

No. 780,076.

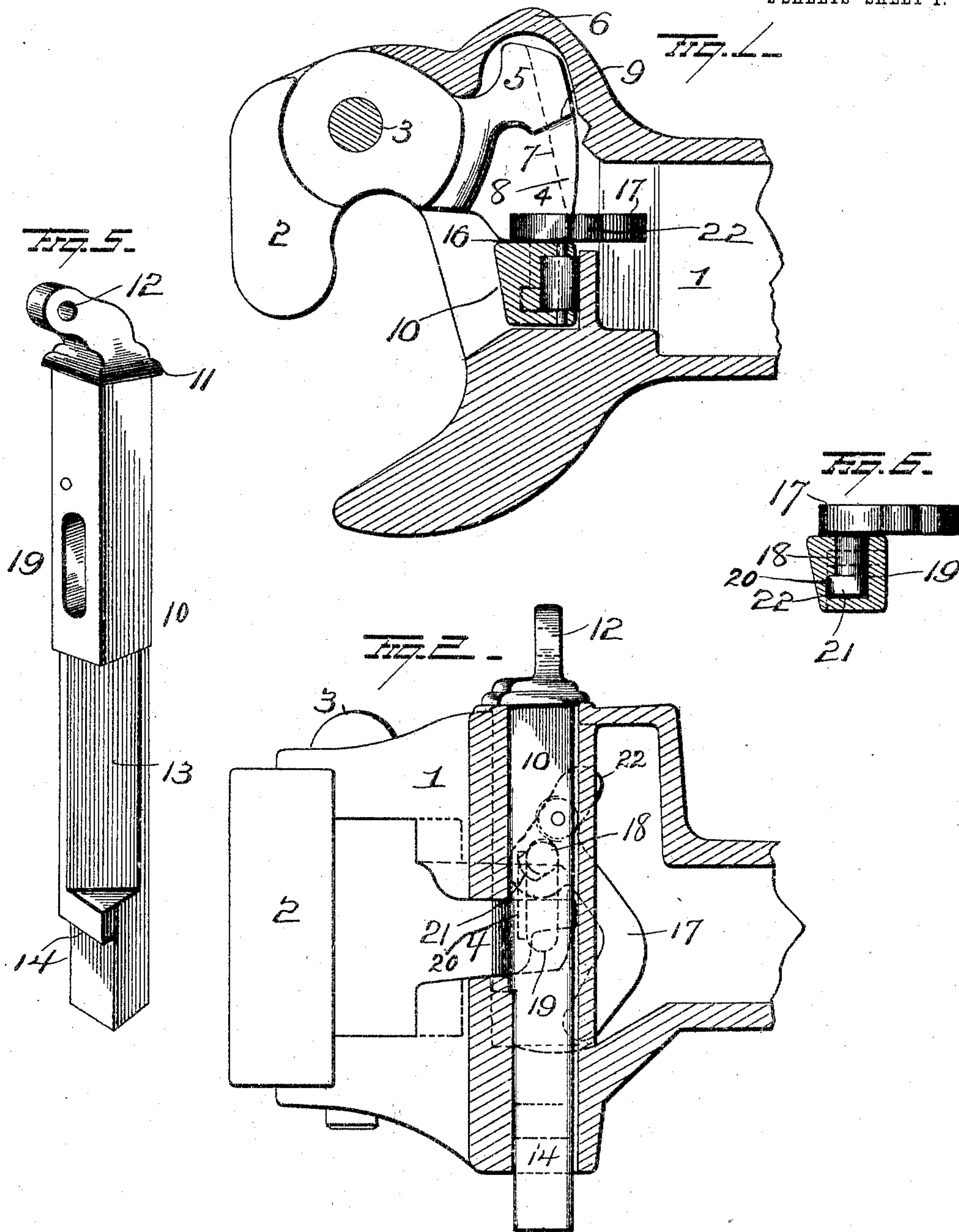
PATENTED JAN. 17, 1905.

J. & J. O. TIMMS.

COUPLING.

APPLICATION FILED JULY 16, 1904.

2 SHEETS—SHEET 1.



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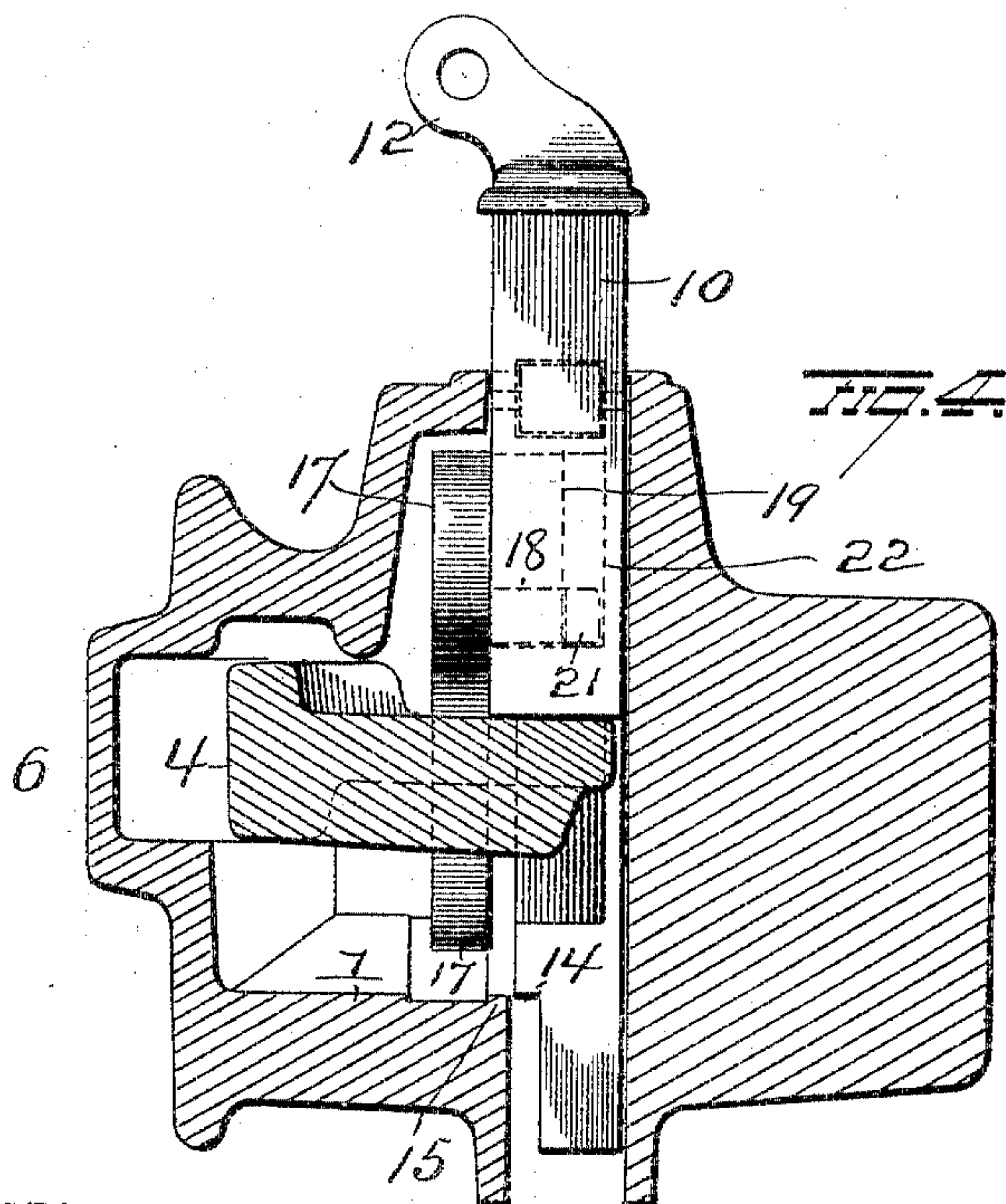
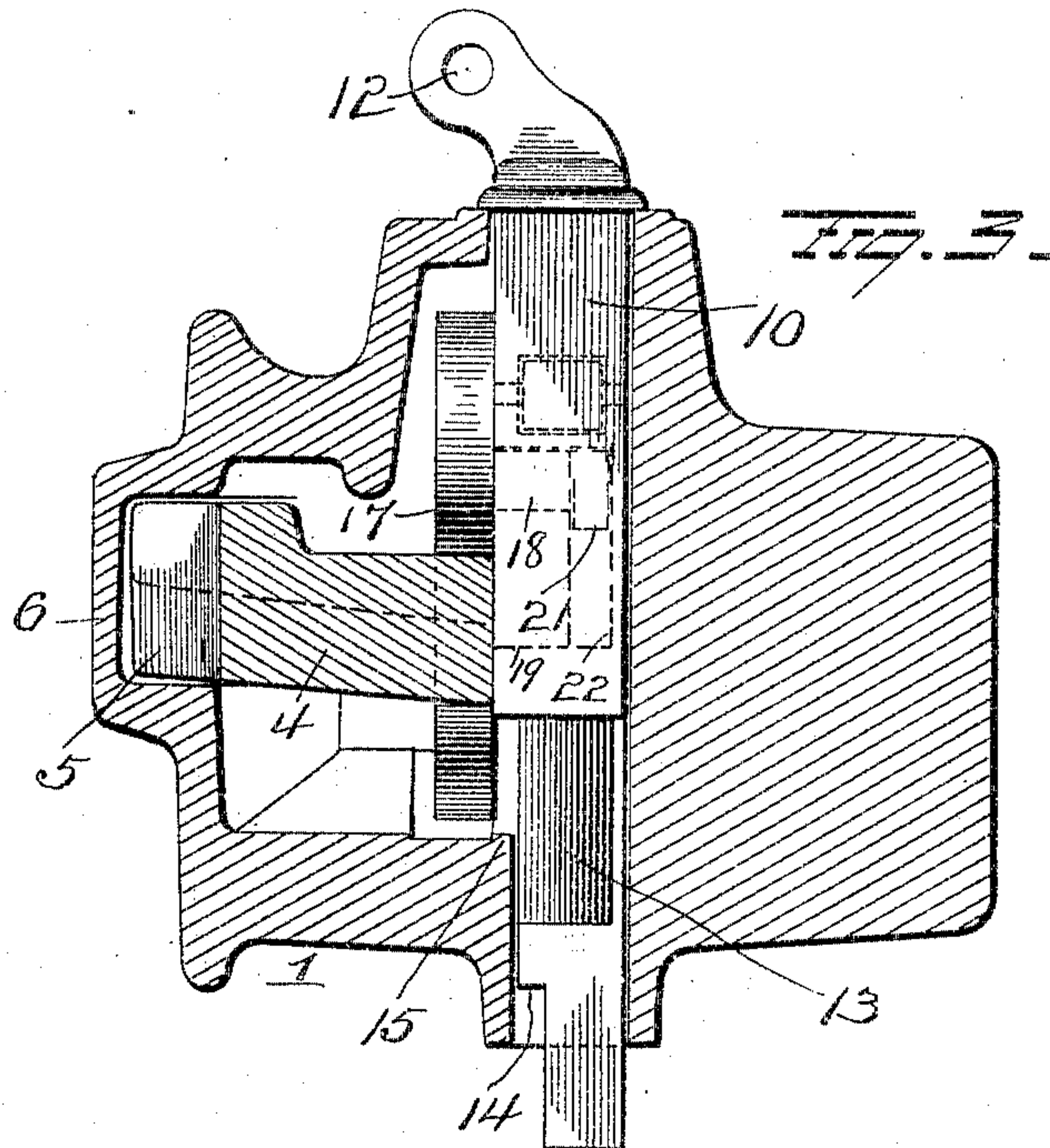
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

JAMES TIMMS AND JAMES O. TIMMS, OF COLUMBUS, OHIO.

## COUPLING.

SPECIFICATION forming part of Letters Patent No. 780,076, dated January 17, 1905.

Application filed July 16, 1904. Serial No. 216,883.

*To all whom it may concern:*

Be it known that we, JAMES TIMMS and JAMES O. TIMMS, residents of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Couplings; and we 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.

Our invention relates to an improvement in car-couplings, the object of the invention being to provide improved means for throwing the knuckle open and permitting the locking block or pin to be lock-set without moving the knuckle-opener.

A further object is to provide improved construction of locking-block and knuckle-opener with improved means for connecting them, permitting their ready disconnection, removal, and assembling.

A further object is to provide an improved coupling simple in construction and operation, constituting but few parts, easily operated, and strong and durable in use.

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.

In the accompanying drawings, Figure 1 is a view in horizontal section, illustrating our improvements. Fig. 2 is a view in vertical longitudinal section. Fig. 3 is a view in vertical cross-section, showing the parts in locked position. Fig. 4 is a view similar to Fig. 3, showing the mechanism lock-set; and Figs. 5 and 6 are enlarged detail views of the locking block or pin and knuckle-opener.

1 represents a coupling-head, and 2 a knuckle mounted to turn on a pivot-pin 3.

The knuckle 2 is made with a tail 4, the rear end 5 of which is adapted to enter a pocket or extension 6, formed in the wall of the coupling-head. The rear edge or wall 7 of the knuckle-tail is straight or practically straight or inwardly curved and is formed at such an angle of inclination that the distance of the wall 7 of the knuckle-tail from the pivotal center of the knuckle gradually decreases from

the front to the rear end of the tail of the knuckle, and the tail is made with a flange 8 and shoulder 9 thereon for a purpose which will hereinafter appear.

10 represents an improved locking block or pin which projects up through an angular opening in the top of coupling-head 1 and is made with a flanged enlargement 11 to cover said opening and an eye 12, projecting to one side for the attachment of the operating-chain.

The block or pin 10 is of rectangular shape throughout its upper portion and is made with a recess 13, having a diagonal or curved wall of such size as to permit the tail of the knuckle to pass the block or pin without engaging it until the latter is struck by the shoulder 9 in opening to knock the block or pin from its lock-set position, as will be hereinafter pointed out.

The lower end of block or pin 10 when in locked position projects through an opening in the bottom of head 1 and is recessed at one side, forming a shoulder 14, adapted to rest on a seat or platform 15 to hold the block or pin in lock-set position, and it will be seen that as the eye 12 is at one side of the center of the block or pin the latter will be tilted to one side when drawn up and compel the shoulder 14 to swing over seat or platform 15 and support the block in such position.

The operation of the coupling thus far described is as follows: To lock-set the block or pin 10, it is drawn up and tilted to one side, and when it reaches the proper height the shoulder 14 will swing over and rest on seat or platform 15, supporting the block, with its recess 13 in alinement with the tail 4 of knuckle 2, and permit the knuckle to swing freely to its open position. As the knuckle swings open the shoulder 9 on the knuckle-tail will strike block or pin 10, moving its shoulder 14 from seat 15 and compelling the upper wall of recess 13 to rest on the knuckle-tail, and when the knuckle is closed the block will slide off the tail of the knuckle and fall down with its rectangular portion between the flattened end 16 of the knuckle-tail and the wall of the coupling-head, securely locking the knuckle in its closed position.

17 is our improved knuckle-opening lever,



having a horizontal shaft or circular lug 18 secured thereto near the upper end of the lever and adapted to project into an elongated slot or recess 19 in the block or pin 10, and said  
 5 shaft or lug 18 is provided at its end with locking key or enlargement 21, adapted to enter a groove 20 in the wall of recess or slot 19 and secure the lever against displacement. This key or enlargement 21 is so arranged  
 10 with relation to the lever 17 that when the block or pin 10 is drawn up, permitting the lever to be swung out through the opening in the front of the coupling-head and the block or pin 10 again lowered, the key or enlargement 21 will be in the main portion of  
 15 recess or slot 19 and the lever can be disconnected from the block by being moved laterally, when both the block and lever can be separately removed.

20 To assemble the parts, the block or pin 10 is lowered into the head 1, and the lever 17 inserted through the opening in the front of the head and the shaft or lug 18 inserted in recess or slot 19. The block or pin is then moved up-  
 25 ward, drawing in the lever and turning lug or shaft 18, the key 21 moving into the groove 20 and effectually locking the parts together against possibility of accidental displacement.

30 The lever 17 is of general hook shape to engage under flange 8 of the knuckle-tail and against the wall 7 of the knuckle-tail, and the lever has an inclined arm 22 at its upper end adapted to engage the upper wall of the coupling-head, swing the lever, and throw open  
 35 the knuckle.

By constructing the locking block or pin 10 with an elongated slot or recess 19 to receive the lever-carrying shaft or lug 18 the block or pin can be raised to set position and fall  
 40 to locking position without disturbing the knuckle-opening lever 17, and it is only when it is desired to throw the knuckle open and the upward movement of the block or pin 10 is continued until the lower wall or end of  
 45 slot or recess 19 engages the shaft or lug 18 and draws the lever upward that its position is disturbed, when it will, as above explained, throw the knuckle open.

A great many slight changes might be made  
 50 in the general form and arrangements of the parts described without departing from our invention, and hence we would have it understood that we do not restrict ourselves to the precise details set forth, but consider our-  
 55 selves at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of our invention.

Having fully described our invention, what we claim as new, and desire to secure by Let-  
 60 ters Patent, is—

1. A car-coupling comprising a coupling-head, a swinging knuckle, a movable locking-

block constructed to lock-set in the coupling-head, and a knuckle-opening lever carried by and having a movable connection with the  
 65 locking-block, whereby said opening-lever will be moved by the locking-block only when said block is elevated above its lock-set position.

2. A car-coupling comprising a coupling-head, a swinging knuckle, a movable locking-  
 70 block constructed to lock-set in the coupling-head, and a knuckle-opening lever having a movable pivotal connection with the locking-block, whereby it will be moved by said block only when the block is elevated above the  
 75 lock-set position.

3. A car-coupling comprising a coupling-head, a swinging knuckle, a movable locking-  
 80 block constructed to lock-set in the coupling-head and a knuckle opening-lever carried by the locking-block and having sliding connection therewith.

4. A car-coupling, comprising a swinging knuckle, a movable locking-block having an  
 85 elongated slot or recess therein, a knuckle-opening lever and a lug or shaft secured to said lever mounted in the elongated slot or recess in the locking-block.

5. A car-coupling, comprising a swinging knuckle, a movable locking-block having an  
 90 elongated slot or recess therein, a knuckle-opening lever, a lug or shaft secured to said lever and mounted in the elongated slot or recess in the locking-block, and a key or enlargement on one side of the lug or shaft at  
 95 its end to enter a groove in the wall of the slot or recess and lock the parts against independent lateral movement when in working position.

6. In a car-coupling, the combination with  
 100 a coupling-head, a swinging knuckle therein, and a tail on the knuckle, of a locking-block rectangular throughout its upper portion, a shoulder near the lower end of the block to rest on a seat in the bottom of the head when  
 105 the block is elevated and tilted, a recess in the block in position to permit the tail of the knuckle to pass therethrough when the block is supported on its shoulder in its lock-set position, a knuckle-opening lever having a  
 110 vertically-movable connection with the locking-block, and moved only when the block is elevated above its lock-set position, when one end of the lever engages the wall of the coupling-head and the other the knuckle-tail  
 115 to force the knuckle open.

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

JAMES TIMMS.  
 JAMES O. TIMMS.

Witnesses:

W. M. THOMPSON,  
 THOMAS H. BENNETT.