will be seen that, although there is a constant tendency to lateral movement on the part of the catch, such movement cannot occur until the ear or lug has passed entirely within the coupler-head, or until the pin 4 has reached unlocking position.

I claim herein as my invention—

1. The combination of a coupler-head, a pivoted knuckle or swinging hook, a pin for locking the hook in a closed position, mechanism directly connected to the pin for raising the same to unlocking position, and a catch connected to the pin-lifting mechanism and adapted to be shifted, when such mechanism is operated to raise the pin, into engagement with a stationary portion of the coupler-head and thereby support the pin in unlocking position, substantially as set forth.

2. The combination of a coupler-head, a pivoted knuckle or swinging hook, a pin for locking the hook in a closed position, mechanism having a slotted connection with the pin for raising the same to unlocking position and a catch connected to the pin-lifting mechanism and adapted to be lifted independent of the pin during the initial movement of the lifting mechanism and to be shifted by a further movement of the mechanism into engagement with a stationary portion of the coupler and thereby support the pin in unlocking position, substantially as set forth.

3. The combination of a coupler-head, a pivoted knuckle or swinging hook, a pin for locking the hook in closed position, a catch for supporting the pin in unlocking position, and a detent for preventing the unlocking movement of the pin, but adapted to be shifted to inoperative position by the pin-supporting catch and by the tail of the knuckle when being shifted to a closed position, substantially as set forth.

4. The combination of a coupler-head, a pivoted knuckle or swinging hook, a pin for locking the hook in a closed position, a detent for preventing an unlocking movement of the pin, and a catch for supporting the pin in unlocked position and provided with a shoulder adapted to engage and shift the detent when the catch is being raised to operative position, substantially as set forth.

5. The combination of a coupler-head, a pivotal knuckle or swinging hook, a pin for locking the hook in a closed position, a pin-supporting catch adapted to move independent of the pin, a detent for preventing an unlocking movement of the pin and adapted to be shifted by the catch during its independent movement and by the tail of the knuckle independent of the catch, substantially as set forth.

In testimony whereof I have hereunto set my hand.

HARRY C. BUHOUP.

Witnesses:

A. J. ZWART,  
D. B. MASON.