

No. 678,145.

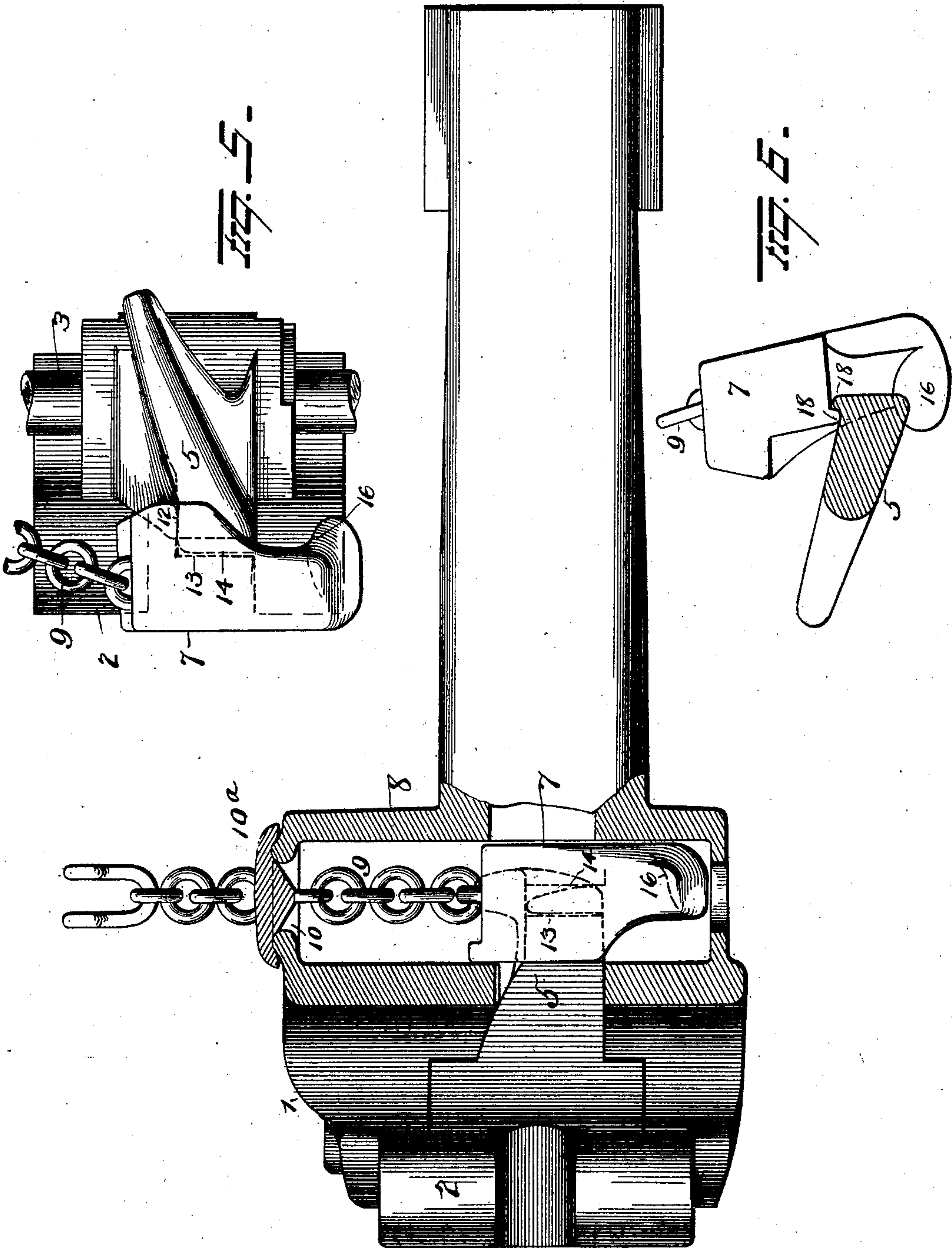
Patented July 9, 1901.

J. TIMMS.
COUPLING.

(Application filed Mar. 22, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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G. F. Downing.

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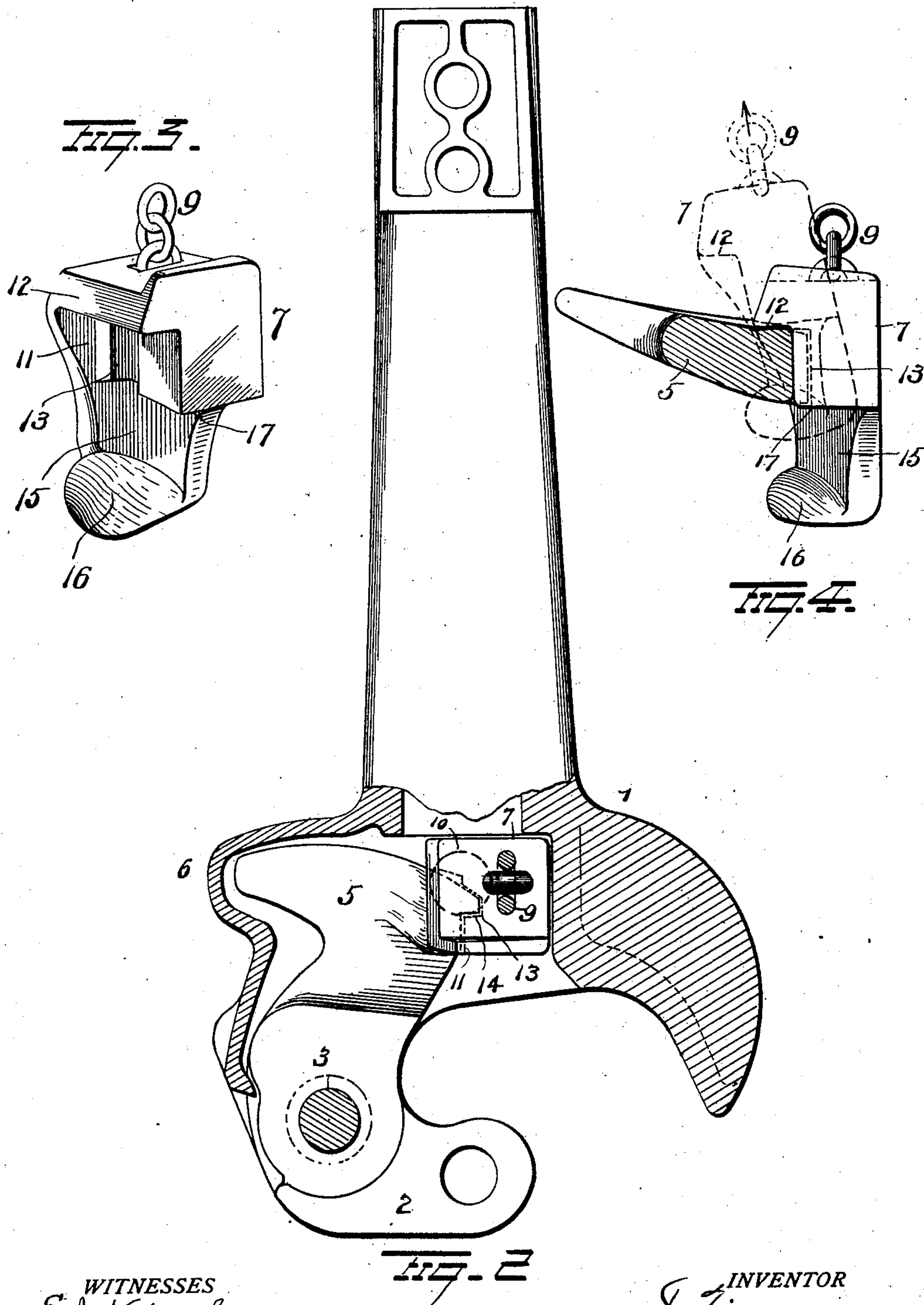
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UNITED STATES PATENT OFFICE.

JAMES TIMMS, OF COLUMBUS, OHIO, ASSIGNOR TO THE BUCKEYE MALLEABLE IRON AND COUPLER COMPANY, OF SAME PLACE.

COUPLING.

SPECIFICATION forming part of Letters Patent No. 678,145, dated July 9, 1901.

Application filed March 22, 1901. Serial No. 52,353. (No model.)

To all whom it may concern:

Be it known that I, JAMES TIMMS, a resident of Columbus, in the county of Franklin and State of Ohio, have invented certain new and

5 useful Improvements in Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

10 My invention relates to an improvement in couplings, one object of the invention being to provide improved locking mechanism which when operated will throw open the knuckle, but which can be so set as to permit the

15 knuckle to be opened by a pull thereon.

A further object is to provide a single block which can be operated to lock the knuckle, open the same, and which can be set in position to permit the knuckle to be opened.

20 With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

25 In the accompanying drawings, Figure 1 is a side view, partly broken away, illustrating my improvements. Fig. 2 is a top view, partly in section. Fig. 3 is a view illustrating the locking-block removed. Fig. 4 is a view showing the latter engaging the tail of the knuckle.

30 Fig. 5 is a view in section looking at the rear of the knuckle, and Fig. 6 is a view of a modified form of my invention.

1 represents the coupling-head, to which is

35 pivotally connected the knuckle 2 by a pin 3, and said knuckle 2 is made on its inner end with a long curved tail 5, curved approximately concentric with the axis of the knuckle and beveled or inclined upward to

40 its free end, and the coupling is made with a hollow enlargement 6 to receive the tail of the knuckle when the latter is closed.

7 represents the angular locking-block, which is mounted to move in a chamber 8 in the coupling-head and is confined and operated within said chamber, so that no portion of said block will project beyond the wall of the head, where it would be liable to be broken.

45 The locking-block thus confined is operated by a chain 9, secured thereto, and extended up through an opening 10 in the coupling-head, which opening is located to one side of the center of the block 7, so as to give a lateral

as well as a vertical pull on the block to tip it to an inclined position, as will more fully

55 hereinafter appear. A suitable cap or closure 10^a is secured on one of the links of the chain to close the opening 10 when the knuckle is locked and prevent the chain from falling into the coupling-head. The block 7 is cham-

60 bered, as at 11, to form the shoulder 12, which rests on the tail of the knuckle when the latter is in its closed position, and the block is made with a vertical groove 13 to receive a tongue 14 on the knuckle and securely lock

65 the same in the head. The lower portion of the block 7 is cut away or recessed, as at 15, sufficiently to permit the tail of the knuckle to pass freely between a beveled or inclined lip 16 at the lower end of the block and a

70 shoulder 17, formed by the recess in the block and located about midway between the ends thereof and for a purpose which will more fully hereinafter appear.

When it is desired to open the knuckle, the

75 chain 9 is pulled upward to lift block 7, drawing the grooved portion 13 thereof free from the tongue 14, and when the tail 5 of the knuckle aligns with the recessed portion 15

80 of the block a further upward pull on the chain will draw the lip 16 against the beveled or inclined lower face of the tail 5 and, owing to the cam action of the lip 16 against the tail of the knuckle, throw the latter to its extreme open position. When the pull

85 on the chain is released, the shoulder 17 will rest on the knuckle-tail and remain thereon until the knuckle is closed, when the block will fall into its locked position above described.

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If cars are coupled together and it is desired to unlock the knuckle without opening the same, the block 7 is drawn up far enough to align the tail of the knuckle with the recessed portion 15 thereon, the chain exerting a

95 lateral as well as a vertical pull on the block, tilting it and pulling the shoulder 17 over onto the seat on the knuckle-tail, and as the shoulder 17 is slightly inclined and the block top-heavy on one side the block will be re-

100 tained in this inclined position, and thereby make it difficult to shake or jar the block from off the tail. When the cars pull apart, the knuckle will be drawn to its open position and the tail thereon will move through

105 the recessed portion 15 of the block and sup-

port the latter during its opening and closing movement on the tail 5. To further secure the shoulder 17 on the tail of the knuckle, I might provide small lips 18 on the block and tail, as shown in Fig. 6, which will when the lip on the block falls behind the one on the knuckle-tail absolutely prevent any possibility of the block falling to its locking position until after the knuckle is opened and closed.

By the term "compact locking-block" as herein used with reference to the locking device is meant a block which can be completely inclosed within the draw-head and consisting of a solid mass of metal as contradistinguished from a locking device, such as a pin, which projects beyond the coupling-head, and thus liable to be broken, or a link having a pivotal movement in a draw-head and subject to strain when operated to throw the knuckle open.

Various other slight changes might be resorted to in the general form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not wish to be limited to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. The combination with a coupling-head and a knuckle pivotally supported therein, of a compact block inclosed within said head and constructed to lock the knuckle, throw it open and also to be set in position to permit the knuckle to be opened.

2. The combination with a coupling-head and a knuckle pivotally supported therein, of an inclined tail on the knuckle, a compact locking-block inclosed permanently and completely within the head, a lip on said block to engage the tail and force the knuckle open, and said block adapted to be supported on the tail without projecting beyond the head to permit the opening of the knuckle by a pull thereon.

3. The combination with a coupling-head and a knuckle pivotally supported therein, of a tail on the knuckle and having an inclined face, a compact locking-block inclosed within the head and normally in the path of the tail of the knuckle to lock the knuckle against movement, a lip on the block to engage the inclined face of the tail and force the knuckle open when the block is raised to its highest point and a shoulder on the block to rest on the tail and ride thereon and permit the knuckle to be opened by a pull thereon.

4. The combination with a coupling-head and a knuckle pivotally supported therein, of an inclined tail on the knuckle, a tongue on the forward end of the tail, a compact locking-block inclosed and operating within the head and normally in the path of the tail

and having a groove therein to receive the tongue, a lip on the lower end of the block disposed beneath the inclined tail and adapted to force the knuckle open when the block is raised, and a shoulder at the lower end of the grooved locking portion of the block adapted to rest and ride on top of the tail of the knuckle when the block is raised half way and permit the opening of the knuckle by a pull thereon.

5. In a coupling, the combination with a coupling-head, a knuckle pivotally supported therein and an inclined curved tail on the inner end of the knuckle, of a top-heavy locking-block located and operating wholly within the head, a lip on the lower end of the block to engage the lower face of the tail of the knuckle and force the latter open when the block is raised, and a shoulder midway between the ends of the block adapted to rest on the knuckle-tail when the block is raised slightly to permit the knuckle to be opened by a pull thereon, and when the block is so disposed, set at an incline.

6. In a coupling, the combination with a coupling-head, a knuckle pivotally supported therein and an inclined curved tail on the inner end of the knuckle, of a compact locking-block located and operating wholly within the head and normally in the path of the knuckle-tail, a lip on the block to engage the tail and throw the knuckle open, a chain secured to the block and projecting up through an opening in the top of the coupling to one side of the center of the block, and a cap or closure on the chain adapted to close the opening in the coupling when the knuckle is locked.

7. The combination with a coupling-head and a pivoted knuckle having a tail, of a compact block inclosed wholly within the head and constructed to lock the knuckle, unlock the knuckle and simultaneously open it or to unlock the knuckle without opening it and means for operating said block without moving any portion of it beyond the wall of the coupling-head.

8. The combination with a coupling-head having a chamber therein, and a pivoted knuckle having a tail provided with an inclined face, of a locking compact block confined permanently and wholly within said chamber and constructed to lock the knuckle, to unlock and open the knuckle by engagement with the inclined face of the tail and to unlock the knuckle without opening it and a flexible device entering said chamber and attached to the block for operating it within said chamber.

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

JAMES TIMMS.

Witnesses:

S. W. FOSTER,
A. W. BRIGHT.