

(No Model.)

W. J. WALKER.
CAR COUPLING.

No. 496,924.

Patented May 9, 1893.

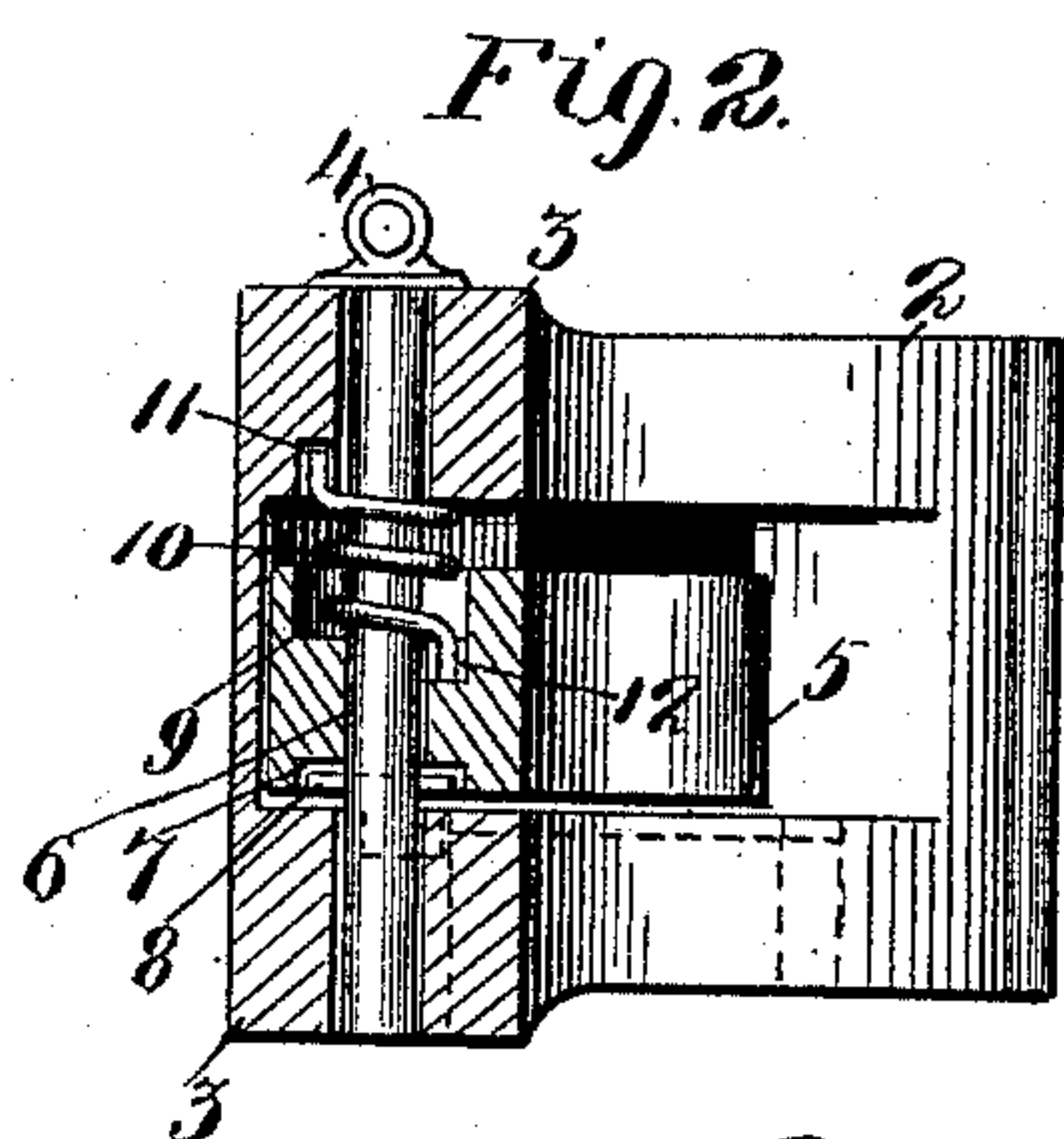
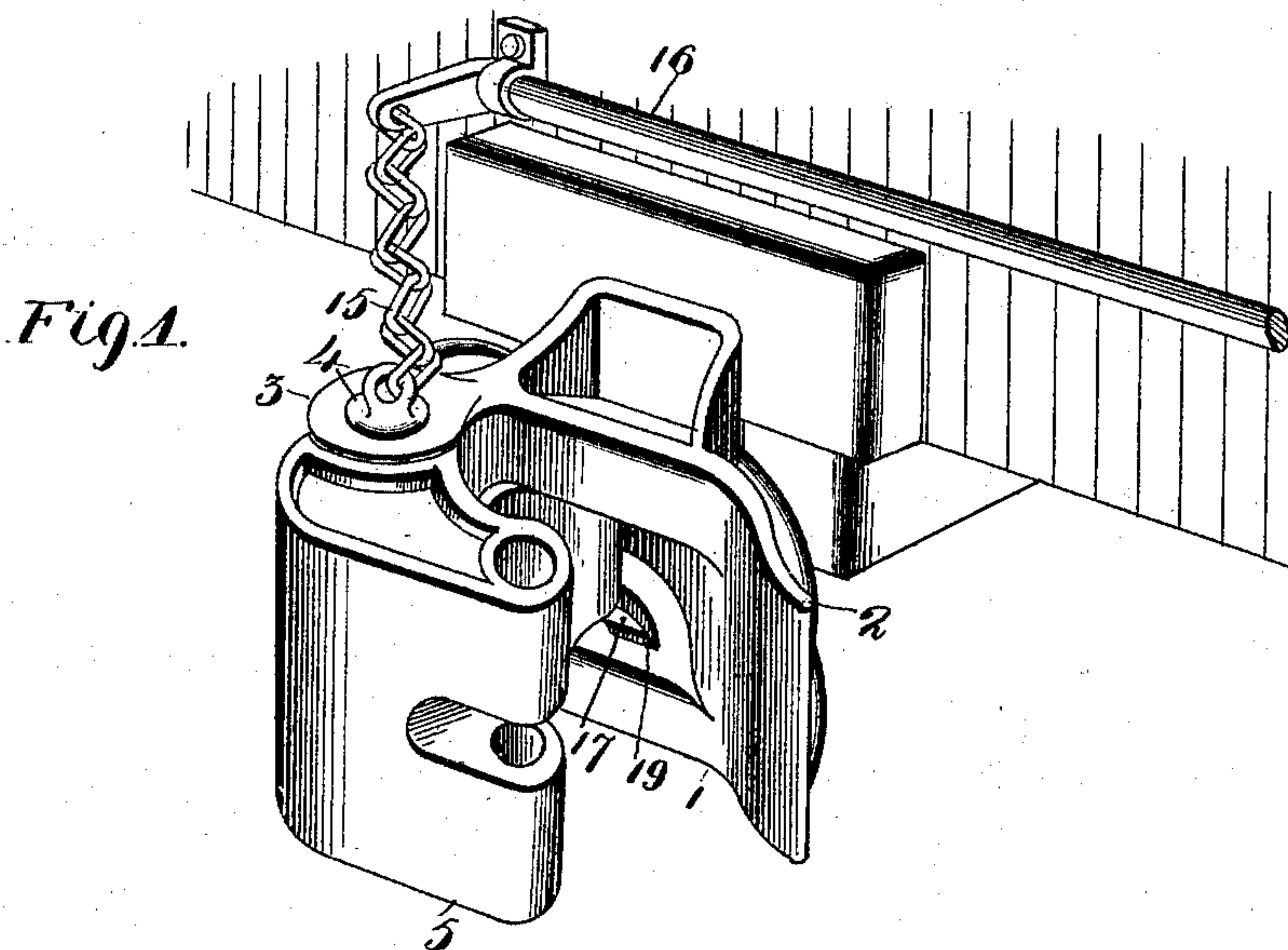
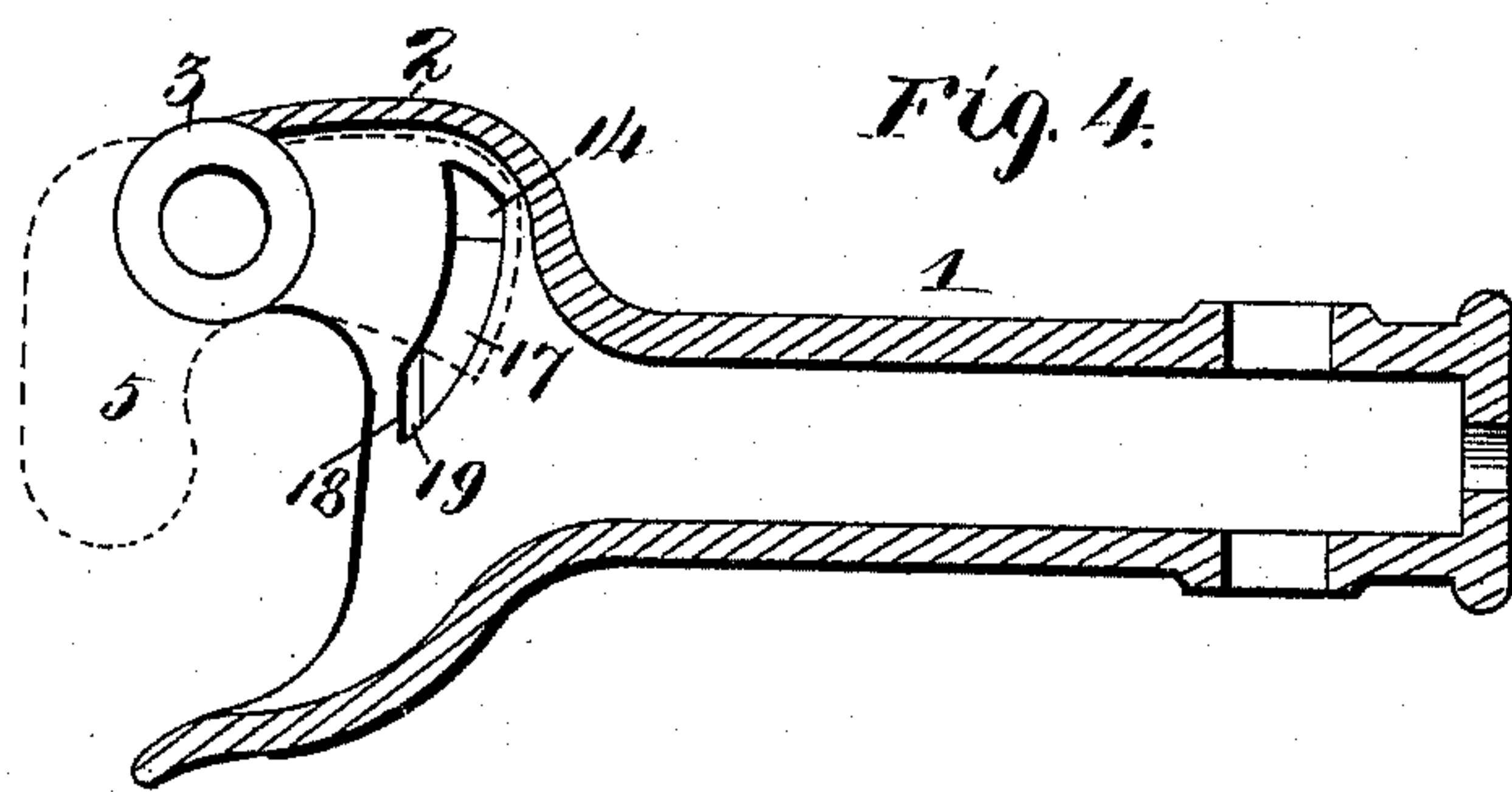
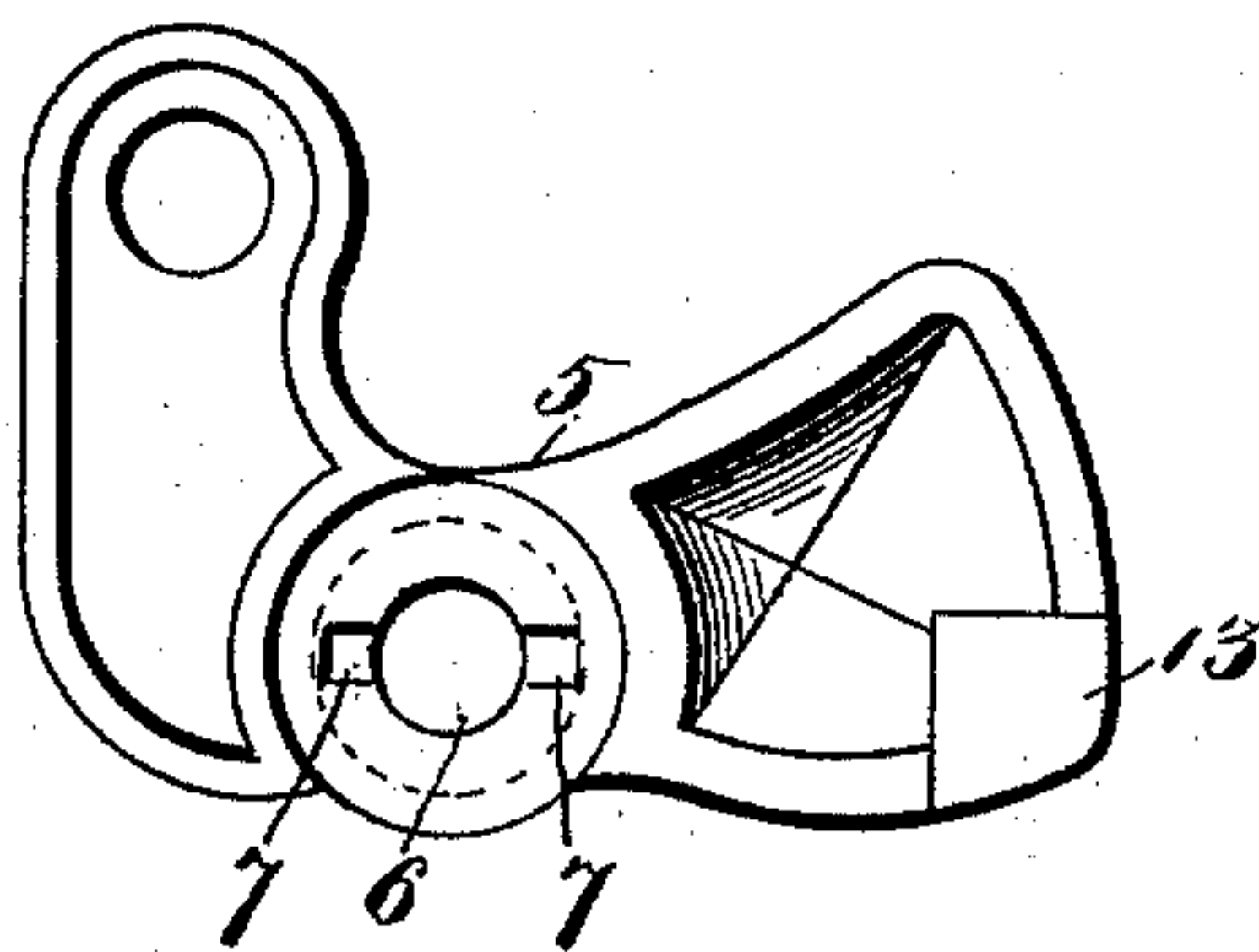


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM J. WALKER, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 496,924, dated May 9, 1893.

Application filed February 17, 1893. Serial No. 462,696. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. WALKER, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in car couplers, and consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings Figure 1 is a perspective view of my complete invention as attached to a car. Fig. 2 is a cross section taken through the ears of the coupler showing the means for opening the knuckle. Fig. 3 is a bottom plan view of the knuckle; and Fig. 4 is horizontal longitudinal section of the draw bar with the knuckle detached.

The object of my present invention is to provide a simple contrivance for automatically opening the knuckle when the same is released from its locked position, and further, to hold the said knuckle in said locked position, thus preventing the same from being released when in use and through the rough usage to which the same is subjected. My invention is therefore applicable where the knuckle is bodily elevated to release the same from its locked position, and wherein the pivotal pin for said knuckle is keyed or otherwise secured to the same.

In brief the invention consists of a coiled spring interposed between the knuckle and upper ear of the drawhead, and the ends of the spring secured to the knuckle and ear respectively; and further a pivotal pin keyed to the knuckle and rotated with the same whereby the chain attached to the pin for elevating the knuckle is twisted when the knuckle is locked whereby the chain will assist the spring referred to in opening the knuckle automatically when tension in a vertical direction is brought upon the chain.

Referring to the drawings, 1 represents a drawbar and 2 the drawhead of the same. The said drawhead is provided with the usual ears 3 forming bearings for the vertical pin

4 which pin secures the knuckle 5 to the drawhead.

6 represents a circular opening formed in the knuckle 5 through which the pin 4 is passed and formed in the said knuckle adjacent to the opening 6 are two depressions 7 which are oppositely located and adapted to receive the end of the pin 8 carried by the pivotal pin 4 thus locking the knuckle to the said pin 4.

Formed in the upper surface of the knuckle 5 adjacent to the opening 6 is a circular depression 9 of such a depth as to receive the coiled spring 10 when the knuckle is elevated for releasing the same. The said spring encircles the pivotal pin 4 and is interposed between the under surface of the upper ear 3 and the upper surface of the knuckle 5, the ends of said spring being passed into depressions 11 and 12 formed in the upper ear 3 and knuckle respectively, whereby tension is brought to bear upon the spring when the knuckle is closed or in its locked position. The lock for said knuckle consists of a lug 13 formed integral with the same which lug is adapted to be received by the opening 14 formed in the lower wall of the drawhead when the said knuckle is closed. In order to release the knuckle from its locked position the knuckle is bodily elevated by the pin 4 causing the lug 13 to be freed from the cavity 14 thus allowing the knuckle to be turned.

It will be seen from the foregoing construction that the pivotal pin 4 turns in the ears 3 of the drawhead which causes the operating chain 15 attached to the upper end of the pin to be twisted as shown in Fig. 1 when the knuckle is closed, and thus when tension is brought in a vertical direction upon said chain by the crank arm 16, the knuckle will be first elevated until released from its locked position, and the twist in said chain afterward operating to assist the spring 10 in opening the knuckle. Also formed in the lower wall of the drawhead 2 is a curved depression 17 which receives the lug 13 forming a part of the knuckle 5 after the said knuckle has been partially turned from its locked position, the said lug coming in contact with

the wall 18 forming the termination of the depression 17 thus forming a stop for limiting the movement of the knuckle in one direction.

5 19 represents an opening which is formed in the lower wall of the drawhead, and is in communication with the depression 17 through which dirt or other accumulations pass that may gain access within the depression 17, the
10 lug 13 forcing said accumulations to the opening 19 in the movement of the knuckle.

The locking device for the present invention is substantially shown in my patent, No. 446,239, under date of February 10, 1891.

15 By referring to Fig. 4 it will be seen that the opening 19 formed in the lower wall of the drawhead is not large enough to receive the lug 13 when the knuckle 5 is in an open position, and that said lug is only received
20 by the curved depression 17 after the hook or knuckle has been relieved from its locked position or elevated. Of course when the knuckle is closed, the lug 13 is also received by the opening 14 which occurs when the
25 knuckle is in its lowest position and no tension is brought to bear upon the chain 15, the weight of the knuckle causing the same to assume said position.

Having fully described my invention, what
30 I claim is—

1. A car coupler comprising a knuckle,

means for operating said knuckle in a vertical direction, and a spring interposed between the knuckle and the drawhead for holding the same in a locked position, and automatically opening the knuckle when the same is
35 bodily elevated, substantially as set forth.

2. A car coupler comprising a pivoted hook or knuckle a pivotal pin fixed to the same, and turning in the ears of the coupler, and
40 an operating chain attached to the upper end of the pin said chain adapted to be twisted when the knuckle is closed, substantially as set forth.

3. A car coupler consisting of a draw head, 45 ears 3 forming a part of the same, a pivotal pin 4 passing through said ears, a knuckle located between the ears and keyed to the pin 4, a suitable lock for the knuckle, a cavity 9 formed in the upper surface of the
50 knuckle, a coiled spring encircling the pin and having its ends attached to one of the ears and knuckle respectively, and a chain or other like device attached to the upper end of the pin 4 for operating the knuckle, 55 substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM J. WALKER.

Witnesses:

C. F. KELLER,
EMIL STANEK.