

No. 775,615.

PATENTED NOV. 22, 1904.

J. & J. O. TIMMS.
COUPLING.

APPLICATION FILED MAR. 3, 1904.

NO MODEL.

3 SHEETS—SHEET 2.

FIG. 7.

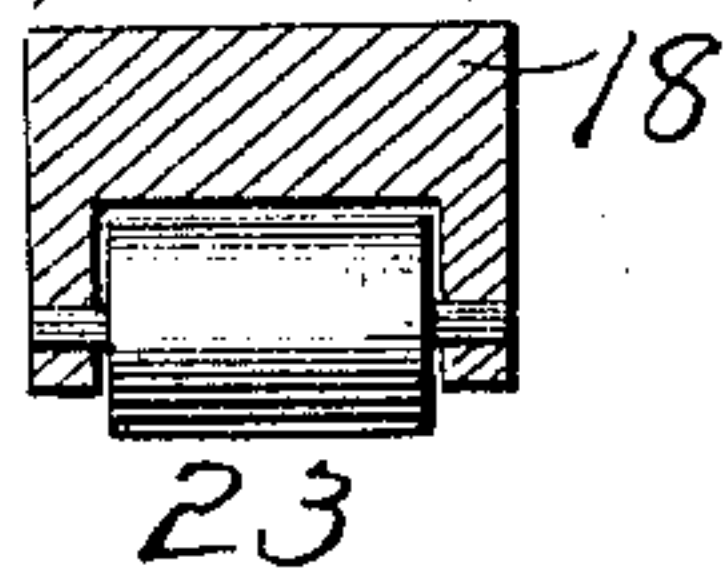


FIG. 3.

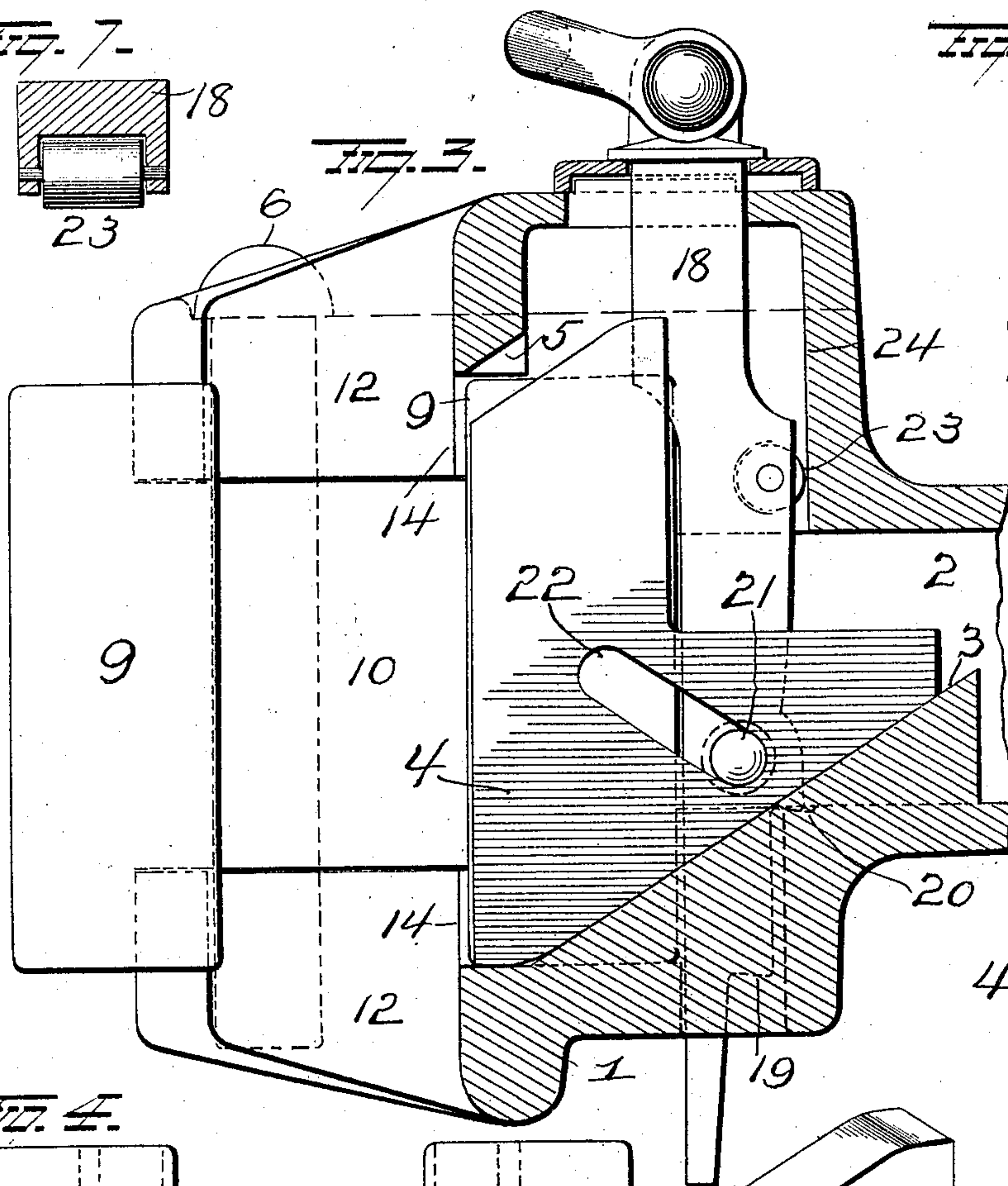


FIG. 5.

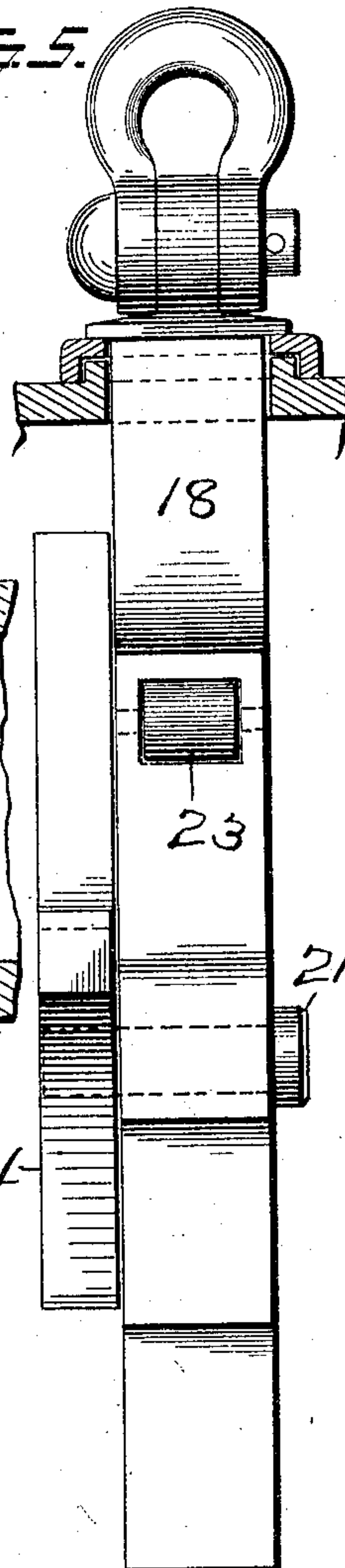


FIG. 4.

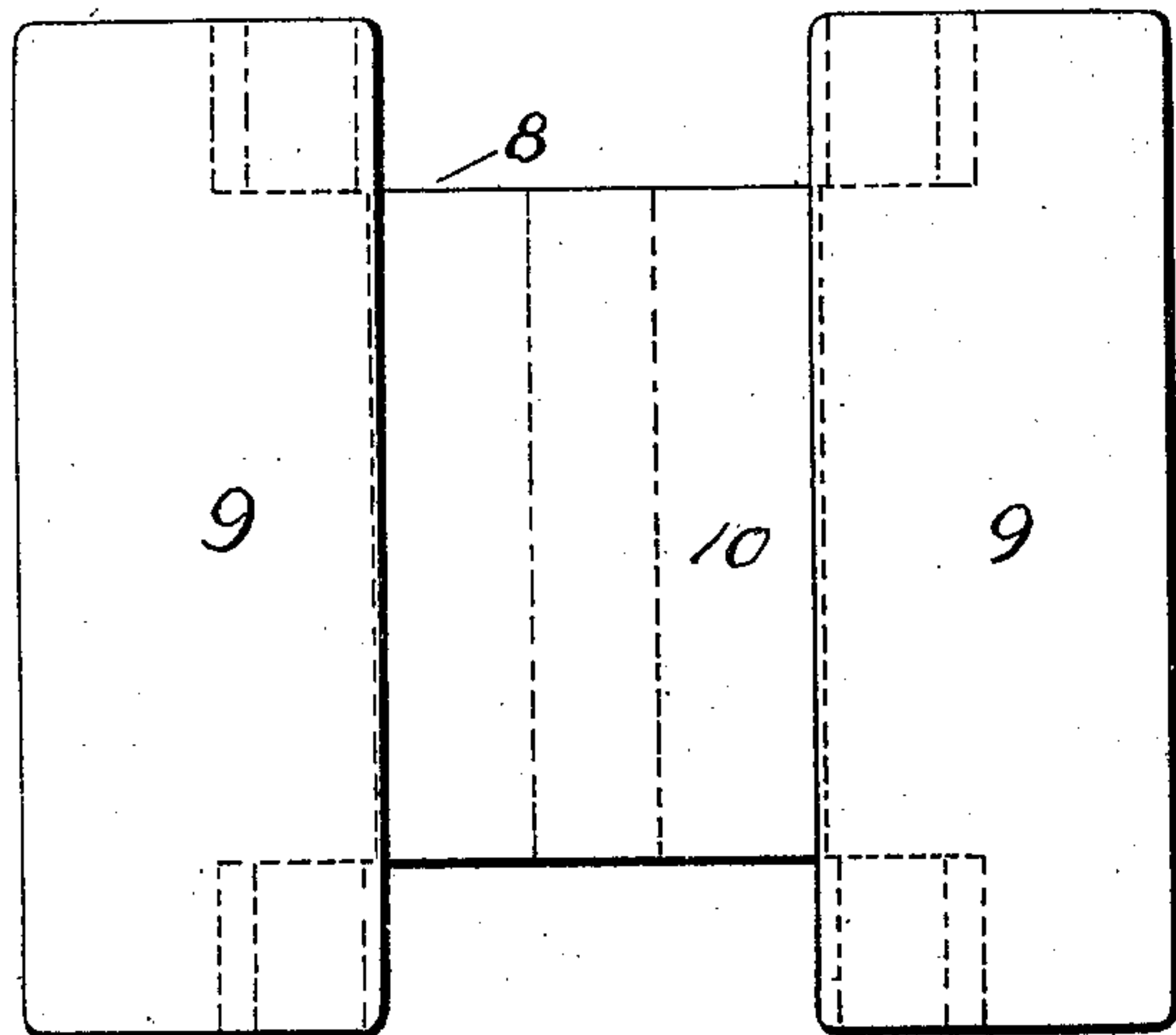
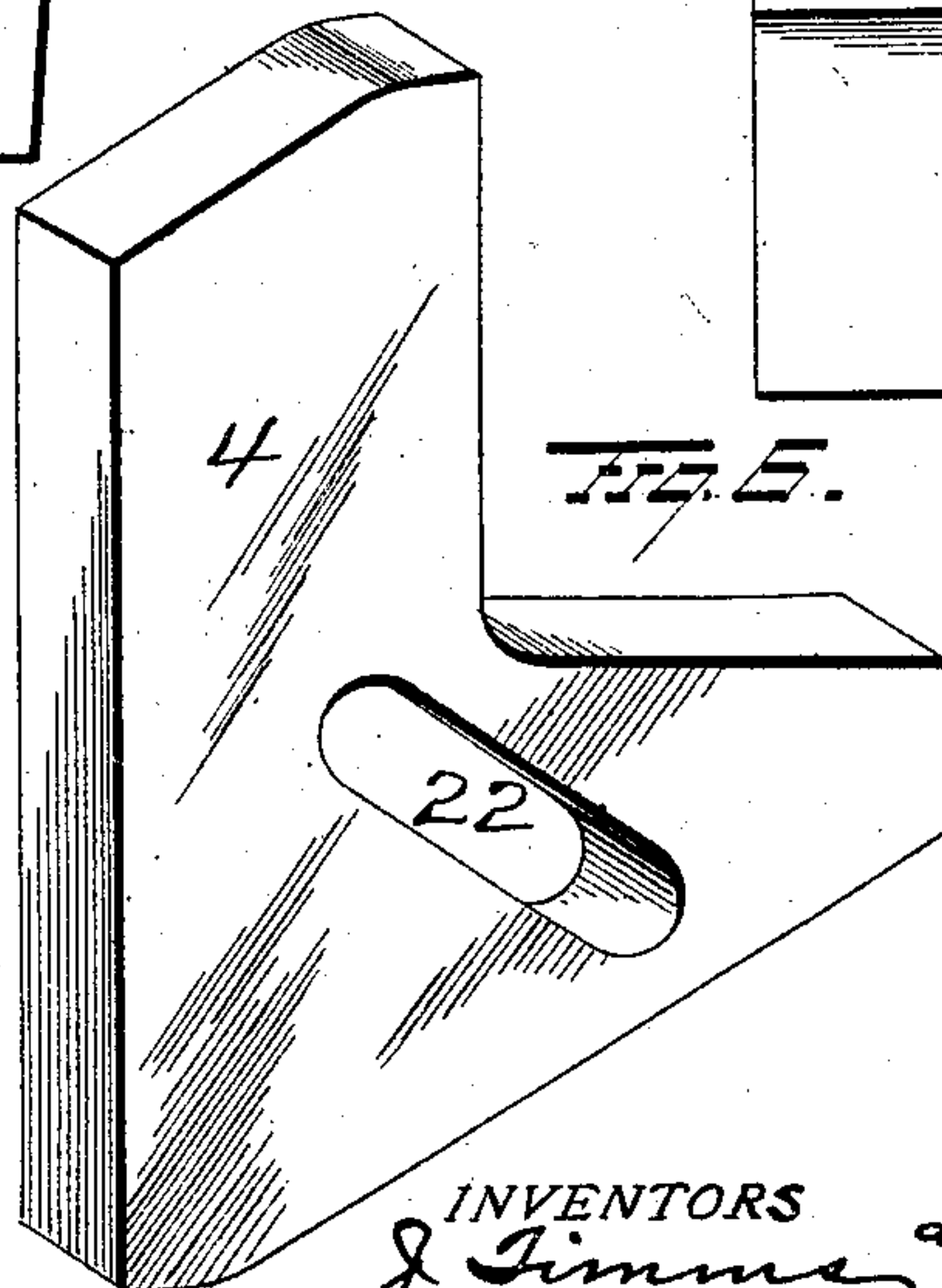


FIG. 6.



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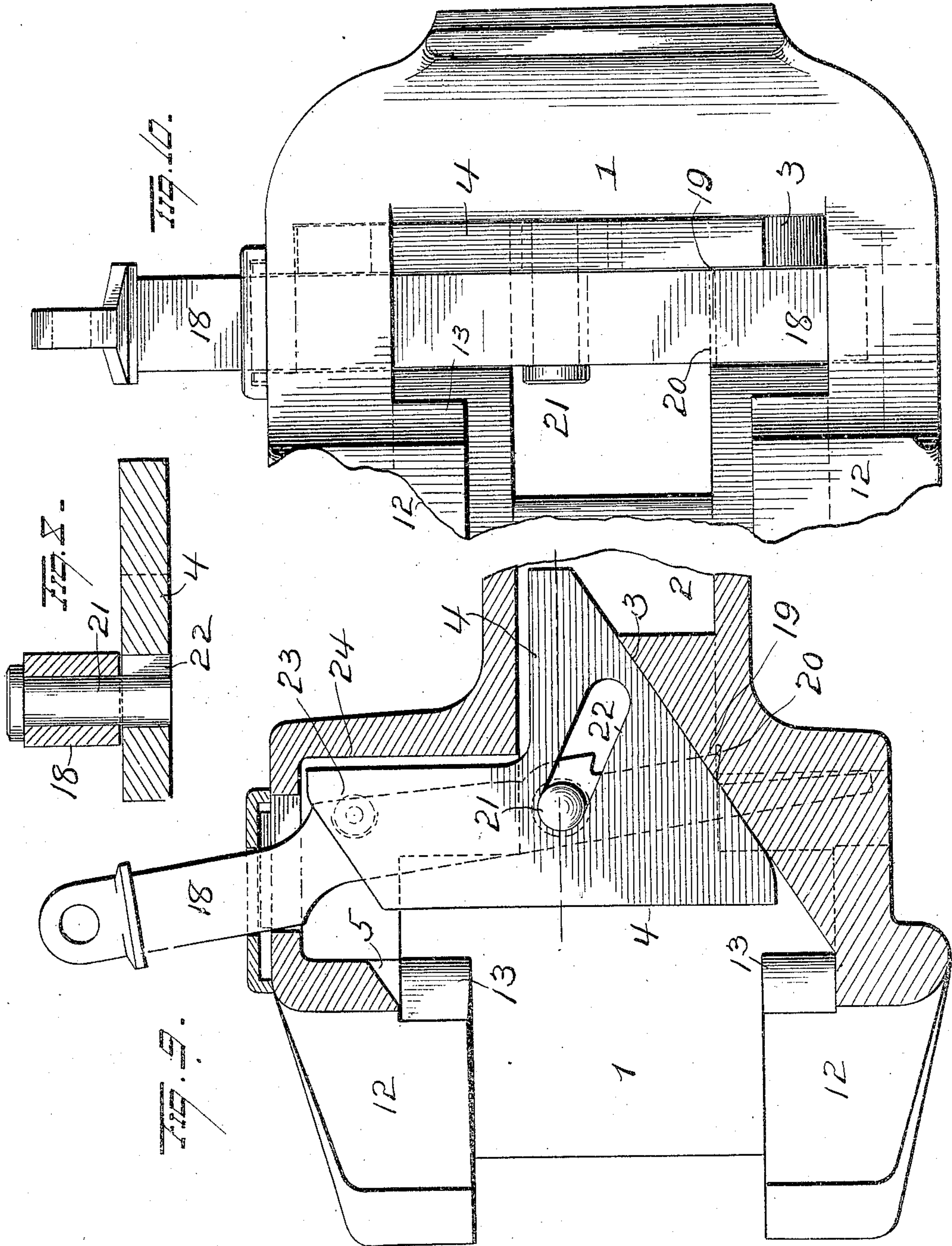
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UNITED STATES PATENT OFFICE.

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

COUPLING.

SPECIFICATION forming part of Letters Patent No. 775,615, dated November 22, 1904.

Application filed March 3, 1904. Serial No. 196,402. (No model.)

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
 5 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
 10 others skilled in the art to which it appertains to make and use the same.

Our invention relates to an improved car-coupling, the object of the invention being to provide an improved reversible double-jawed knuckle, improved mounting therefor, and
 15 improved locking mechanism; and it 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.

20 In the accompanying drawings, Figure 1 is a top plan view of our improved coupling. Fig. 2 is a view in horizontal section. Fig. 3 is a view in vertical longitudinal section. Fig. 4 is a view of the knuckle removed, and
 25 Figs. 5, 6, 7, 8, 9, and 10 are views illustrating various other details of construction.

1 represents the coupler-head, having the ordinary draw-bar 2 and provided on its interior at one side with an inclined seat 3 for
 30 a locking-block 4, which latter is provided with a bottom incline to fit the seat 3 and with an upper incline to move against a corresponding incline 5 at the top and guide the block to and from its locking position.

35 The head 1 is made at one side opposite to its guard-arm with enlarged lugs 12, having aligned openings to receive the hinge-pin 6, also passed through an opening 7 in the knuckle 8. The knuckle 8 is made at both
 40 ends with jaws 9 precisely alike and connected by a contracted portion 10, having two openings 7 therein, and the rear face of said contracted portion 10 is curved concentrically with the openings 7, so that either of said
 45 curved faces will turn fully yet lie snugly against the curved face 11 of the head 1. Back of the lugs 12 the head 1 is internally recessed at its top and bottom, as shown at 13, conforming in contour to the shape of the
 50 jaws 9 to receive the latter snugly therein and

form buffing-walls 14 and 15 to take practically all strain from the hinge-pin 6, whether the strain or shock to the knuckle be inward or outward. The outer face of the jaws 9 are given the compound curvature shown—that
 55 is to say, they are dished, as shown at 16—which is a distinct improvement, as will now be pointed out. With the ordinary form of coupling now in use when two couplings are brought together with their knuckles in closed
 60 position, (which is a very common occurrence in railroad-yards,) owing to the rounded face of the knuckles coming into contact with each other, they will be deflected to one side and strike the guard-arm with great force and
 65 often break the same. By shaping the jaws as above described when two knuckles come together the curvature of their outer faces is such as to deflect the outer end of one knuckle to the center of the other, preventing deflection
 70 against the guard-arm, and thus sustaining the entire buffing shock without injury.

The locking-block 4, above referred to, is comparatively thin with flat parallel sides and movable against the flat inner side face 17 of
 75 the head, and its rearward movement is limited by a wall 24, with which its inner edge comes into contact, the lower inclined portion of the locking-block being preferably elongated, as shown, to provide a long surface
 80 contact with inclined seat 3 and insure the block remaining in operative position and not be jarred out of place. When in locked position, the block 4 is at the lowest forward
 85 end of incline seat 3 and is located between the end of the inner knuckle-jaw 9 and flat side face 17 of the head, absolutely preventing any pivotal movement of the knuckle.

To unlock the knuckle, a vertically-movable angular pin 18 is provided and extends down-
 90 wardly through the head 1, the opening in the top of the head being elongated, as shown, to permit forward tilting of the pin to set the same, with its shoulder 19 resting on the shoulder 20 in the head, as will more fully herein-
 95 after appear.

The unlocking-pin 18 has a small pin 21 secured therein in any approved manner and projecting into an inclined slot 22 in block 4, so that when unlocking-pin 18 is raised the
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pin 21 in slot 22 will cause the block 4 to move rearward up its inclined seat 3, and when the block has moved far enough rearward to permit free opening of the knuckle the pin 18
 5 will be in position to seat its shoulder 19 on the shoulder 20 and set the lock to permit the knuckle to freely open and will remain in such position until given a sharp blow by the knuckle in closing to bump the pin from its
 10 seat and permit it to fall and the block 4 to slide forward down its incline 3 between the knuckle and flat face 17 of the coupling-head and securely lock the knuckle in its closed position. When, however, the pin is in its set
 15 position, with the locking-block held back in its unlocked position, light contact of the knuckle with the pin in closing, or in vibrating movement while, for instance, in switching cars about a yard, the pin will pivot on its
 20 seat or shoulder 20 and remain in its unlocked position and will only be dislodged when the knuckle is driven in with a sharp bang, such as occurs when cars come together in coupling.

It is desirable in all cases where a coupling
 25 breaks or its draw-head pulls away from the draft-rigging to uncouple the cars, preventing the joined couplings falling to the track and derailing or otherwise causing injury, and to compel this uncoupling under such conditions we provide a roller 23 in the rear face
 30 of pin 18, which roller moves against flat wall 24 in the head 1, reduces the friction of parts, and permits the rearward as well as upward pull to draw up the pin and uncouple. Without such roller 23 the rearward pull would
 35 bind the pin, and it could not rise.

The operation of our improvements is as follows: When the knuckle is open and the locking-block 4 is in its forward locking position,
 40 an inward movement of the knuckle will first force the block 4 backward and up its inclined seat until the knuckle is fully closed, when the block 4 will slide forward into position between the inner jaw of the knuckle and the side wall 17 of the head and securely lock the knuckle in its closed position. To open, the pin 18 is raised, drawing
 45 back block 4 and seating its shoulder 19 on shoulder 20 when it reaches the proper elevation. The knuckle can fully open and close and when moved inward with sufficient force will dislodge the pin from its set position and permit the block to move forward to its locked position. Should one jaw of the knuckle be
 50 come worn from any cause, the knuckle can be reversed, as both jaws are precisely alike and the knuckle will work in either position. These jaws are, as above explained, when swung into the head seated in recesses 13 in
 60 the top and bottom of the head, and the walls 14 and 15 of said recesses cooperate with the walls of the inner jaw to relieve the hinge-pin of practically all strain and give to the coupling great strength and durability.

65 A great many changes might be made in the

general form and arrangement of the parts described without departing from our invention, and hence we do not restrict ourselves to the precise details set forth, but consider ourselves at liberty to make such slight
 70 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 Letters Patent, is—

1. In a coupling, the combination with a head, of a reversible knuckle having similar jaws at both ends, and said head made with recesses to receive the inner jaw of the knuckle and sustain practically all strain on the
 80 knuckle.

2. In a coupling, the combination with a head, of a reversible pivoted knuckle, shaped exactly alike at both ends, and having two openings to receive a hinge-pin in either of
 85 them according to the position of the knuckle, and said head recessed to seat the inner jaw and sustain the strain on the knuckle.

3. In a coupling, the combination with a draw-head recessed in its top and bottom, of a
 90 reversible knuckle, pivoted at one side of said head and having similar jaws at its ends, either of which is adapted to fit the recesses in the head, and the walls of said recesses cooperating with the inner jaw to sustain the strain
 95 on the knuckle.

4. The combination with a draw-head, of a pivoted knuckle in said head having its outer face dished or slightly curved inward between its ends.

5. The combination with a draw-head, of a reversible knuckle pivoted between its ends in the head, and having similar jaws at its ends both dished on their buffing-faces between their ends to prevent flaring of the knuckles
 105 when brought together in their closed position.

6. In a coupling, the combination with a draw-head and a knuckle pivoted in the head, of a locking-block disposed in said head to lie against the side wall of the head and to receive the knuckle to lock it in its closed position, an inclined seat for said block, and means for setting said block at the inner upper end of the incline.

7. In a coupling, the combination with a draw-head, and a knuckle pivoted therein, of a locking-block in the head, an inclined seat for said block, a vertically-movable unlocking-pin in the head, a cross-pin in the unlocking-pin projecting into an inclined slot in the block, so that when said pin is raised the block will be moved up its inclined seat out of locked position, and a shoulder on the unlocking-pin adapted to set on a corresponding
 125 shoulder in the head and hold the block in open set position.

8. In a coupling, the combination with a draw-head, of a reversible knuckle pivoted in the head, a locking-block disposed to receive the inner jaw of the knuckle and bear against
 130

side wall of the head to lock the knuckle in its closed position, and means for drawing back said block from its locked position to permit the knuckle to open.

5 9. In a coupling the combination with a locking member, of a vertically - movable member controlling said locking member, and roller contact between the vertically-movable member and its casing.

10 10. In a coupling, the combination with a draw-head, of a pivoted knuckle in said head, locking mechanism in the head, a vertically-movable pin controlling the operation of said

locking mechanism, and a roller carried by said pin and contacting with a wall of said draw-head enabling the coupling to open when one breaks or pulls away from its draft-rigging. 15

In testimony whereof we have signed this specification in the presence of two subscrib- 20
ing witnesses.

JAMES TIMMS.
JAMES O. TIMMS.

Witnesses:

L. B. TUSSING,
NOMA SNYDER.