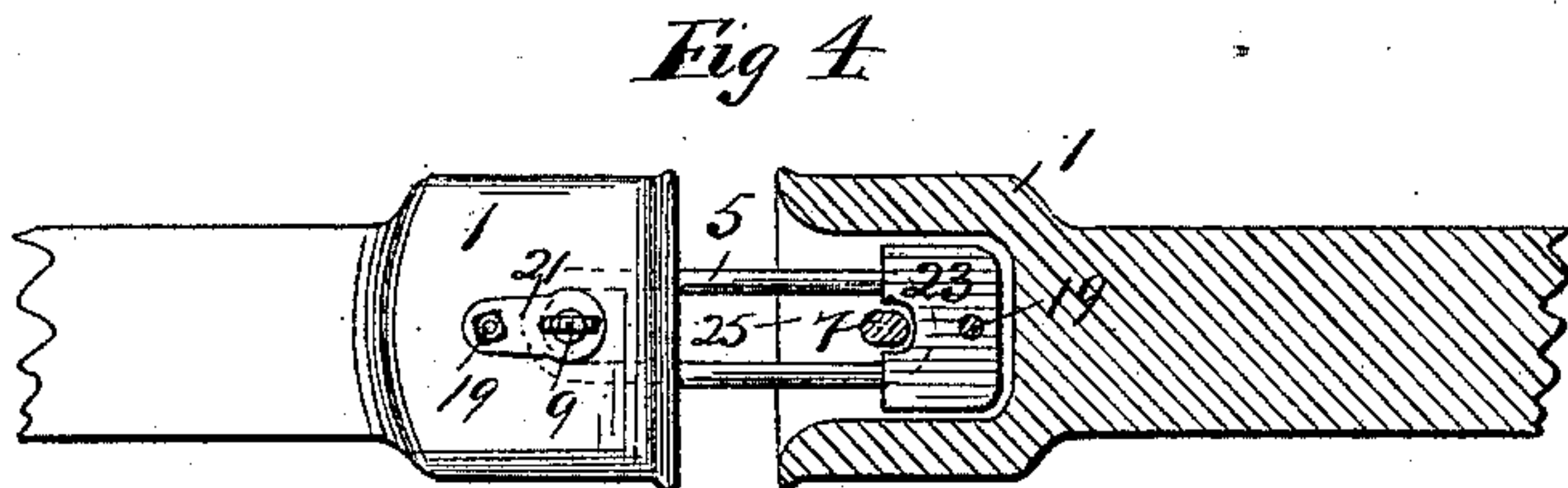
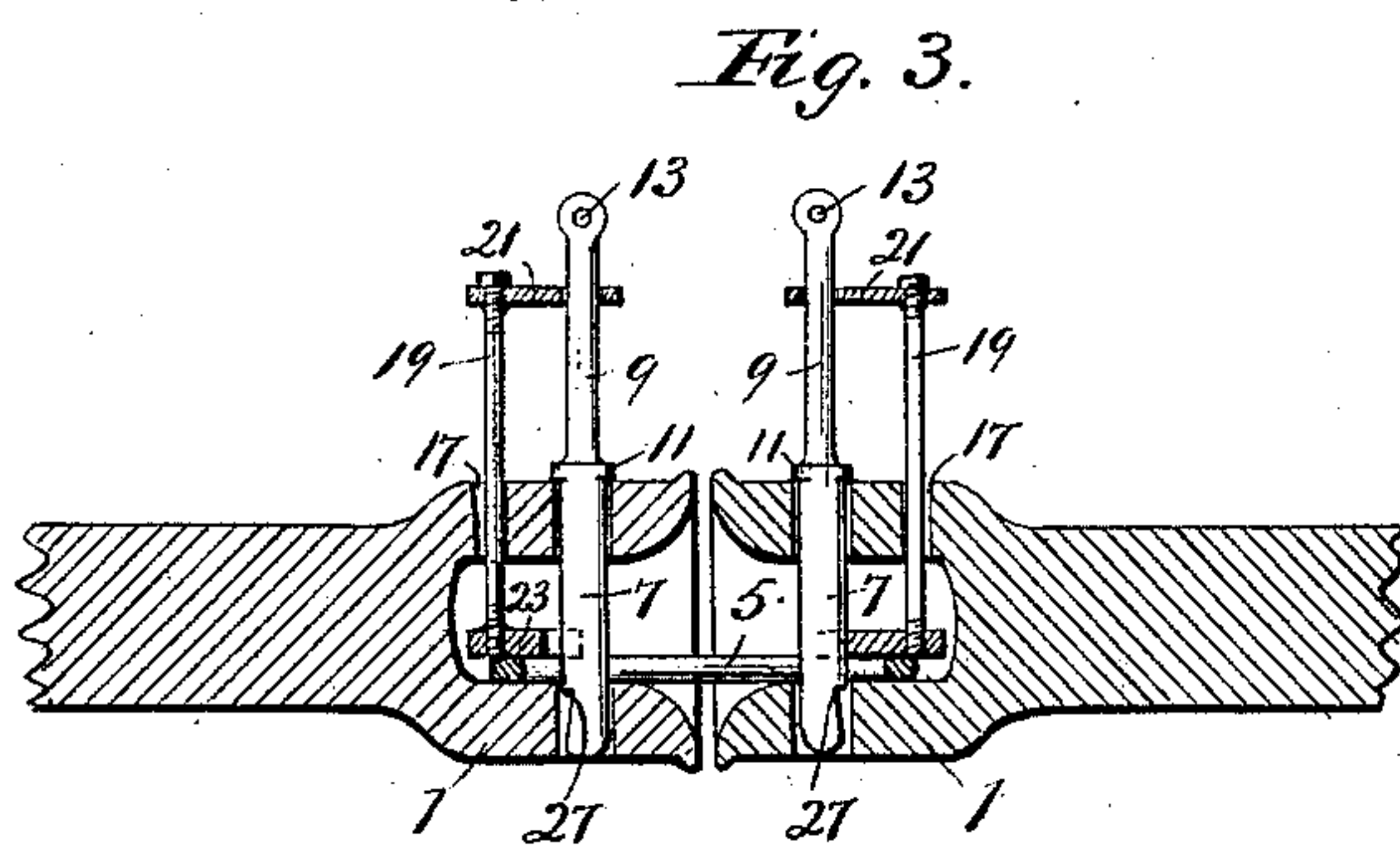
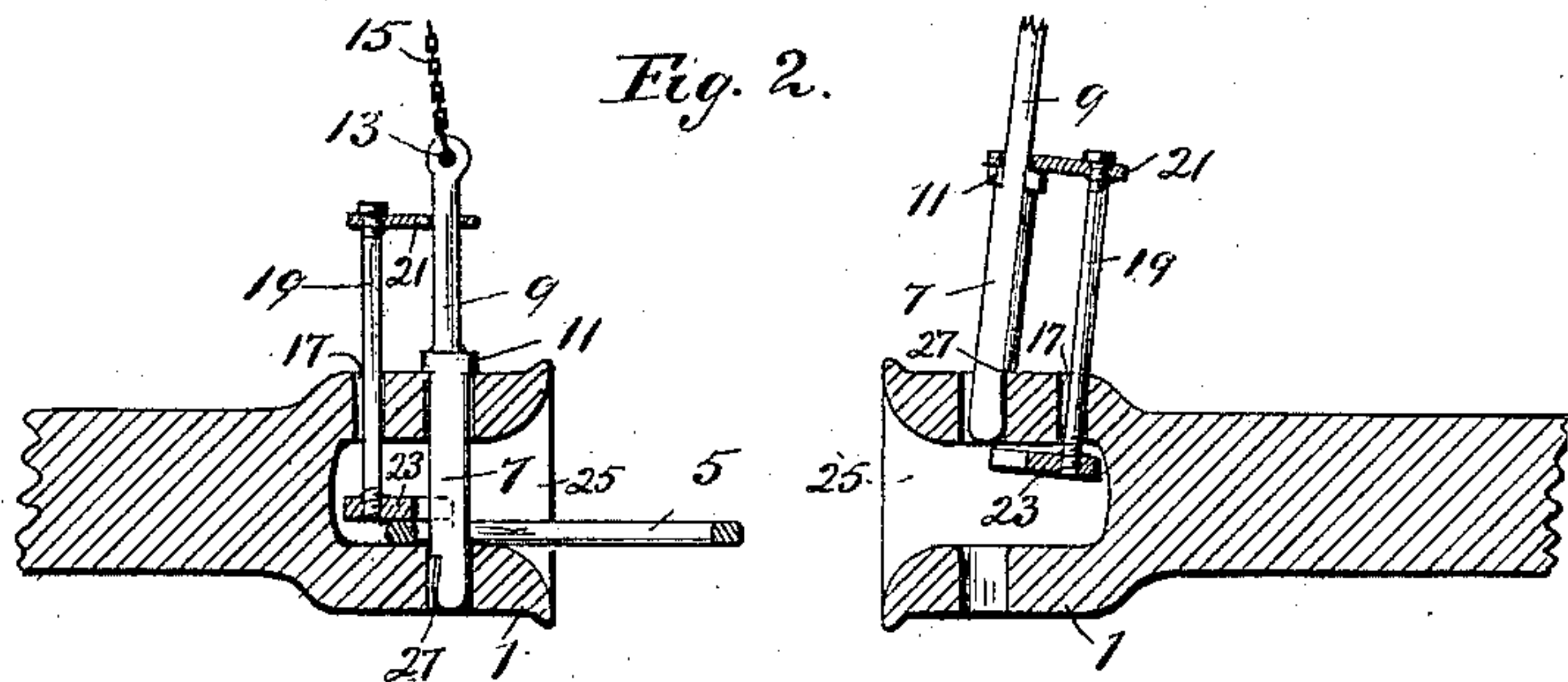
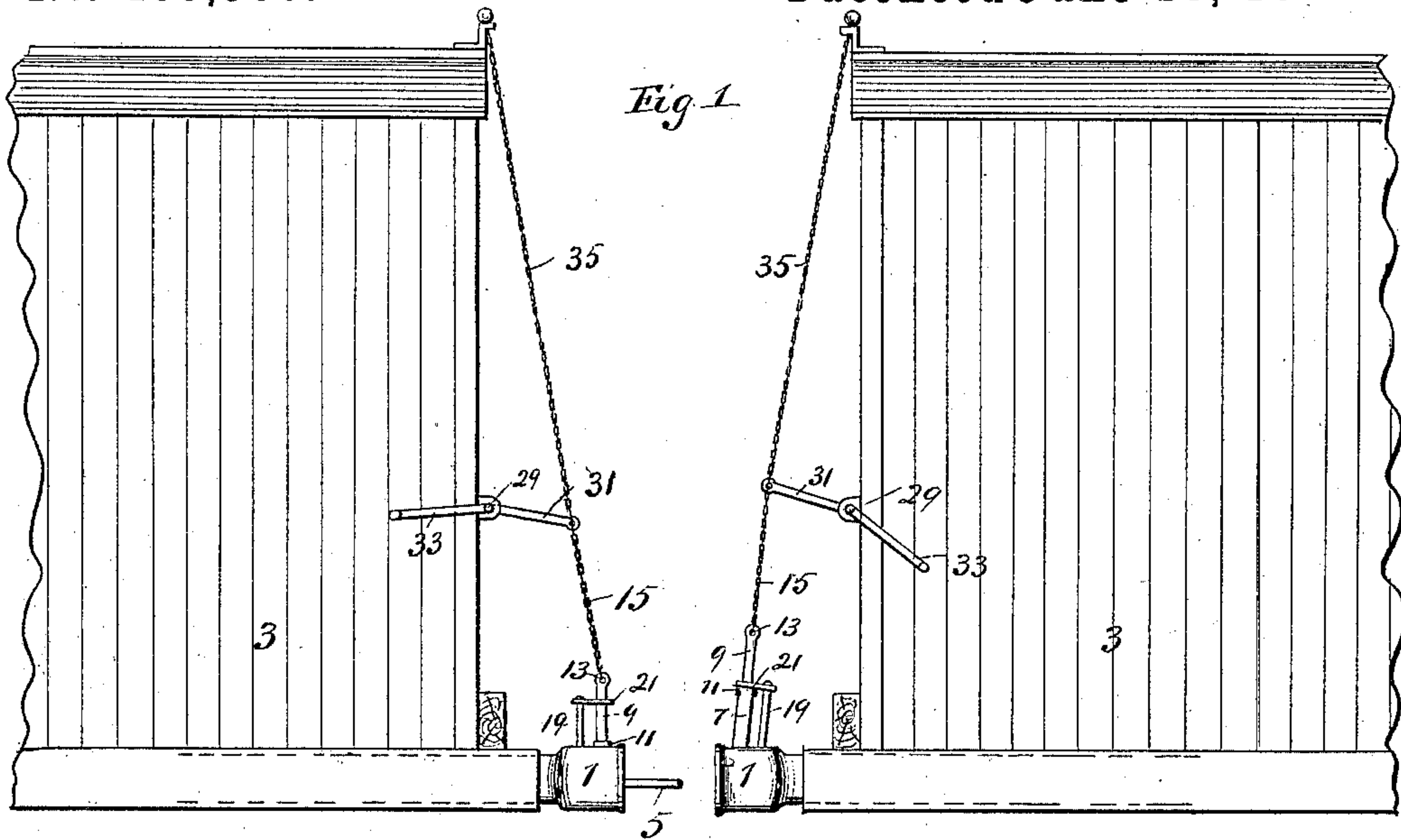


(No Model.)

H. L. LONG.
CAR COUPLING.

No. 405,366.

Patented June 18, 1889.



Witnesses.

J. Jensen.
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Inventor.

Henry L. Long.

By Paul Mervin attys.

UNITED STATES PATENT OFFICE.

HENRY L. LONG, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-HALF TO
LOUIS NICKOW, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 405,366, dated June 18, 1889.

Application filed February 27, 1889. Serial No. 301,385. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. LONG, of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and
5 useful Improvements in Automatic Car-Couplers, of which the following is a specification.

The object of my invention is to provide a coupling device which at very slight cost can be applied to the ordinary coupler-head of a
10 freight-car, which is automatic in its action of coupling, and by means of which the cars can be uncoupled either from the top or side of the car; and it consists generally in the construction and combination hereinafter de-
15 scribed, and particularly pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a side elevation of the adjacent ends of two freight-cars fitted with
20 my improved coupler. Fig. 2 is a vertical longitudinal section of two adjacent coupler-heads, showing the position of the parts when arranged for coupling together. Fig. 3 is a similar section showing the position of parts
25 when the heads are coupled; and Fig. 4 is a plan view and partial horizontal section of the same.

In the drawings, 1 is an ordinary coupler-head with usual connection to the car-body 3.
30 5 is a coupling-link of ordinary form and construction.

7 is the coupling-pin. This pin is made longer than the common pin, having the part 9 above the shoulder 11 preferably cylindrical and smaller than the lower part and terminates in an eye 13, by means of which a
35 lifting-chain 15 can be attached. A small hole 17 is drilled through the upper part of the head directly back of the pin-hole to receive the rod 19, which is of such size as to fit loosely in said hole. The upper end of the rod 19 is rigidly fastened to one end of the arm 21, which at the other end is provided with an eye, in which the upper portion 9 of
40 the coupling-pin is loosely held. The lower end of the rod 19 is rigidly secured to the plate or link-weight 23, which is adapted to rest upon the end of a coupling-link and to hold it pressed upon the bottom of the coupler-head recess against the counterbalancing
50 weight of the projecting end. The rod 19

should be of such length that it will prevent the coupling-pin being entirely removed from the coupler-head; but will allow it to be raised entirely out of the recess or throat 25
55 in the head, being stopped at this point by the arm 21 striking the shoulder 11, and the plate 23 striking the upper surface of the recess or throat 25, as shown in Fig. 2. In order to hold the coupling-pin in this raised position so as to allow a coupling-link to enter the head, I prefer to make the pin with a notch 27 on the back side, which allows the pin to incline backward when in the raised position, the upper shoulder of the notch
65 resting on the top of the coupler-head, thus supporting the pin in its raised position. The weight of the rod 19 and its attachments upon the coupling-pin will always cause the notch of the pin to engage with the coupler-head
70 when the pin is raised; but the jar of the meeting of the coupler-heads as the cars come together will dislodge the pin and cause it to drop into place in the head. By this means the act of coupling is made automatic, the
75 pin of one coupler is raised and supported by the notch while the pin of the other coupler remains down engaging the link, the link-weight 23 holding the link extended horizontally, so that it will enter the opposite
80 head. Then as the heads strike together the jar releases the raised pin, which drops through and also engages the link.

A "stray" car not fitted with my improved coupler may be coupled to another which is
85 so fitted as readily as to any other, since my improved coupling-pin may be raised or released by hand as readily as the ordinary pin. In order to raise the coupling-pin either to uncouple the cars or to place it in position
90 for coupling them without passing between the car-bodies, I prefer to use a rod 29, extending horizontally across the end of the car a short distance above the coupler and arranged to rotate in suitable bearings. The
95 arm 31 of said rod is connected by a chain 15 or other suitable device to the coupling-pin, so that as the arm 31 is raised by the rotating of the rod 29 the pin is lifted until the notch 27 engages the coupler-head.
100

I prefer to rotate the rod by means of a suitable arm or handle 33 at either end of

the rod, which can be readily taken hold of by one at the side of the car.

By means of the chain 35, extending upward from the arm 31 to the top of the car, the operation of uncoupling may be performed by one on top of the car by simply lifting the pin by the chain.

The operation of coupling is performed as follows: The pin in the coupler-head carrying the link is dropped into engagement with the link, the link-weight 23 holding the link horizontally in the position shown in Fig 2, so that it will enter the opposite coupler-head. The pin in the other head is raised up till held by the engagement of the notch with the coupler-head, as shown in the right-hand coupler of Fig. 2. The cars are then brought together. The jar of the contact of the coupler-heads releases the raised pin, which drops into place and into engagement with the link which has entered the head, thus coupling the cars. To uncouple, the arm 33 of the rod 29 is depressed or the chain 35 lifted, whereby the pin is raised out of the link, or the pin may be raised by hand, the same as an ordinary pin.

I claim as my invention—

1. In a car-coupler, the combination of a coupling-pin having a notch for holding it in a raised position, and a link-weight loosely connected to said pin and arranged to be supported by said pin when in its raised position, so as to leave the throat of the draw-head free for a coupling-link to enter, substantially as described.

2. In a car-coupler, the combination of a notched coupling-pin and link-weight loosely connected together in such a manner that the weight of said link-weight and connections will, when the pin is raised, cause the notch to engage with the coupler-head and thus support the pin in such position, the link-weight also being supported by the pin, so that the throat of the coupler-head is open to receive a coupling-link, and so that when the coupling-pin is down in engagement with the link the link-weight has freedom of vertical movement, while the pin remains stationary, substantially as described.

3. The combination, with the coupler-head of a railway-car, of the coupling-pin 7, having the shoulder 11 and the notch 27, the rod 19, sliding freely in the hole 17 and having at its upper end the arm 21, which connects with said pin and slides freely on it from the shoulder 11 upward, the length of said rod 19 and of said pin from shoulder to point being substantially equal, and the link-weight 23, rigidly secured to the lower end of the rod 19, and adapted to rest its weight and that of the rod 19 and arm 21 upon the inner end of a coupling-link inserted in said coupler-head, substantially as described.

4. An automatic car-coupler comprising, in combination, the pin 7, having a notch 27 on one side near its point adapted to engage with the coupler-head when the pin is raised out of the recess of the head and to support it in such raised position, the rod 19, arranged to move freely in the orifice 17 and rigidly secured to the arm 21, which connects loosely with the pin, the weight 23, rigidly secured to the lower end of the rod 19, and adapted to rest upon a link when inserted into the coupler-head, the rod 29, turning in suitable bearings on the car-body and having the arm 31 linked to said coupling-pin, and suitable handles 33 for operating the same, substantially as described.

5. The combination, with the coupler-head of a railway-car, of a coupling-pin 7, having a notch 27 near its point adapted to rest upon the edge of the pin-hole in the top of the head when the pin is withdrawn as far as the notch, and to support the pin in its raised position, the rod 19, fitting loosely in a vertical hole in the head and adapted to slide in the same, having a plate 23 at its lower end adapted to rest upon a coupling-pin in said head, and having the arm 21 at its upper end, by means of which it is loosely secured to the pin, said arm being arranged to slide upon said pin and to be stopped by the shoulder 11, said rod 19 being of such length as to permit the pin to be wholly withdrawn from the recess of the head, but preventing its withdrawal entirely from the head, substantially as described.

6. The combination, with the coupler-head of a railway-car, of the coupling-pin 7, having the notch 27 and the shoulder 11, the rod 19, freely slidable in the hole 17, and having the arm 21 secured to the pin 7 and adapted to rest upon the shoulder 11 and to slide freely upon said pin above said shoulder, the weight 23, secured to the rod 19, and adapted to rest upon a coupling-link inserted in the coupler-head, the length of said rod 19 between the arm 21 and the weight 23 being substantially equal to the length of the coupling-pin from the point to the upper side of the shoulder 11, and suitable link-connections with said pin, by means of which it can be lifted from the top of the car or from either side of the car by the additional means of a suitable rod having an arm joined to said link-connections, substantially as described.

In testimony whereof I have hereunto set my hand this 13th day of February, 1889.

HENRY L. LONG.

In presence of—

T. D. MERWIN,
A. M. GASKILL.