

(No Model.)

A. BENTON, Sr.
CAR COUPLING.

No. 589,493.

Patented Sept. 7, 1897.

Fig. 1.

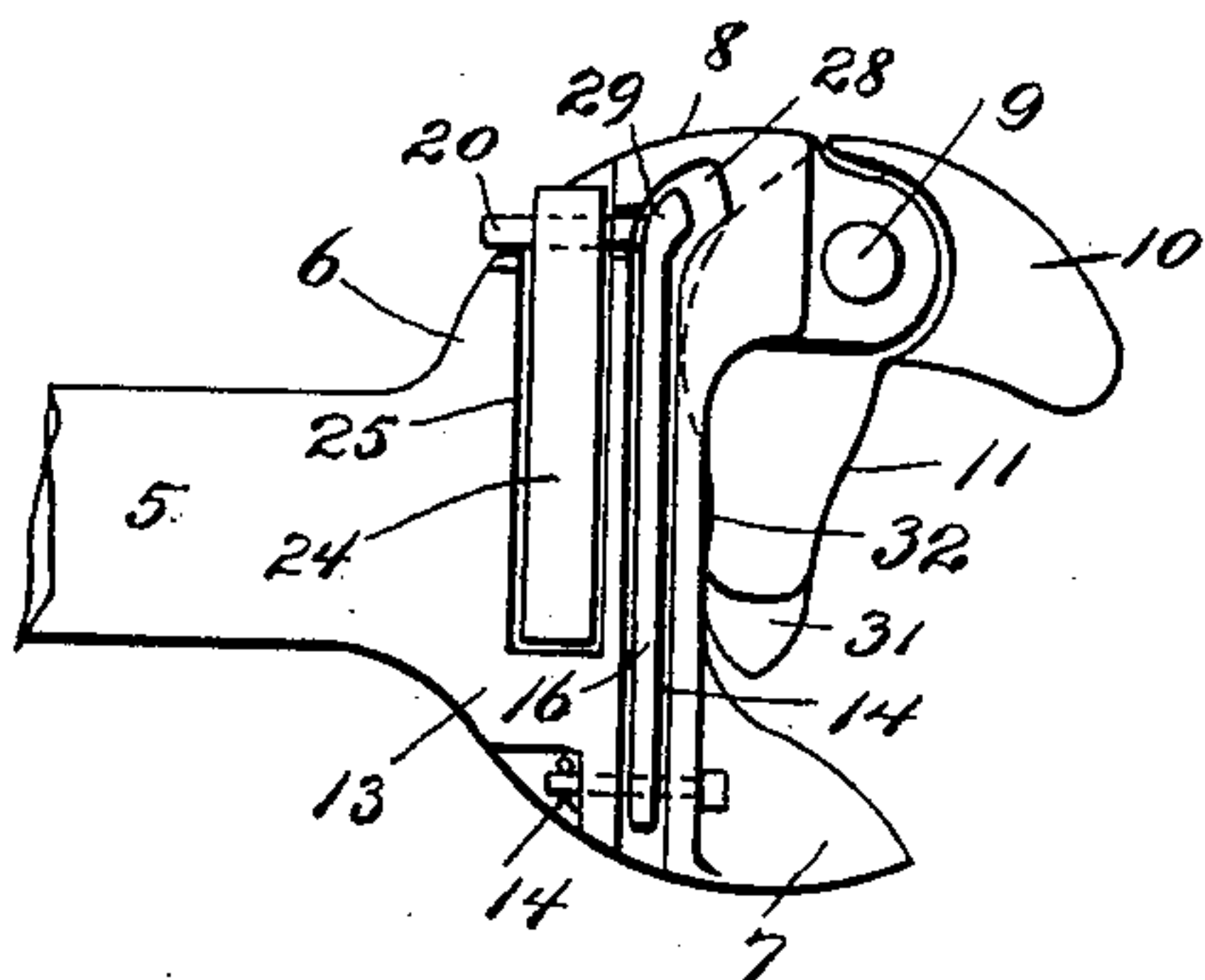


Fig. 2.

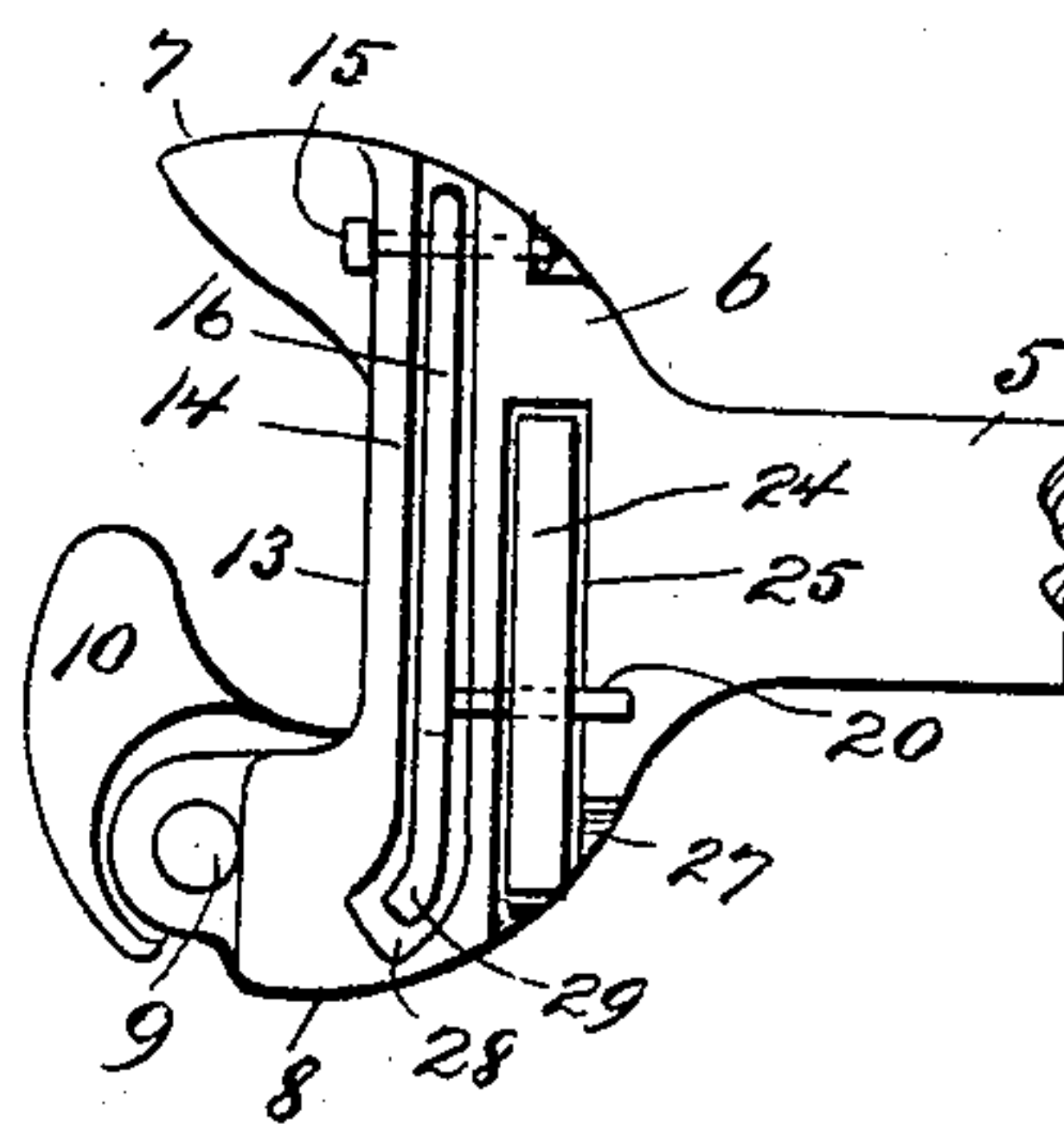


Fig. 3.

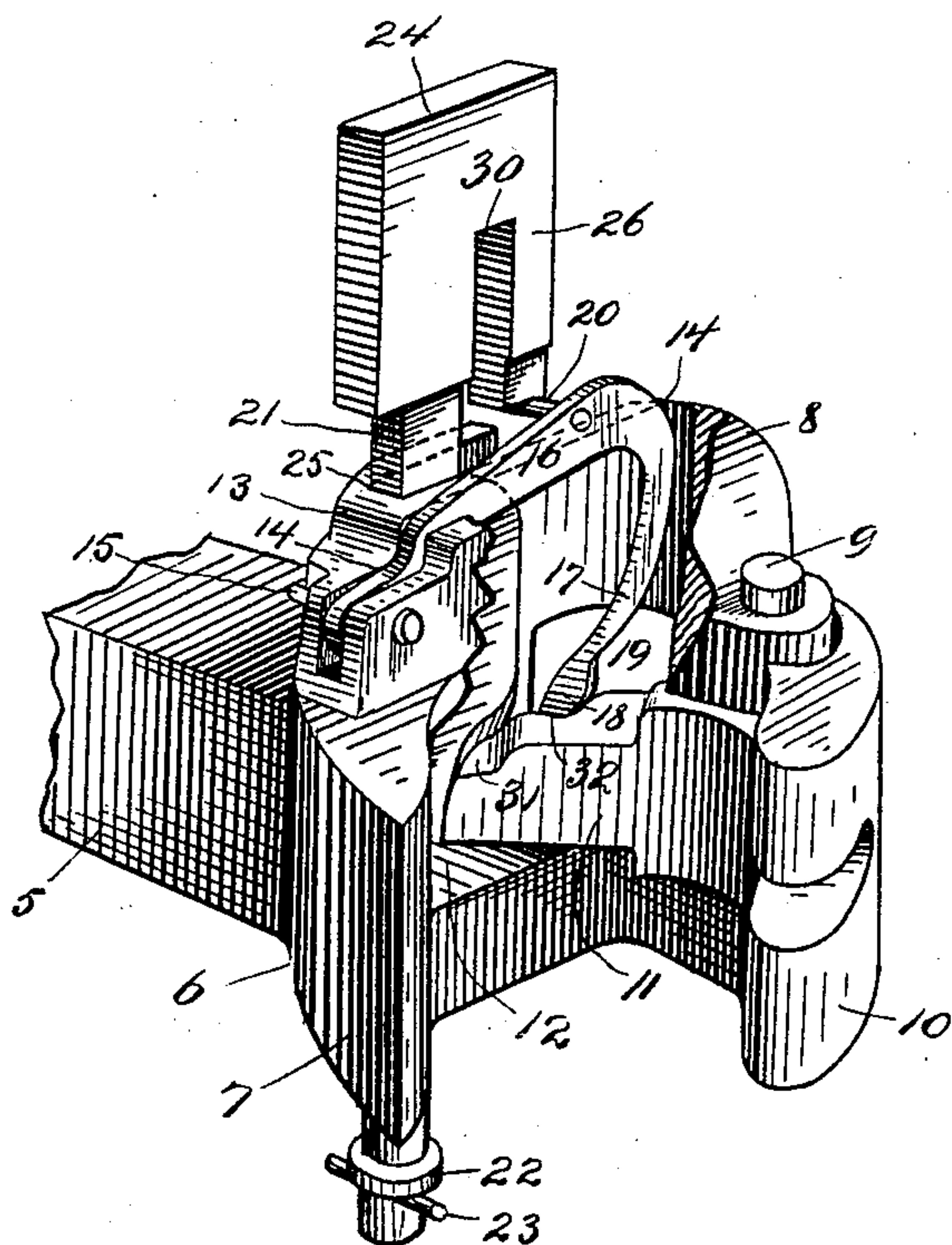


Fig. 4.

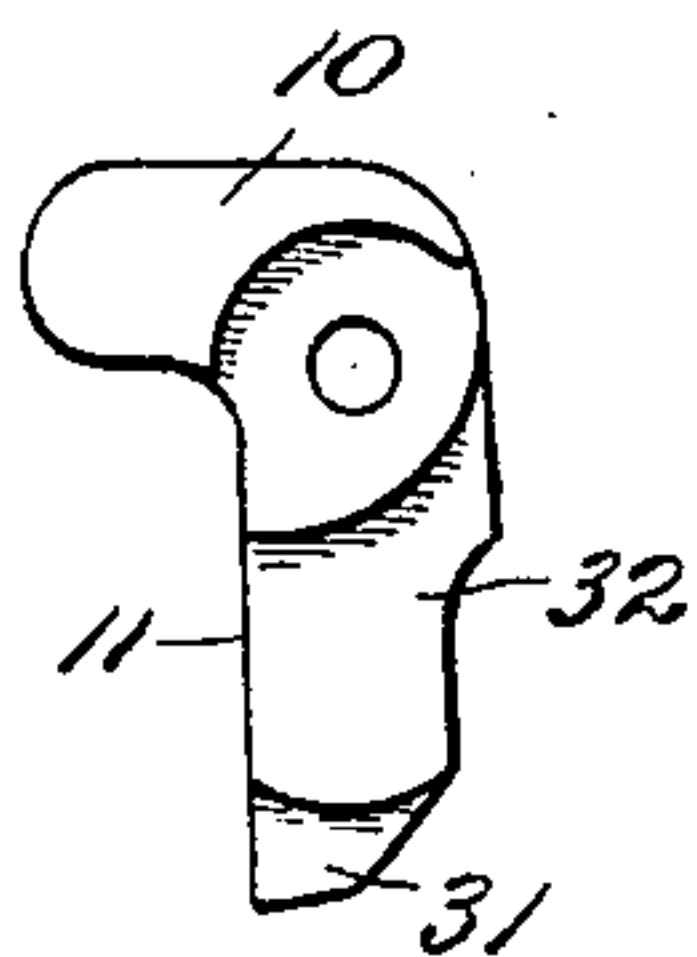
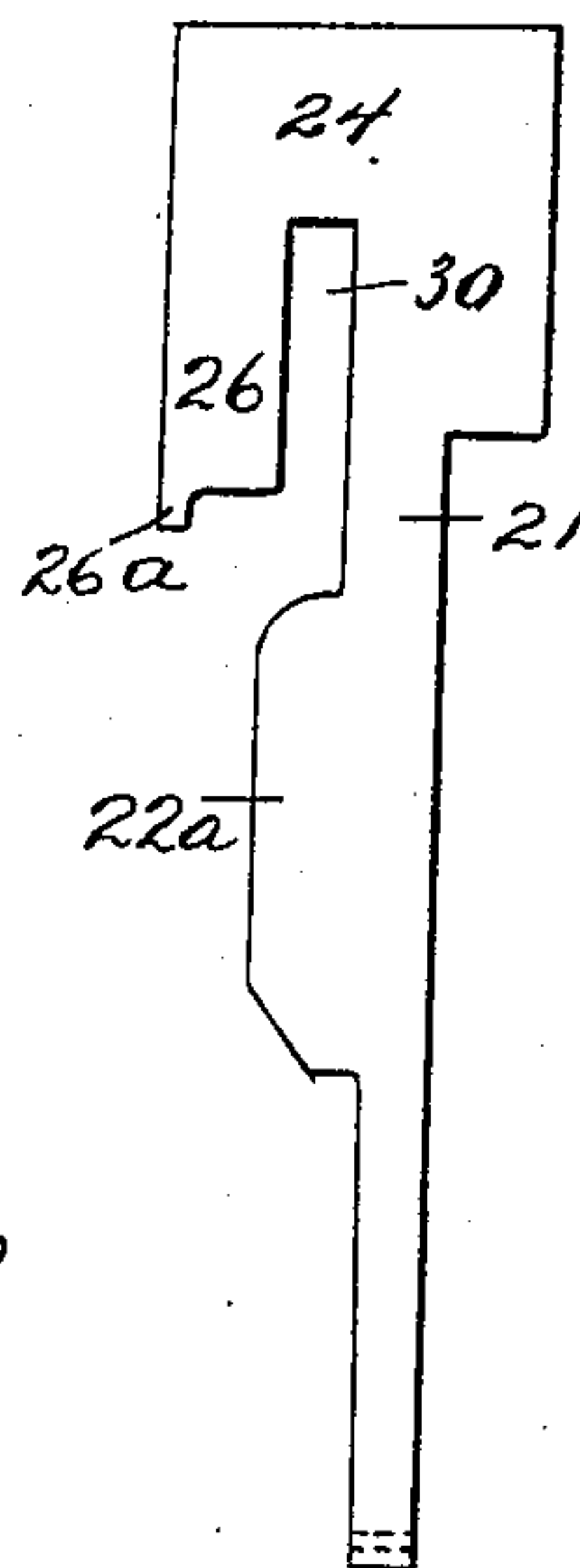


Fig. 5.



WITNESSES:

C. Vordyos
C. Gerst

INVENTOR

Alfred Benton, Sr.
BY
Edgar Tate & Co.
ATTORNEYS:

UNITED STATES PATENT OFFICE.

ALFRED BENTON, SR., OF EAST PIERRE, SOUTH DAKOTA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 589,493, dated September 7, 1897.

Application filed May 11, 1897. Serial No. 635,981. (No model.)

To all whom it may concern:

Be it known that I, ALFRED BENTON, Sr., a citizen of the United States, residing at East Pierre, in the county of Hughes and State of South Dakota, have invented certain new and useful Improvements in Car-Couplers, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to automatic couplers for cars; and the object thereof is to provide an improved device of this class which is simple in construction and operation and by means of which separate cars provided therewith may be automatically coupled whenever desired, a further object being to provide a coupling device which is adapted to be connected with the opposite ends of a car and by means of which the cars provided therewith may be coupled whenever desired by simply running said cars together.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a plan view of my improved car-coupler; Fig. 2, a similar view showing the coupler reversed and showing the parts thereof in a different position, these two views being intended to show the position of the couplers when connected with the adjacent ends of two cars; Fig. 3, a perspective view of my improved coupler with part of the construction broken away, so as to better show the separate parts and the operation thereof; Fig. 4, a plan view of a movable jaw which forms a part of the coupler, and Fig. 5 a side view of a locking-bar which forms a part thereof.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in the practice of my invention I provide a car-coupler which consists of a bar 5, which is provided with a coupler-head 6, at one side of which is a forwardly and outwardly directed jaw 7 and at the opposite side thereof a forwardly-curved jaw 8.

Pivottally connected with the jaw 8, by means of a pin 9, is a movable jaw 10, which is provided with a backwardly-directed arm 11, which moves in a transverse slot or cham-

ber 12, formed in the coupler-head 6, and all these parts are of the usual construction and form no part of this invention.

The rear portion of the coupling-head 6 is provided with a transverse raised portion 13, and formed therein is a transverse vertical chamber 14, which opens upwardly and which extends downwardly and communicates with the transverse opening or chamber 12, and pivoted in one end of said transverse vertical chamber 14, as shown at 15, is an arm 16, one end of which is provided with a downwardly-directed curved extension 17, which is provided with a circular head 18, and the back of the jaw 8 is provided with an opening 19, which communicates with the vertical chamber 14 at one end thereof and with the transverse chamber 12, and the arm 16 is provided with a backwardly-directed pin 20. I also provide a vertically-movable locking-bar 21, which passes through the back of the coupler-head 6 and through the raised portion 13 thereof and which is provided at its lower end with a collar or head 22, which, as shown in the drawings, is secured in place by a pin 23, but said arm or head may be secured to said bar in any desired manner, and said bar is provided on one side thereof with a longitudinal shoulder or projection 22^a, and the upper end of said bar is provided with a plate or head 24, the lower end of which is adapted to enter a transverse chamber 25, formed in the top of the coupling-head, and said plate or head is provided with a downwardly-directed arm 26, which is adapted to rest on the bottom of said cavity or recess 27, formed in said coupler-head at one side thereof, and said arm is provided at its outer end and on the outer side thereof with a downwardly-directed lug or projection 26^a.

The transverse vertical chamber 14 is preferably curved outwardly at one end thereof, as shown at 28, and the arm 16 is preferably similarly curved, as shown at 29, and the head or plate 24 is provided with an upwardly-directed slot 30, which is formed therein by the arm 26.

The backwardly-directed arm 11 of the movable jaw 10 is cut away at the top and back thereof, so as to form beveled steps or shoulders 31 and 32, and the operation will be readily understood from the foregoing descrip-

tion when taken in connection with the accompanying drawings and the following statement thereof.

In Fig. 1 the jaw 10 is shown in the position it occupies before the cars are coupled, and in this position of said jaw the bar 21 and the head or plate 24 thereof are in their lowest position and the arm 16 is also in its lowest position.

In Fig. 2 the jaw 10 is shown in the position it occupies when the cars are coupled, and in this position the bar 21 and the head or plate 24 thereof are in their lowest position, while the arm 16 is in its highest position, and the pin 20, formed on or secured to said arm, passes through the slot 30 in the bottom of the head or plate 24, and supposing the parts to be in the position shown in Fig. 1 and it being desired to couple the cars the cars are run together in the usual manner and the movable jaw 10 of the coupler shown in Fig. 2 will strike the arm 11 of the movable jaw 10 of the coupler shown in Fig. 1, and the arm 31 of the jaw 10 shown in Fig. 1 will be forced backwardly and will strike the downwardly-directed extension 17 of the arm 16 and will operate to raise said arm, and in this operation the pin 20 will operate on the lower end of the arm 26 to raise the bar 21 and the head or plate 24 thereof, and this operation will continue until the pin 20 passes into the slot 30 in the plate or head 24. At this time the arm 16 will be in its highest position and the plate or head 24, together with the bar 21, will drop downwardly, and the lower end of the bar 21 will pass in front of the end of the arm 11 of the jaw 10 and securely lock the jaw 10 and the coupler shown in Fig. 1 in the position shown in Fig. 2, it being understood that the movable jaw 10 is held in the position shown in Fig. 2 by the vertically-movable bar 21, and in this position of the parts the jaws 10 will both be locked in the position shown in Fig. 2 and said jaws will interlock and securely couple or connect the cars.

The vertically - movable bar 21 passes through the chamber 12, and in the position of the jaw 10 shown in Fig. 1 the arm 11 projects in front of said bar, as is also shown in said figure, and the vertically-movable arm 21 is at the back thereof, and when said arm is thrown backwardly by the jaw of the opposite coupler, as herein described, said arm engages with the downwardly-directed extension 17 of the arm 16, as hereinbefore described, and throws said arm 16 upwardly.

In the backward movement of the end of the arm 11, as above described, it passes under the longitudinal shoulder or projection 22^a on the locking-bar 21, and when said arm 21 drops downwardly said shoulder or projection 22^a passes in front of the end of the arm 11, and when the arm 11 is in the position shown in Fig. 1 the shoulder or projection 22^a on the locking-bar 21 is at the back of said arm 11 or the end thereof, and the cars are uncoupled by pulling upwardly on the head of the

plate 24, and this may be done from the top of the car or any convenient point.

It will be understood that the locking device or couplers connected with the opposite ends of each car are precisely the same in construction, and it will thus be seen that I accomplish the object of my invention by means of a device which is simple in construction and operation and which is also comparatively inexpensive while being well adapted to accomplish the result for which it is intended.

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

1. A car-coupler, comprising a coupler-head which is provided at each side with stationary outwardly-directed jaws, one of said jaws being provided with a pivoted jaw, which is provided with a backwardly-directed arm, a vertically - movable lock - bar which passes through said coupler-head, and which is adapted to engage with said arm, an arm pivotally connected with said coupling-head and movable in a vertical chamber formed therein, said arm being provided with a downwardly-curved extension which is adapted to be operated by the arm of the pivoted jaw, and said pivoted arm being provided with a pin which is adapted to operate said vertically-movable bar, substantially as shown and described.

2. A car-coupler, comprising a coupler-head which is provided at each side with stationary outwardly-directed jaws, one of said jaws being provided with a pivoted jaw, which is provided with a backwardly-directed arm, a vertically - movable lock - bar which passes through said coupler-head, and which is adapted to engage with said arm, an arm pivotally connected with said coupling-head, and movable in a vertical chamber formed therein, said arm being provided with a downwardly-curved extension which is adapted to be operated by the arm of the pivoted jaw, and said pivoted arm being provided with a pin which is adapted to operate said vertically-movable bar, and said vertically-movable bar being provided at one side thereof, with a longitudinal shoulder or projection, substantially as shown and described.

3. A car-coupler, comprising a coupling-head, which is provided at its opposite sides with outwardly-directed stationary jaws, a movable jaw pivotally connected with one of said stationary jaws, and provided with a backwardly-directed arm, said coupler-head being provided between said stationary jaws with a transverse chamber into which said arm is adapted to pass, a vertically-movable locking-bar mounted in said coupling-head, and provided at one side thereof, with a longitudinal shoulder or projection a pivoted arm mounted in a vertical chamber formed in said coupling-head, said pivoted arm being provided with a downwardly-directed extension which is adapted to be operated by the

arm of a jaw, and said vertically-movable locking-bar being provided with a head or plate at one side of which is formed a downwardly-directed arm, and said pivoted arm 5 being provided with a pin which operates in connection with the arm formed on said head or plate, and said head or plate being also provided with a vertical slot which is adapted to receive said pin, substantially as shown 10 and described.

4. A car-coupling device which is adapted to be connected with the opposite ends of a car, said coupling device, consisting of a bar on which is formed a coupling-head, said 15 coupling-head being provided at its opposite sides with outwardly - directed stationary jaws, and a pivoted jaw mounted in one of said stationary jaws, and provided with a backwardly-directed arm which is adapted to 20 enter a transverse chamber formed in said coupling-head between said jaws, a vertically-movable locking-bar which passes through said coupling-head and which is provided at

one side with a longitudinal shoulder or projection which is adapted to engage with the 25 arm of said pivoted jaw, an arm pivotally mounted in a vertical chamber formed in said coupling-head, and provided with a downwardly-directed extension which is adapted to be operated by the arm of said pivoted jaw, 30 said pivoted arm being provided with a pin, and said vertically-movable locking-bar being provided with a head or plate in which is formed a vertical slot, said pin being adapted to operate in connection with said head or 35 plate so as to raise said vertically-movable locking-bar, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 40 day of May, 1897.

ALFRED BENTON, SR.

Witnesses:

CORWIN D. MEAD,
JOHN WESTLUND.