

(No Model.)

A. C. MERRITT.
CAR COUPLING.

No. 487,756.

Patented Dec. 13, 1892.

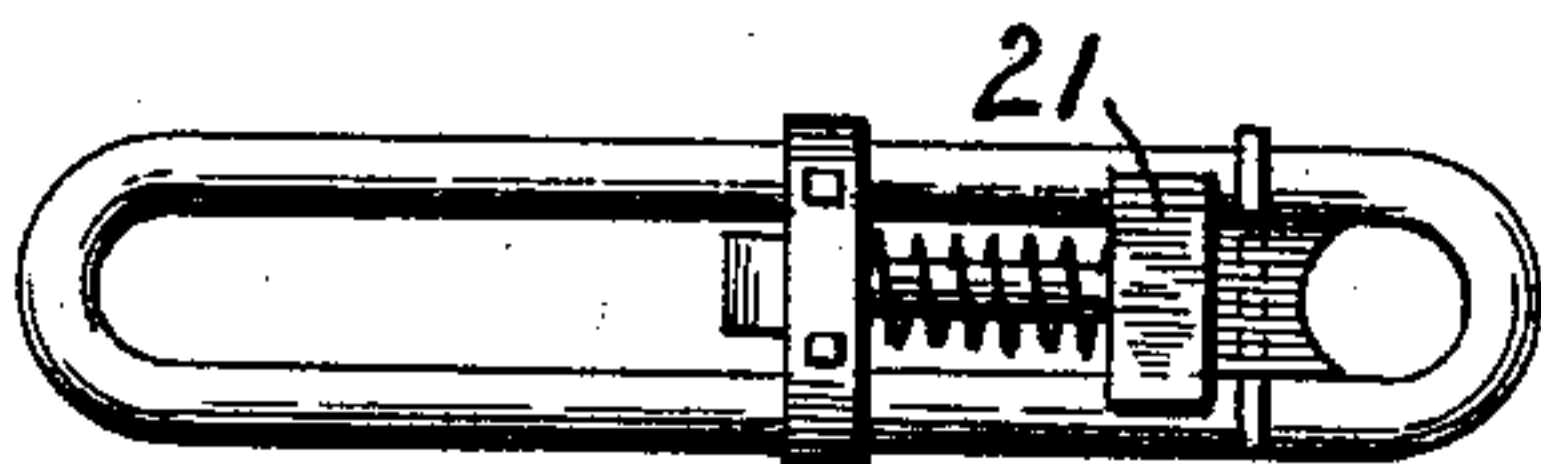
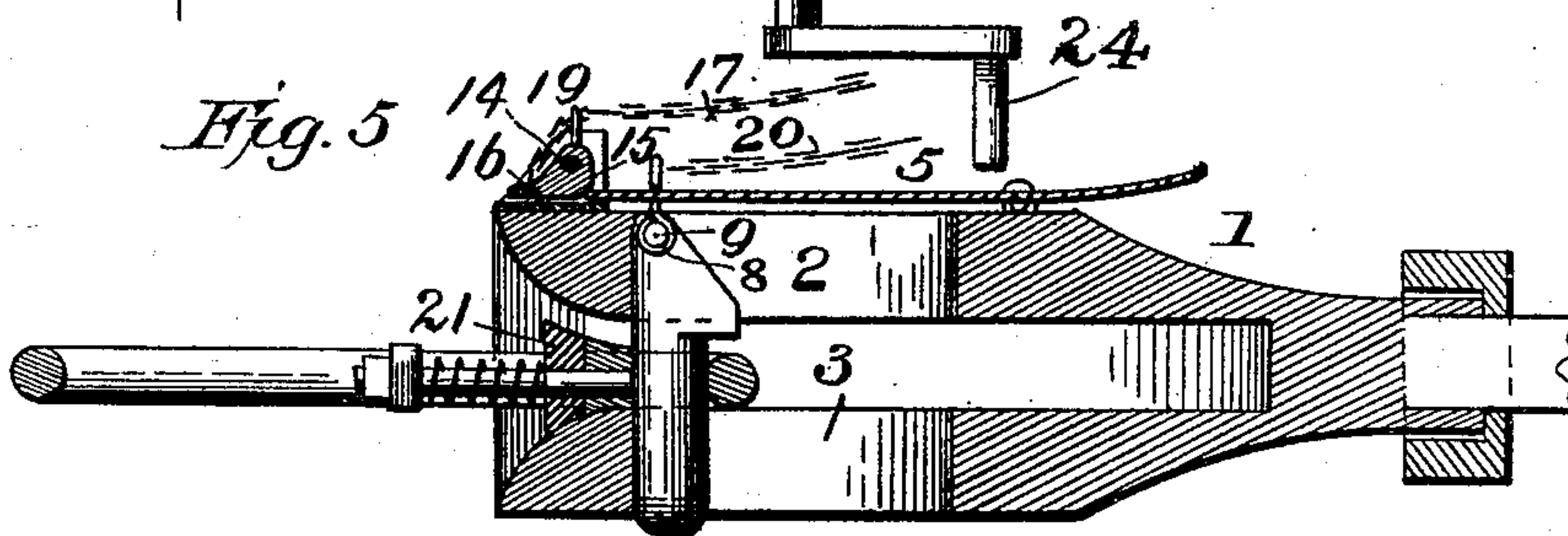
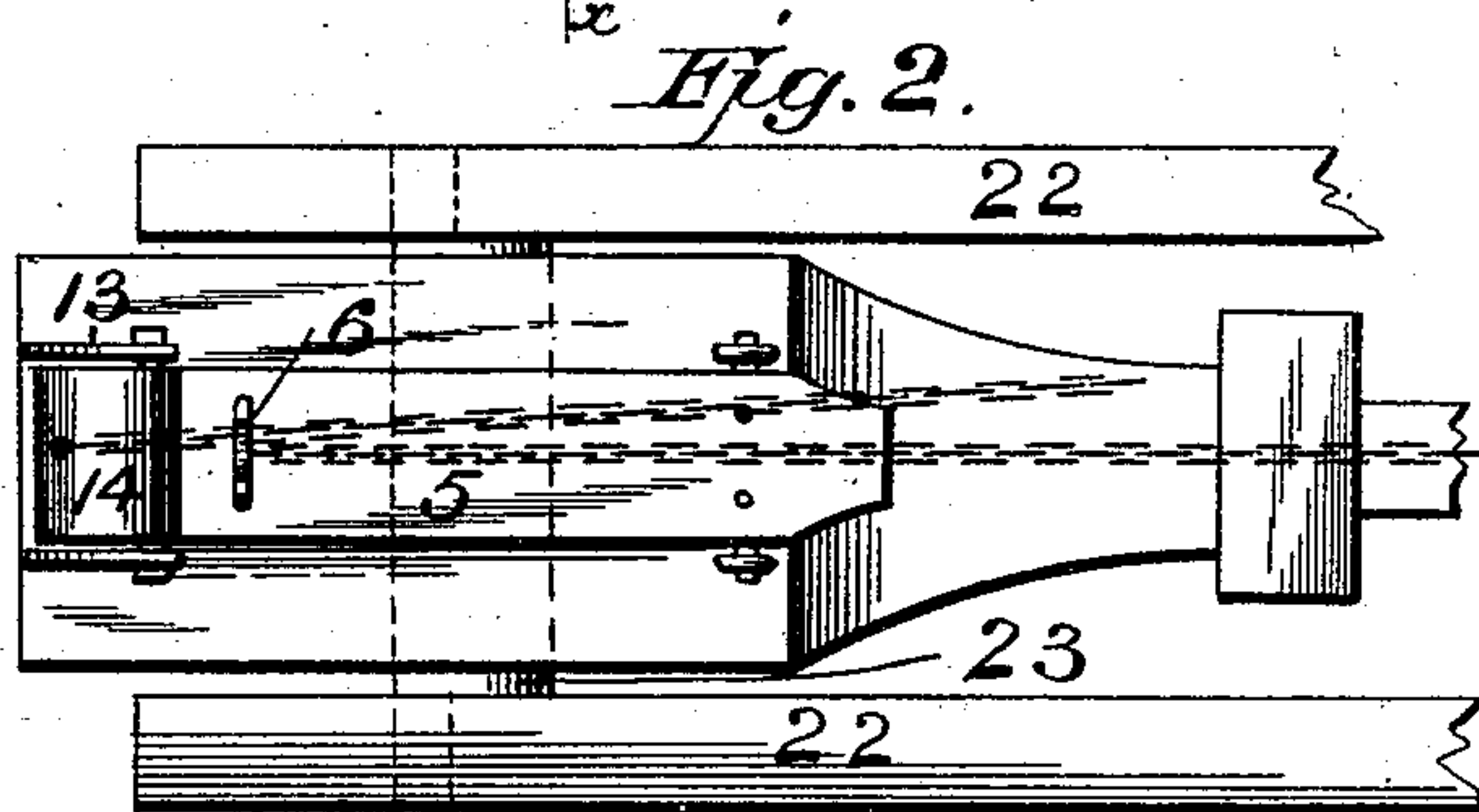
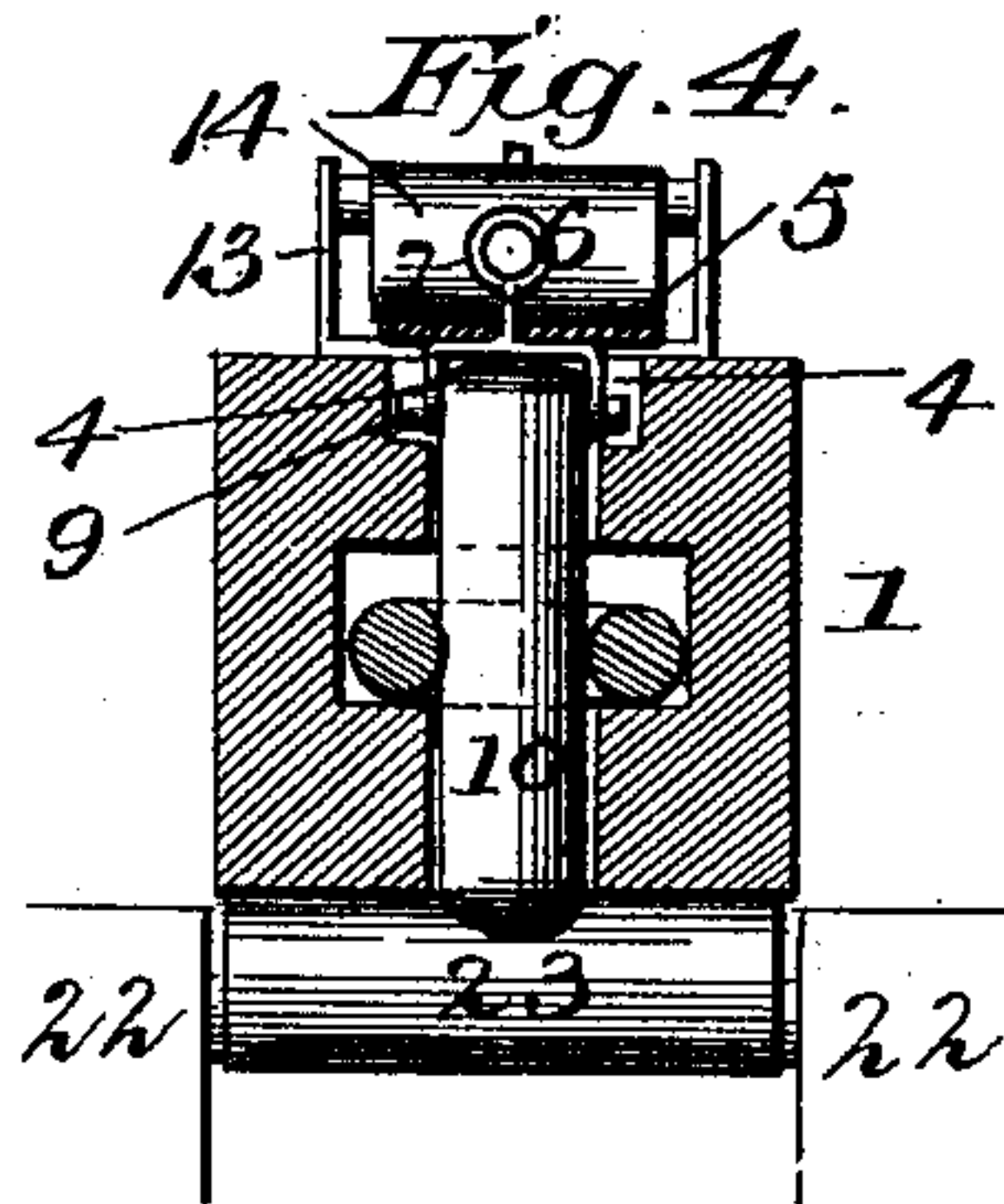
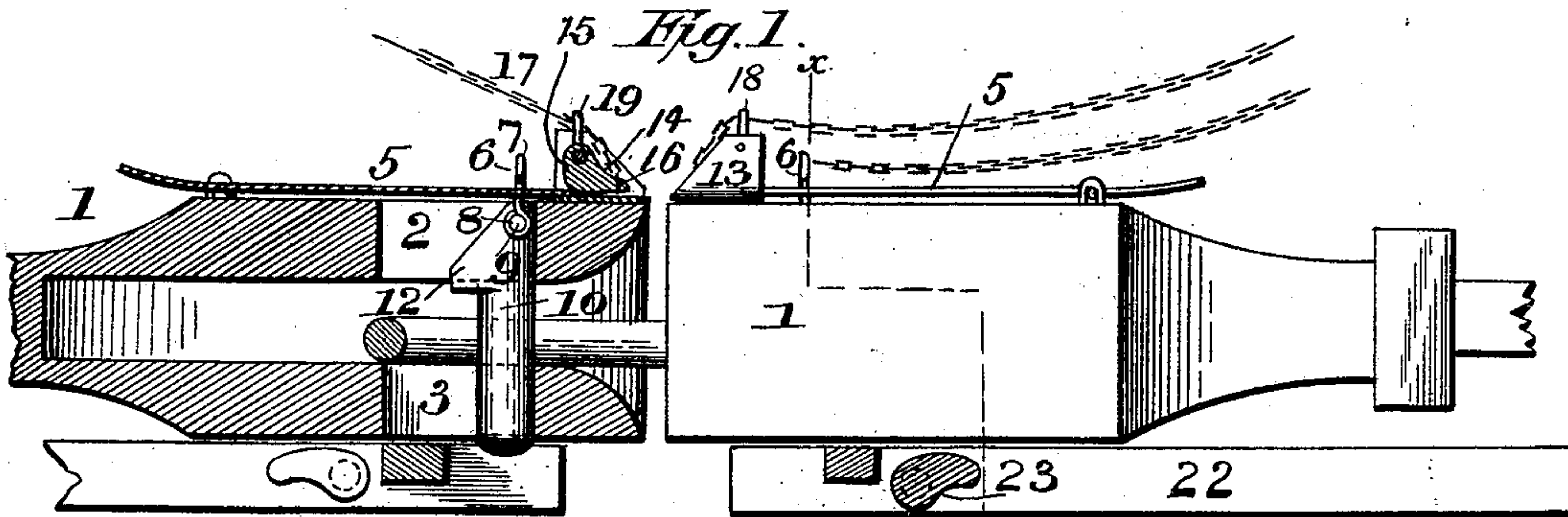


Fig. 6.

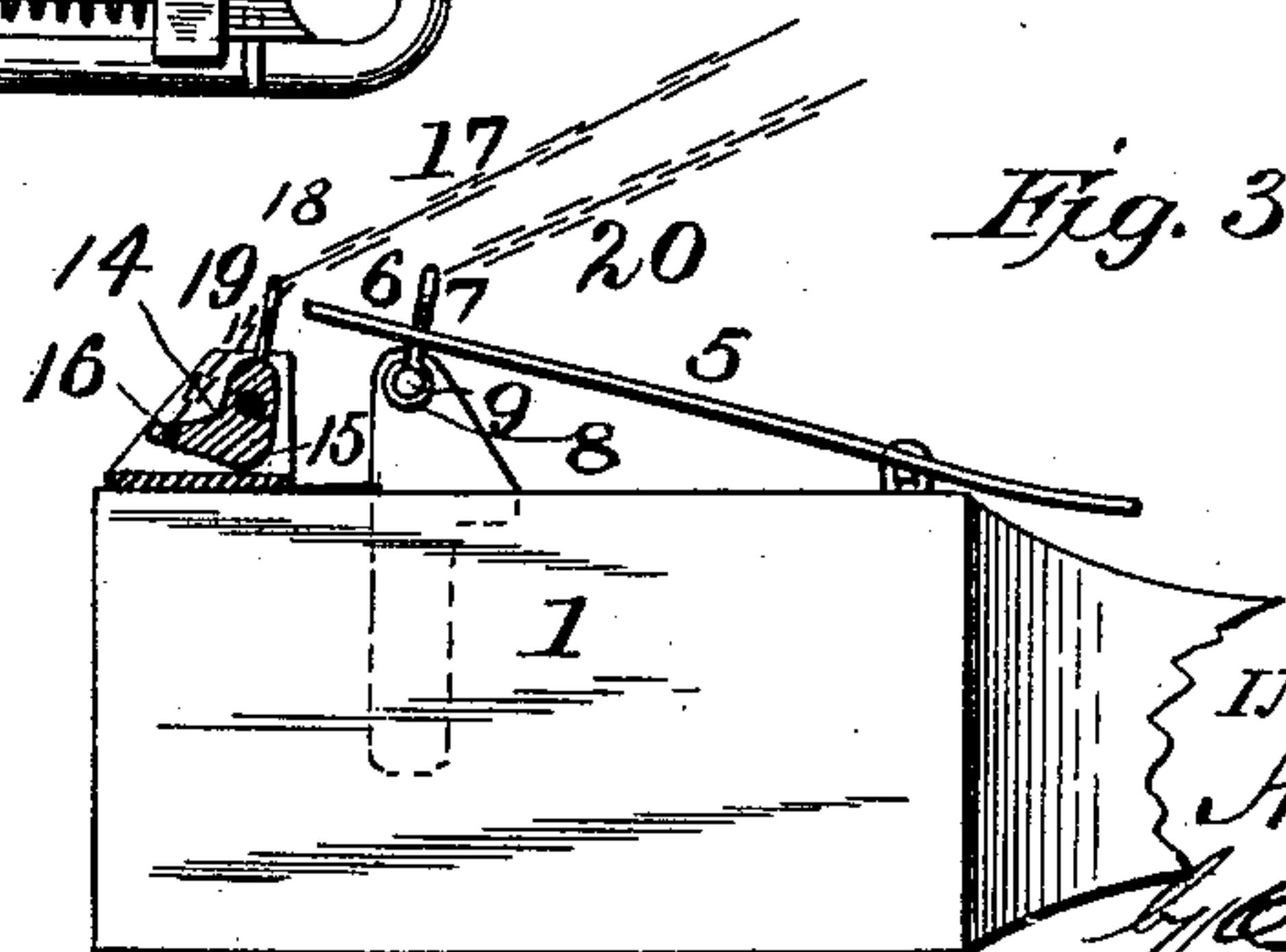


Fig. 3.

WITNESSES:
F. L. Ourand
J. L. Coombs

INVENTOR:
Amos C. Merritt,
by Edwin Dager & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

AMOS C. MERRITT, OF ALLENTOWN, NEW YORK.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 487,756, dated December 13, 1892.

Application filed March 7, 1892. Serial No. 424,071. (No model.)

To all whom it may concern:

Be it known that I, AMOS C. MERRITT, a citizen of the United States, and a resident of Allentown, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in car-couplers of that class or description which automatically couple when the cars come together, thus obviating the necessity of a brakeman or other person going between the cars, which is always a source of great danger, frequently resulting in injury and loss of life.

The object of the present invention is to provide an improved construction of coupling-pin and means for locking the same when the cars are coupled, thus preventing the link from becoming accidentally disengaged by reason of jarring or jolting of the cars or other causes, yet readily allowing of uncoupling when desired.

It is also an object of the invention to provide means whereby the draw-head may be elevated or lowered, so as to adjust the same to cars of different heights.

There are also other advantages and points of superiority attained with respect to simplicity and economy in construction and efficiency in operation which will be apparent to those skilled in the art to which the invention pertains.

The invention consists in the novel construction and combination of parts hereinafter fully described, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a central longitudinal section of two opposing draw-heads with my improved coupling device applied thereto, the same being shown coupled together. Fig. 2 is a plan view of a portion of one of said draw-heads. Fig. 3 is a side elevation of the same, showing the coupling-pin raised or elevated to uncouple the cars. Fig. 4 is a cross-section on the line *xx*, Fig. 1, looking toward the front. Fig. 5 is a

sectional view of one of the draw-heads. Fig. 6 is a perspective view of the coupling-link.

In the drawings the reference-numeral 1 designates a draw-head of any ordinary construction, provided with a flaring mouth, as usual, for the entrance of the coupling-link. In its upper side the draw-head is provided with a slot 2 and in its lower side with a corresponding slot 3. At its front end the slot is provided with two lateral recesses 4, one upon each side of said slot.

Pivoted to the upper side of the draw-head a slight distance in rear of slot 2 is a plate 5, which extends forwardly to a point beyond the front end of said slot. This plate is capable of being raised and lowered, and when lowered completely covers the slot.

Passing through apertures in the front end of plate 5 is a bail 6, formed of a single piece of wire bent at its center, forming a loop 7, and its ends passed through said apertures and bent into loops 8, which loosely engage with laterally-projecting lugs 9, formed on the coupling-pin 10, whereby the latter is pivotally suspended in the draw-head in the path of the coupling when in position for coupling. The coupling-pin at its rear upper portion is beveled, as seen at 12, which beveled portion will rest against the under side of the plate 5 when the pin is forced back by the link, and intermediate of its ends the rear side of the pin is formed with a recess or groove with which the link engages when coupled.

Secured to the upper side of the draw-head a short distance in front of slot 2 is a bracket, consisting of a metallic plate having its ends bent up at right angles, forming standards 13, in which is pivoted a cam-block 14, having its rear end 15 curved or beveled and provided with a forward extension 16, with which is connected an operating-chain 17, which passes through a loop 18 in a stop-bar 19 and is then carried to any convenient part of the car. This stop-bar consists of a metal bar or wire passed through apertures in the bracket and then over the upper edges thereof and its ends united together, the loop 18 being formed by bending the rod or wire. A similar chain 20 is connected with the loop 7 of the bail 6.

The coupling-link I use in connection with the present invention is that described and illustrated in an application for Letters Pat-

ent filed May 4, 1891, Serial No. 391,474, in which a spring-actuated block or head 21 near one end of the link is forced up against the coupling-pin when the cars are coupled, thereby holding the opposite end of the link in proper position to enter the draw-head of an ordinary car. I do not, however, limit my invention to any particular form or character of link, as it forms no part of my present invention.

The operation is as follows: As the cars approach each other the outer or free ends of the link connected with one end of the cars will enter the flaring mouth of the draw-head of the opposite car and, striking the coupling-pin therein, will force it back until the link has passed its lower end. The pin will then drop by gravity and engage with the slot in the lower part of the draw-head, so that when the link is drawn out it will engage with the slot or recess in the pin and force the latter up against the front wall of slot 3, and thus securely couple the cars, and the front end of plate 5, engaging under the rear edge of the cam-block, will securely hold the pin and prevent its accidental displacement. To uncouple the cars, the cam-block is turned on its pivot by means of the operating-chain, so that its rear lower edge will clear the front edge of the plate 5. The chain 20 is then pulled up, elevating the bail 6, which also elevates the coupling-pin until its upper end strikes the under side of plate 5, when the latter and the pin will be elevated sufficiently to cause the pin to be disengaged from the link, so that the link can be withdrawn from the draw-head. The chain will then be released, when the plate 5 will drop by gravity, and its front edge, striking the curved or beveled rear face of the cam-block, will rotate the same on its pivots sufficiently to allow said end to pass by, when by reason of the extension 16, which acts as a counter-balance, causes the said block to resume its former position with its rear edge resting over and upon the end of the plate, and thus preventing the latter from being elevated until said block is again actuated by the operating-chain. The parts are now in position for coupling, as before set forth.

To adjust the draw-heads vertically, so that they will be in alignment when cars of varying heights are to be coupled, I provide the following means: The rear end of the draw-head is loosely connected or pivoted to the car, so that its front end is capable of rising or falling to a limited degree. In the longitudinal bars 22, which support the front part of the draw-head, is pivoted or journaled a laterally-extending eccentric-block 23, upon which the draw-head rests. The journals or pivots of said block extend outwardly beyond the bars 22 and are provided with cranks

24. By turning these cranks in one direction or the other the draw-head will be raised or lowered, as will be obvious.

Having thus described my invention, what I claim is—

1. In a car-coupler, the combination, with the draw-head having a flaring mouth and slots in its upper and lower sides, of the plate pivoted to the upper side of the draw-head and carrying a depending coupling-pin, and the pivoted cam-block adapted to engage with the front end of said plate and hold the same in place, substantially as described.

2. In a car-coupler, the combination, with a draw-head having a flaring mouth and slots in its upper and lower sides, of the plate pivoted to the upper side of said draw-head, the depending coupling-pin carried thereby, the cam-block pivoted in uprights secured to the draw-heads, having a curved or beveled rear face and a forward extension, and means for operating said cam-block, substantially as described.

3. In a car-coupler, the combination, with a draw-head having a flaring mouth and slots in its upper and lower sides, of the plate pivoted to the upper side of said draw-head, the depending coupling-pin carried thereby, the bracket secured to the front end of the draw-bar, the cam-block having curved or beveled rear face and forward extension pivoted in said bracket, the stop-bar, and means for operating the cam-block, substantially as described.

4. In a car-coupler, the combination, with the draw-head having a flaring mouth and slots in its upper and lower sides, of the plate pivoted to the upper side of said draw-head, the coupling-pin having lateral lugs in its upper end, the bail consisting of a wire rod bent upon itself with its ends passed through apertures in said plate and formed into loops which engage with said lugs, the pivoted cam-block, and means for operating said plate and block, substantially as described.

5. In a car-coupler, the combination, with the draw-head having a flaring mouth, slots in its upper and lower sides, and lateral recesses in the front end of the upper slot, of the plate pivoted to the upper side of the draw-head, the coupling-pin having lateral lugs, a beveled upper end, and a recess intermediate of its ends, the bail connecting the said plate and pin, the pivoted cam-block, and means for operating said block and plate, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

AMOS C. MERRITT.

Witnesses:

ARTHUR B. SEIBOLD,
BENNETT S. JONES.