(No Model.) 2 Sheets—Sheet 1.

# C. A. TOWER.

## CAR COUPLING.

No. 482,105. Patented Sept. 6, 1892.

Fig. 1.

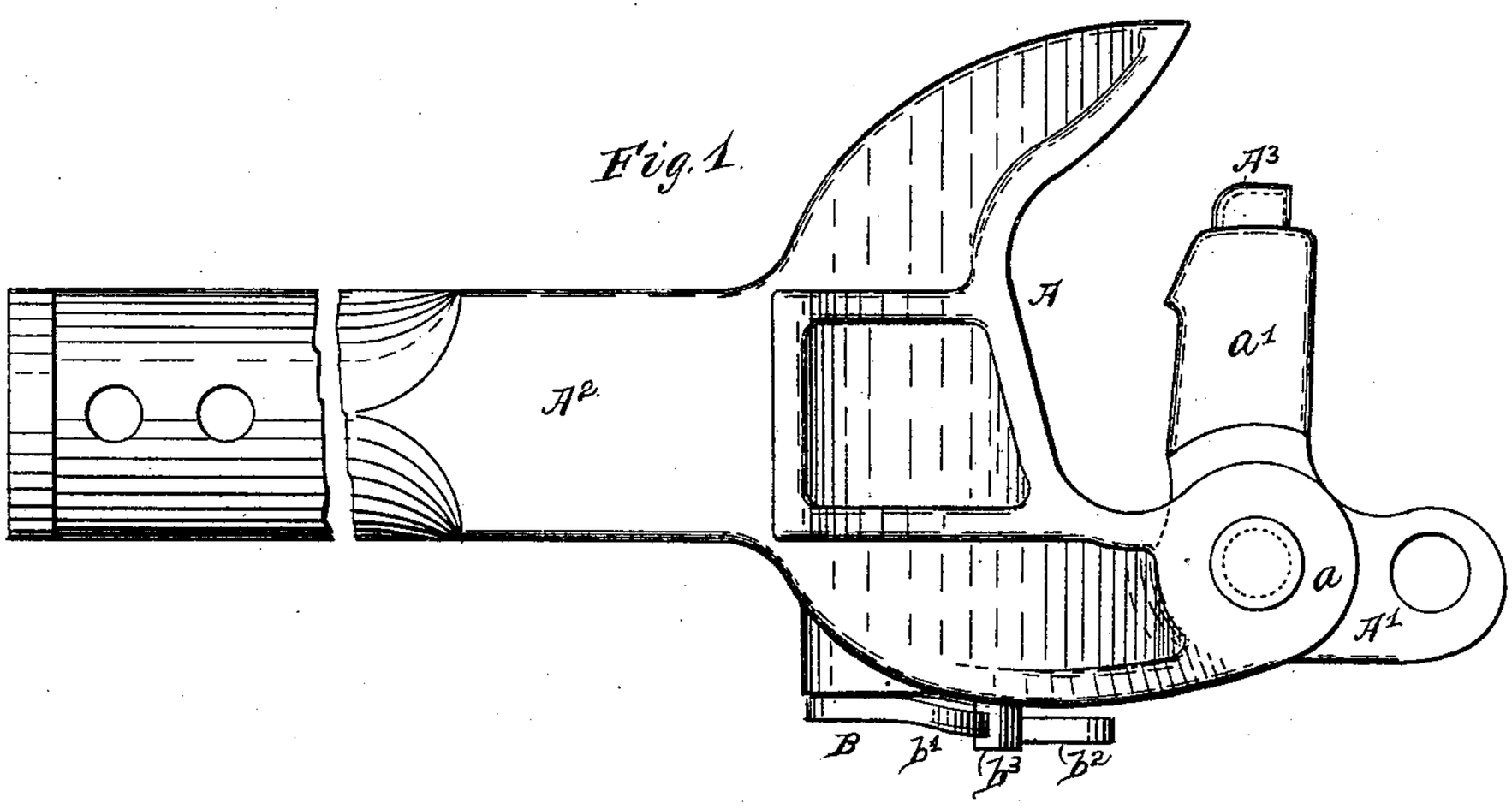
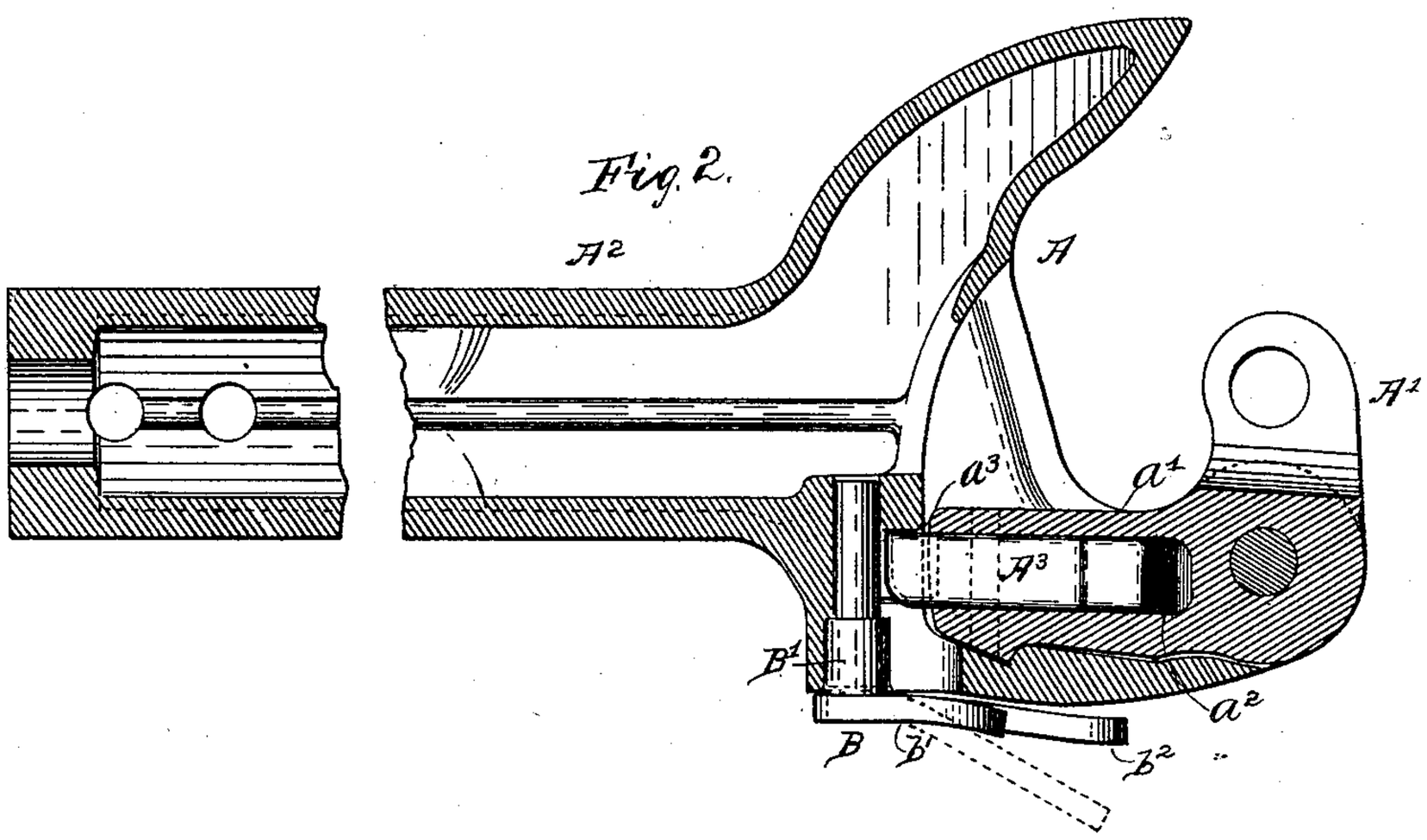



Fig. 2.




WITNESSES:

S. R. Ferguson

Jas. C. Chapin.

INVENTOR

Clinton A. Tower

BY Edwin H. Ferguson

HIS ATTORNEY

(No Model.) 2 Sheets—Sheet 2.

# C. A. TOWER.

## CAR COUPLING.

No. 482,105. Patented Sept. 6, 1892.

Fig. 3.

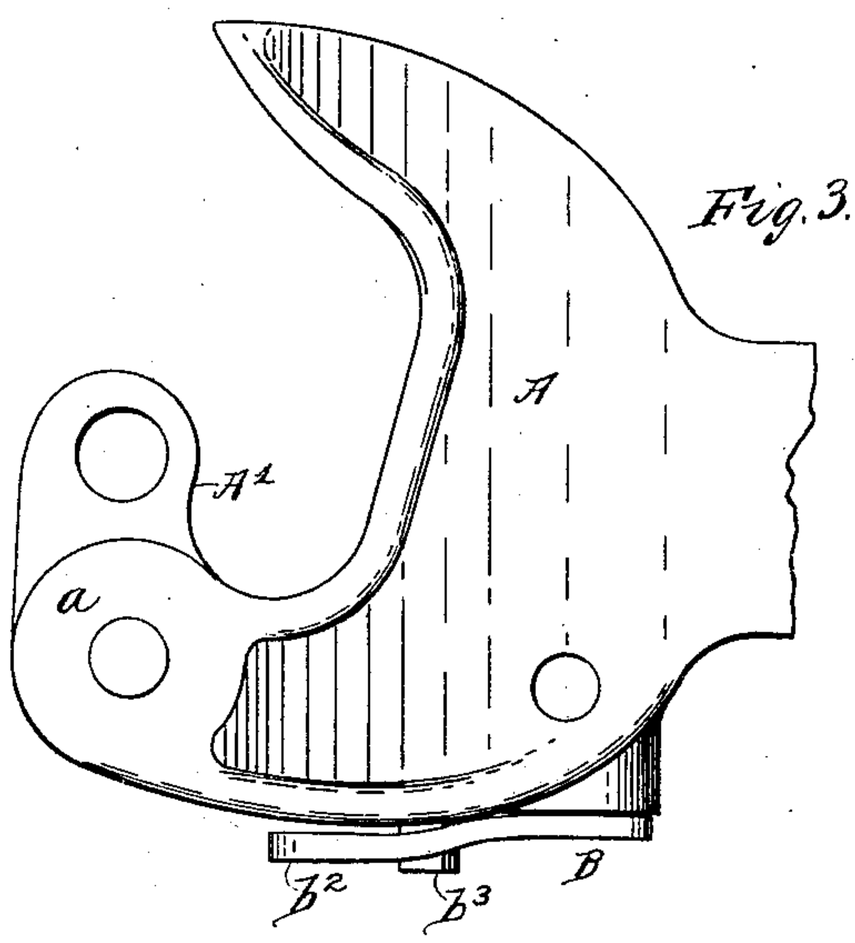



Fig. 4.

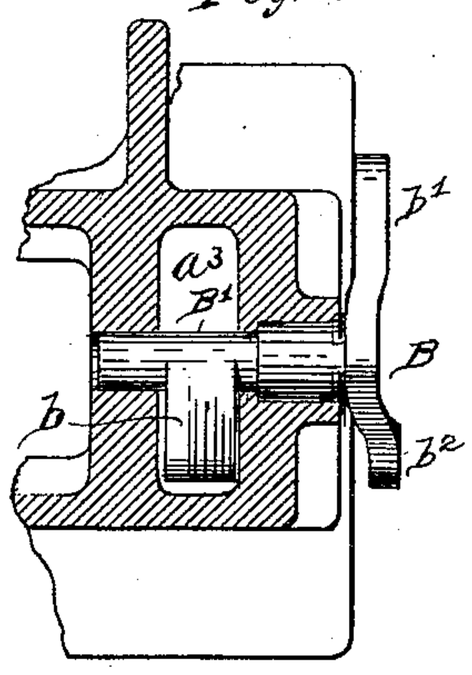
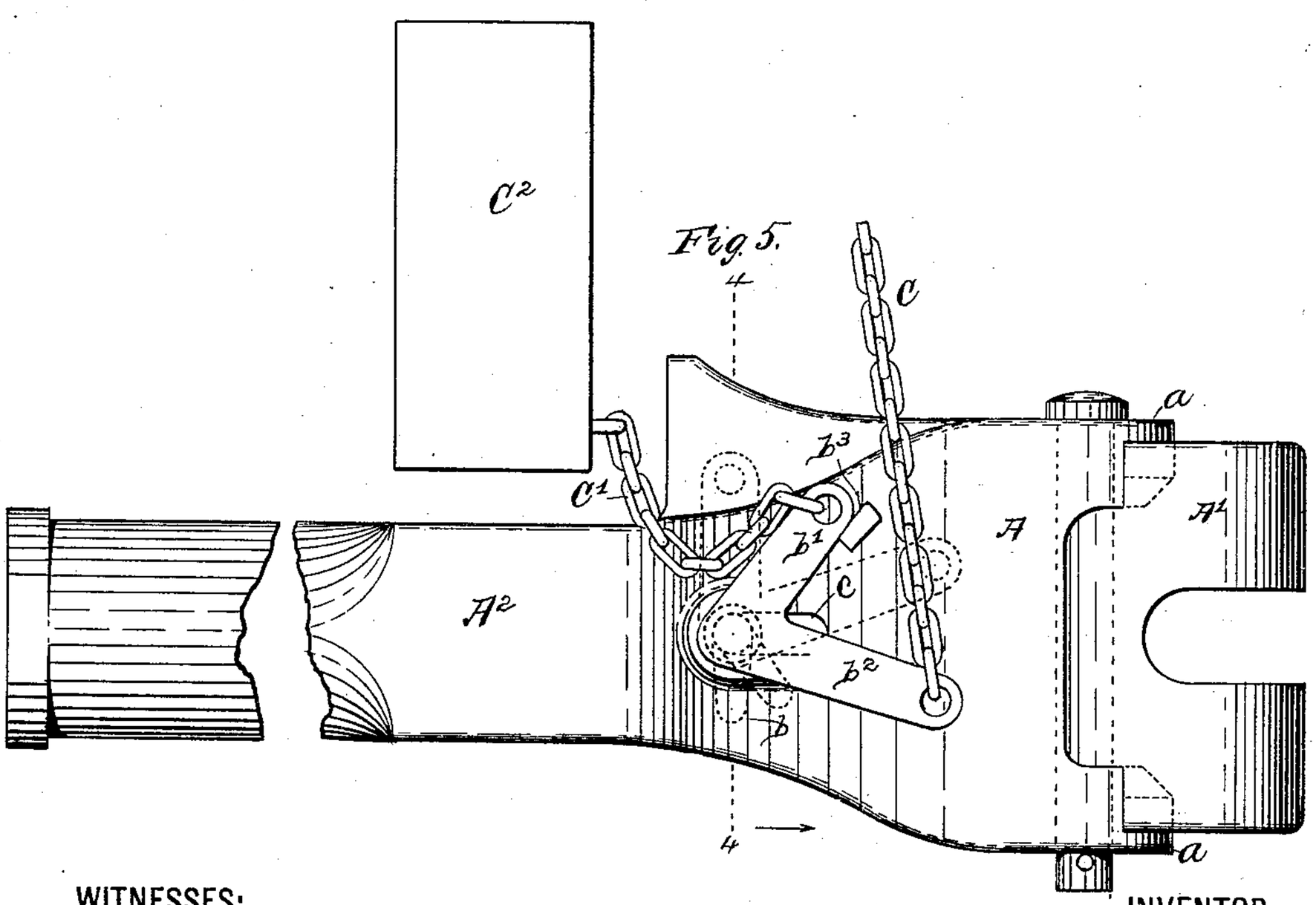



Fig. 5.




WITNESSES:
S. R. Ferguson
Jas. C. Chapin

INVENTOR
Clinton A. Tower
BY Edwin A. Brown
HIS ATTORNEY

# UNITED STATES PATENT OFFICE.

CLINTON A. TOWER, OF CLEVELAND, OHIO, ASSIGNOR TO THE EMPIRE CAR COUPLER COMPANY, OF WEEHAWKEN, NEW JERSEY.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 482,105, dated September 6, 1892.

Application filed January 20, 1892. Serial No. 418,647. (No model.)

*To all whom it may concern:*

Be it known that I, CLINTON A. TOWER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Car-Couplers, of which the following is a specification.

This invention relates to car-couplers; and it consists in means for automatically unlocking or releasing the coupling from another coupling should the coupler be accidentally broken or detached in the rear of the locking device, and thus prevent the coupler from falling upon the track.

I will describe a coupler embodying my improvement, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a top view of a coupler embodying my improvement. Fig. 2 is a transverse horizontal section thereof. Fig. 3 is a bottom view. Fig. 4 is a section through the line 4 4 of Fig. 5. Fig. 5 is a side view.

Referring by letter to the drawings, A designates the coupler-head having the movable or swinging coupling-section A′ and the shank portion $A^2$. The section A′ is pivoted between the forwardly-extending lugs *a* of the head A, and its rearward extension *a′* is provided with a longitudinal recess $a^2$, having a downwardly and outwardly inclined lower wall and within which the gravity locking-bolt $A^3$ operates. The head A has a recess $a^3$, into which the end of the locking-bolt $A^3$ extends to hold the swinging section A′ in the locked position, as shown in Fig. 2.

B designates an unlocking device consisting of a rock-shaft B′, having bearings in the head A and extending across the recess $a^3$. Within the recess $a^3$ the shaft B′ is provided with a lug *b*, which may be integral with the shaft or otherwise secured thereon and extended at right angles to the length of the shaft.

At the outer end the shaft B′ is provided with arms $b'$ $b^2$, extended at an angle one from the other. These arms are preferably of malleable iron.

A lug $b^3$, extending outward from the side of the head A, serves as a stop to prevent the arms $b'$ $b^2$ from swinging too far downward and also to prevent the accidental detachment of the unlocking device from the head.

As a means for placing the unlocking device in position, the head A is provided with an opening or slot *c*, extending outward from the recess $a^3$, and through which the lug *b* is pushed when the shaft is inserted. As the arm $b^2$ will be above the lug $b^3$ when the lug *b* is inserted, the said arm is first bent outward, as shown in dotted line in Fig. 2, so as to clear the lug $b^3$, when the arms are moved downward into their normal position. Then the arm $b^2$ is bent inward by means of a hammer or other suitable tool. When in this condition, the arm $b'$ will normally rest upon the lug $b^3$, with the arm $b^2$ below said lug. The lug *b* being at nearly right angles to the arm $b^2$ and the opening *c* being on a horizontal plane with the shaft B′, it is obvious that the lug $b^3$ will limit an upward movement of the arm $b^2$ and prevent the lug *b* from coming in line with the opening *c*.

A chain C extends upward from the arm $b^2$ to any convenient point within reach of an operator, and an upward pull on this chain will rock the shaft B′, so that its lug *b* will contact with and force the bolt $A^3$ into the recess $a^2$, allowing the section A′ to be swung open, as in Fig. 1.

I provide means for automatically operating the unlocking device should the coupler be accidentally broken off in the rear of the locking device. The automatic means here shown consists of a flexible connection—such, for instance, as a chain C′—between the arm $b'$ and a fixed portion $C^2$ of a car. Obviously, should the coupler be broken off its head portion would be pulled forward by the car to which it is coupled, but the chain C′ would operate the unlocking device to release the section A′ and also prevent the coupler-head from falling to the track.

Having described my invention, what I claim is—

1. In a car-coupler, the combination, with the head and the swinging section carrying a

locking-bolt, of the rock-shaft having a lug to engage the locking-bolt and an arm on the outer end of said shaft, substantially as specified.

2. The combination of the coupler-head, the swinging section, the locking mechanism, means comprising a rock-shaft for operating the locking mechanism, and an arm or arms on the outer end of said shaft of malleable iron, substantially as specified.

3. In a car-coupler, the combination, with the head and the swinging section carrying a locking-bolt, of a rock-shaft having a lug to engage the locking-bolt, an arm on the outer end of said shaft, and a connection between said arm and a fixed portion of a car, whereby the unlocking device will be operated should the coupler be detached in the rear thereof, substantially as specified.

4. The combination of the coupler-head having the recess and an outward opening, the rock-shaft having the lug, the arms $b'$ $b^2$, and the stop $b^3$ on the head, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLINTON A. TOWER.

Witnesses:
E. A. ANGELL,
S. O. EDMONDS.