

No. 656,844.

Patented Aug. 28, 1900.

J. KELSO.
CAR COUPLING.

(Application filed Aug. 1, 1899.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

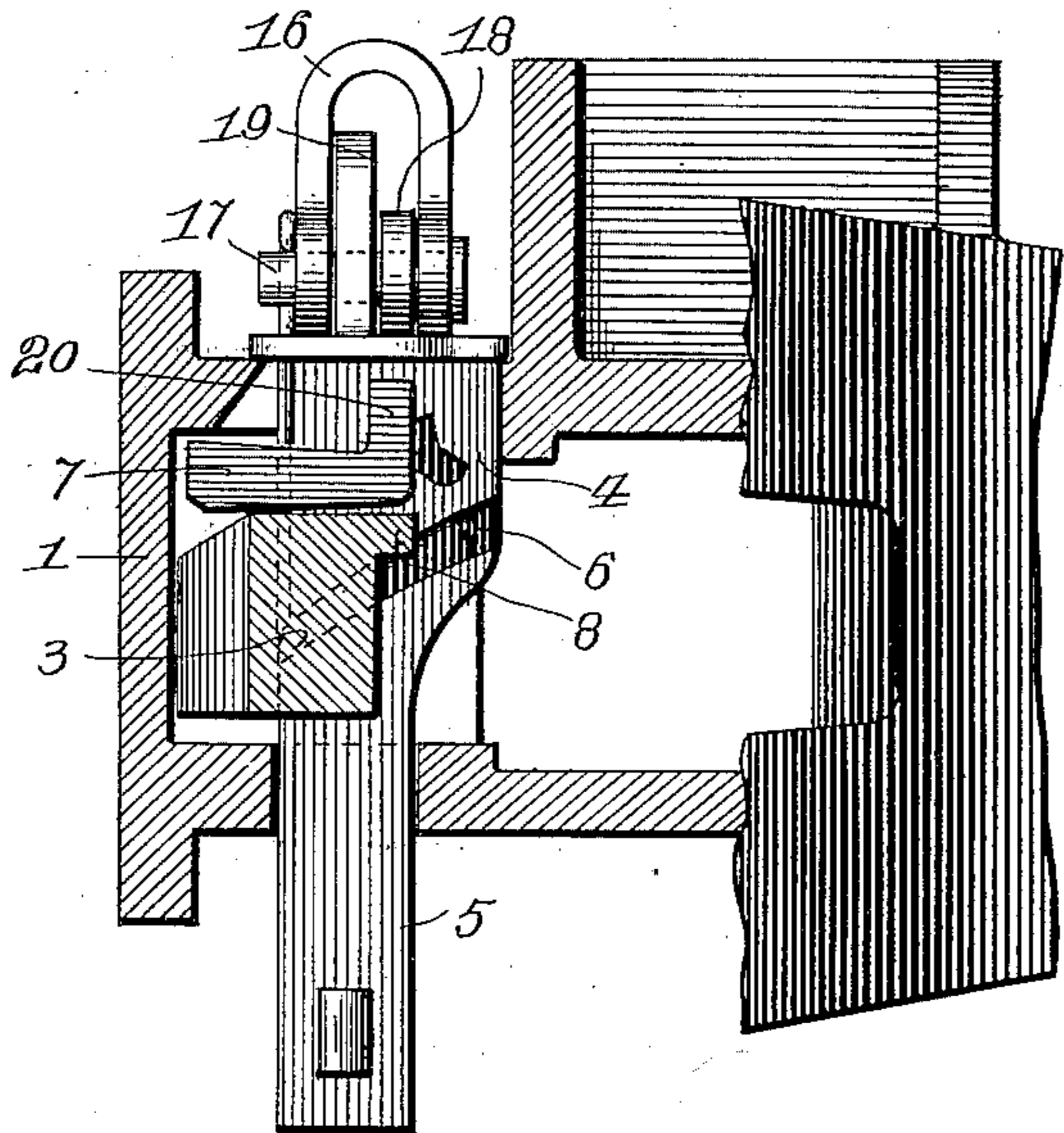


FIG. 6.

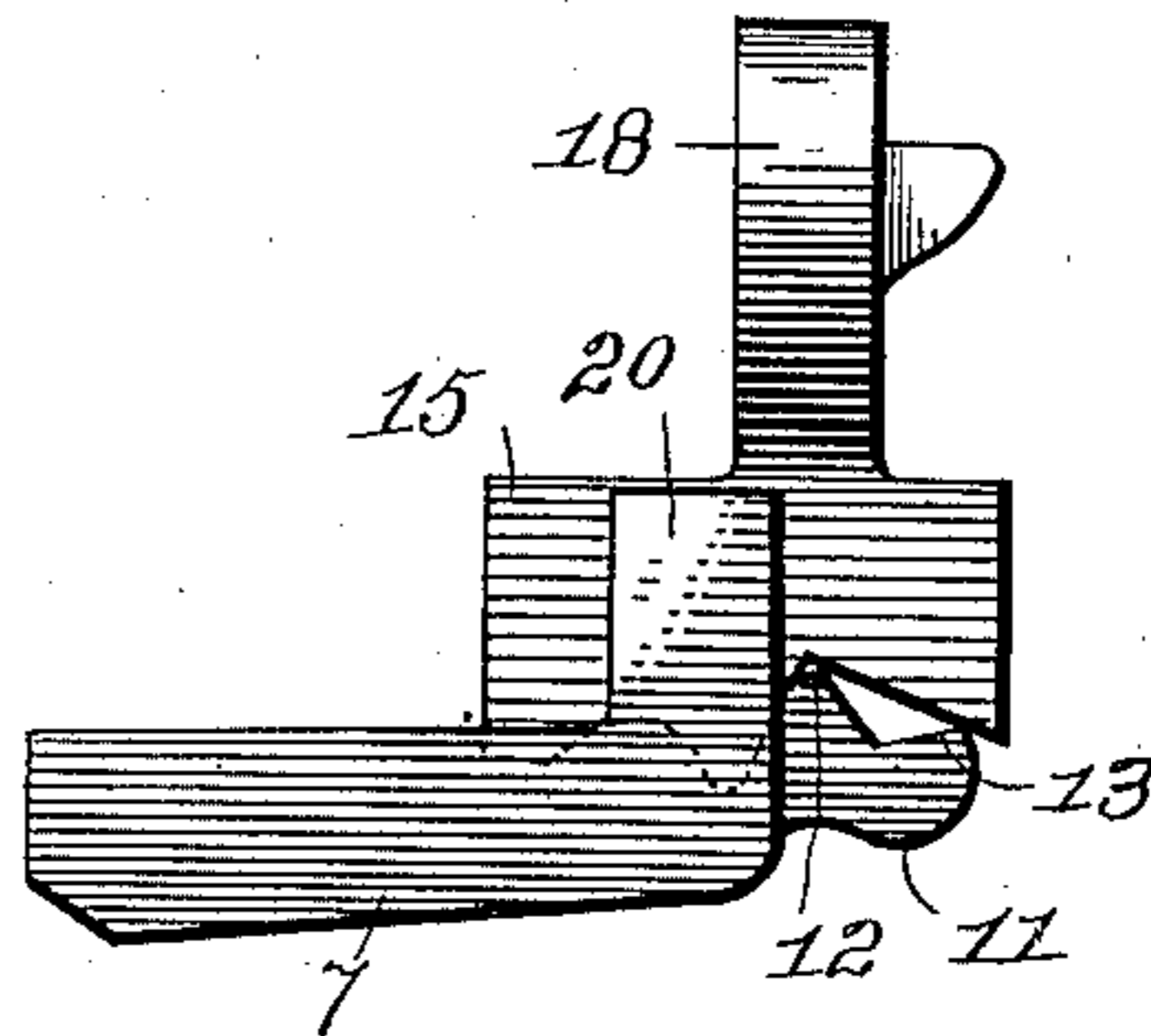


FIG. 5.

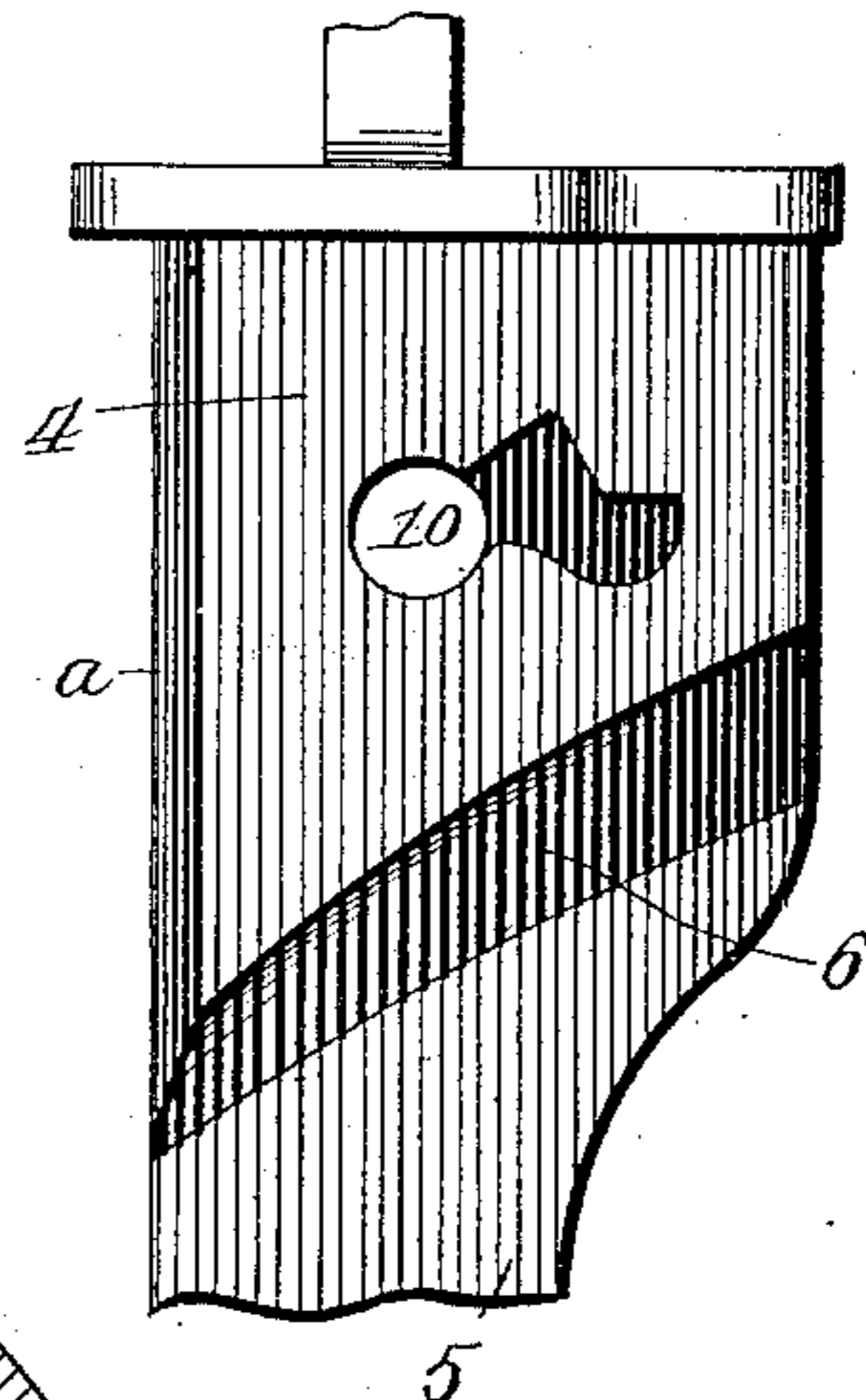
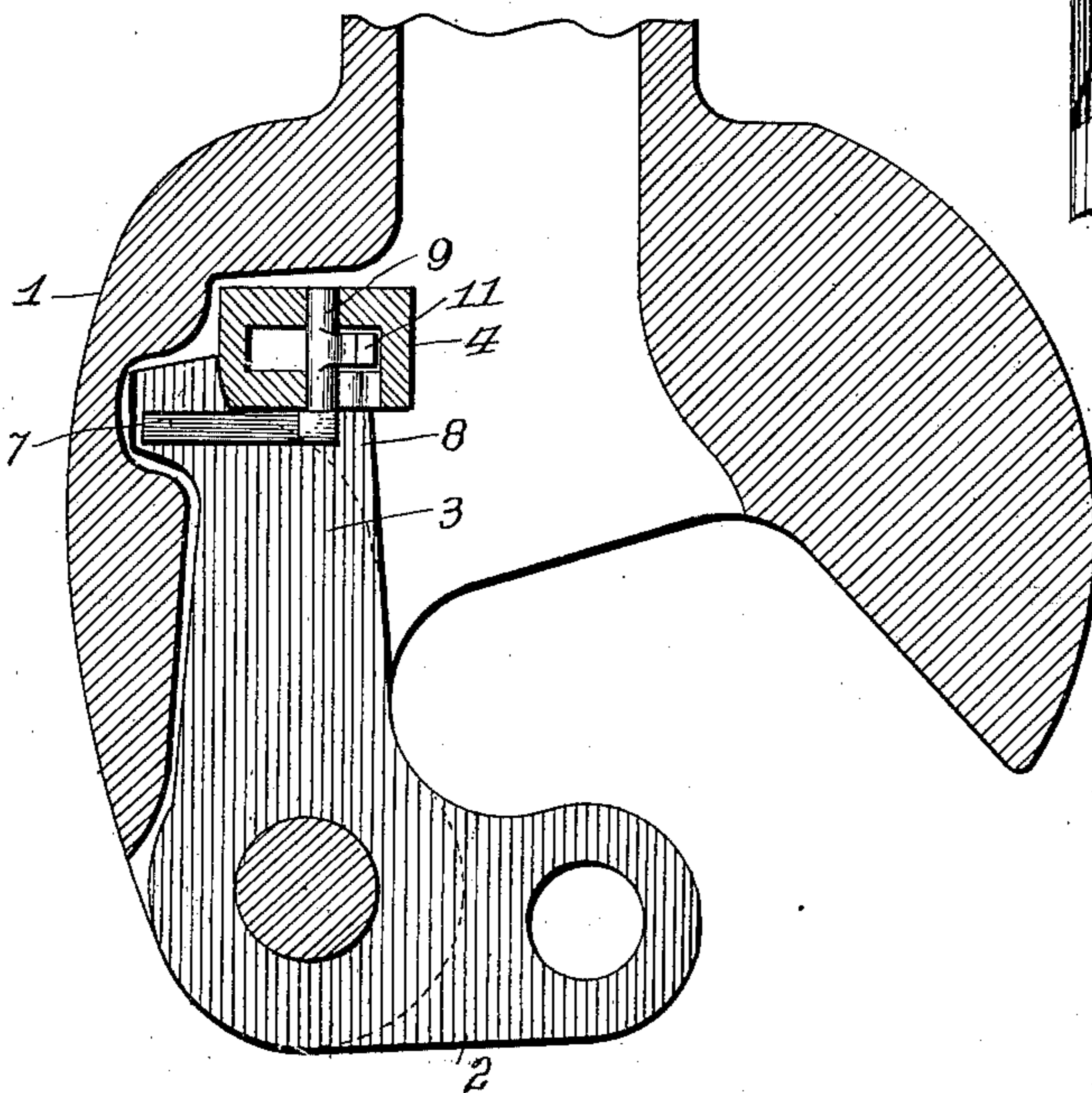


FIG. 2.



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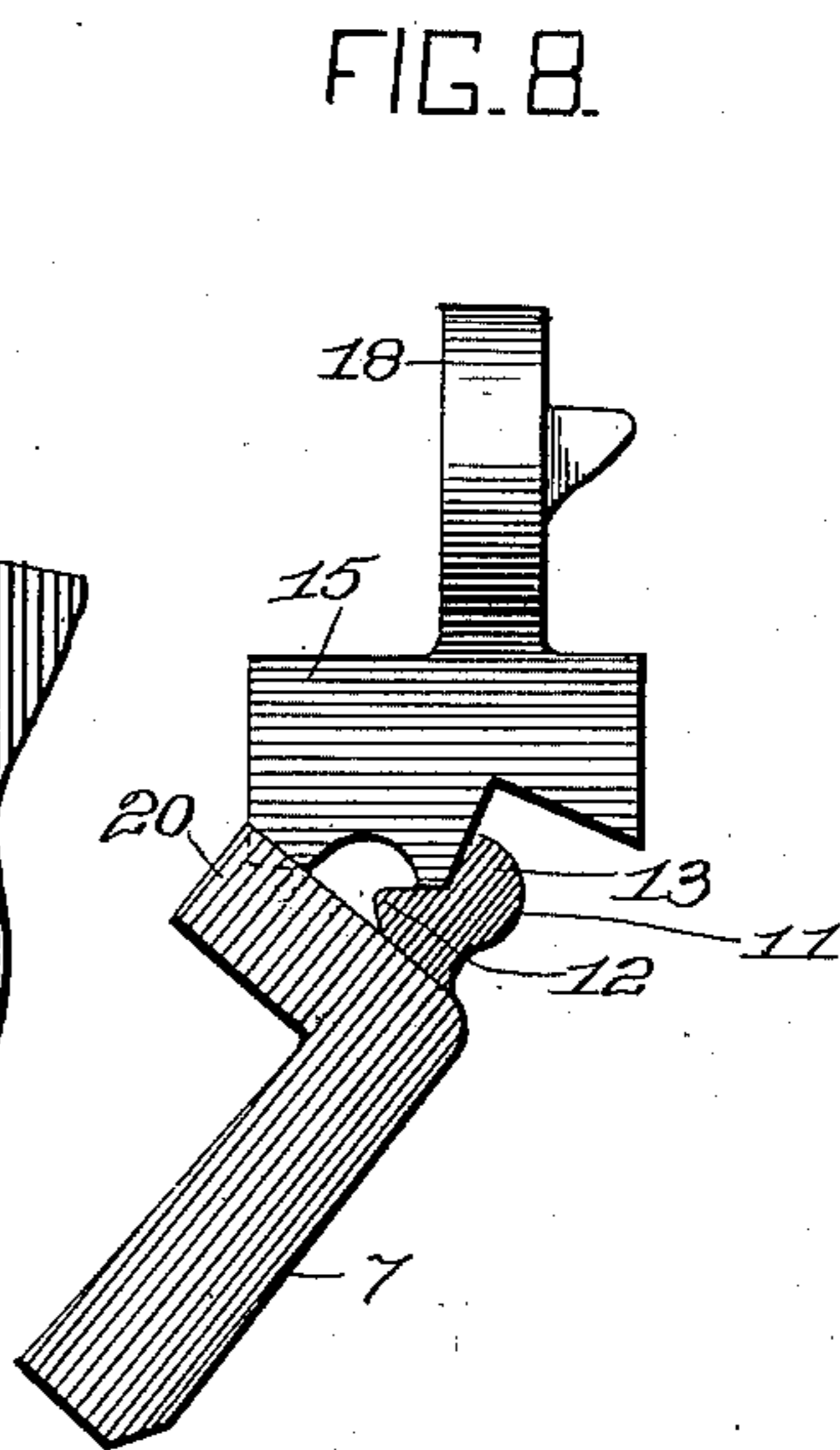
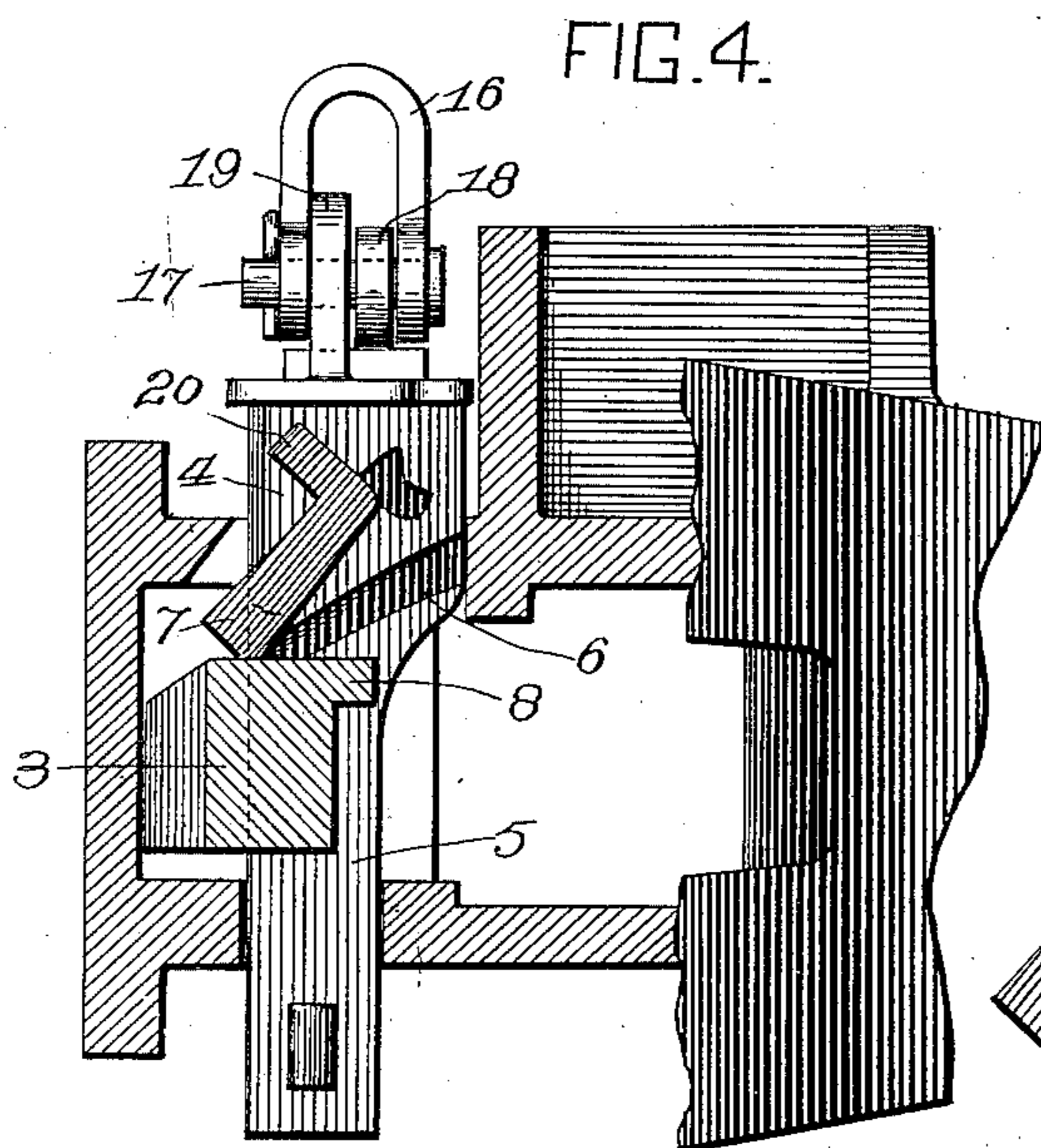
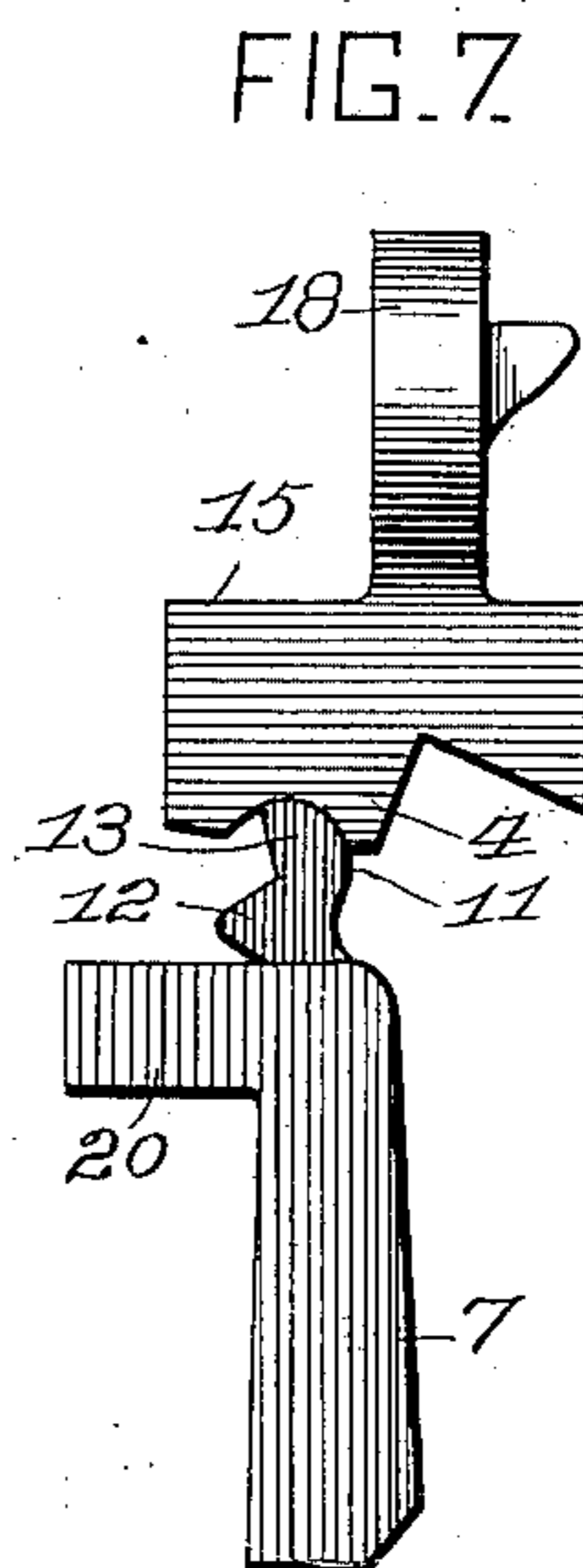
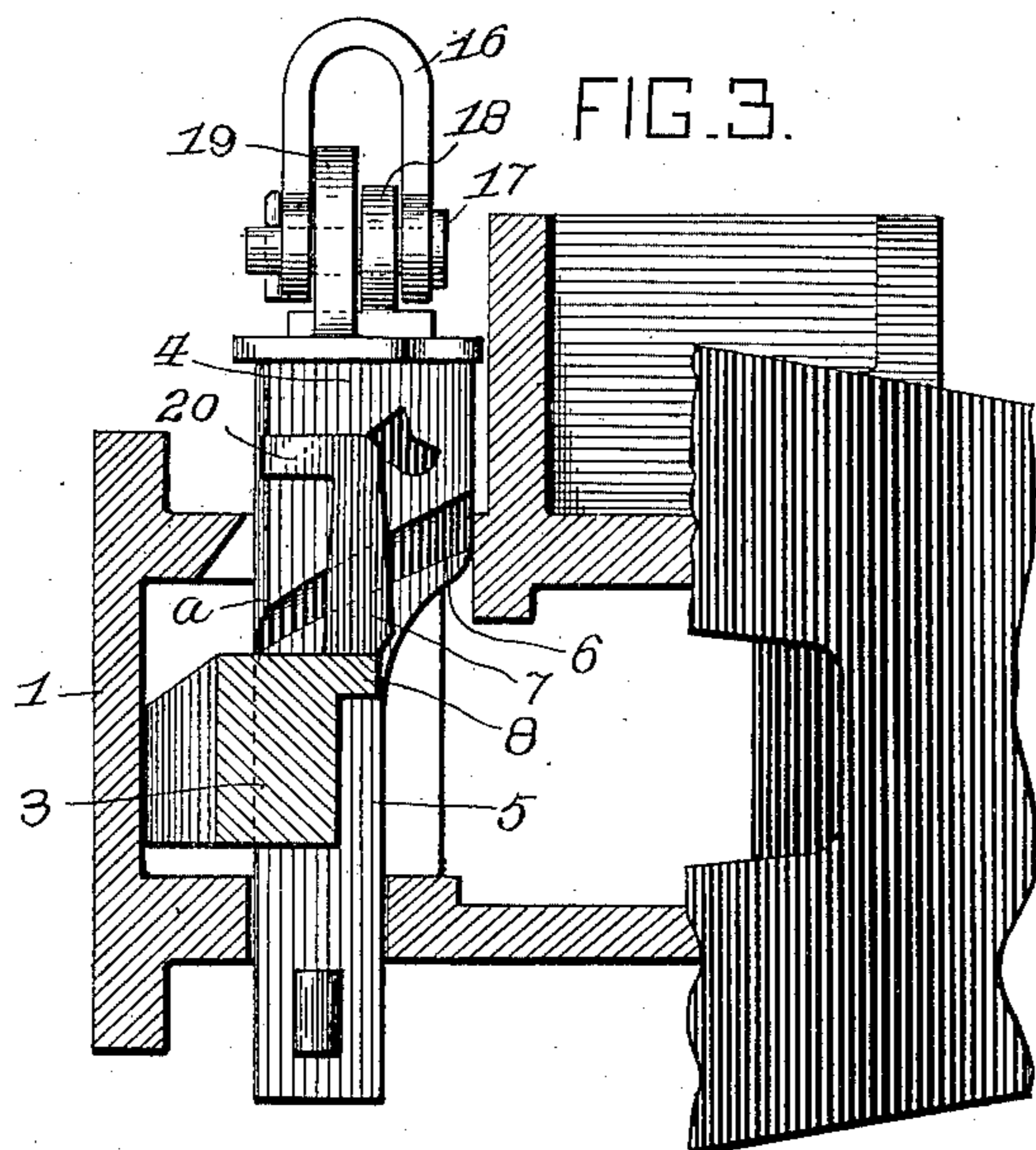
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UNITED STATES PATENT OFFICE.

JOSEPH KELSO, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 656,844, dated August 28, 1900.

Application filed August 1, 1899. Serial No. 725,743. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH KELSO, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Car-Couplers, of which improvements the following is a specification.

The invention described herein relates to certain improvements in car-couplers of the Janney or the vertical-plane swing-hook type, and has for its object a swinging part or member adapted in one position to support the locking-pin in unlocked position and when shifted and the locking-pin dropped to normal or locking position to prevent any creeping or accidental movement of the locking-pin.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of a coupler having my improvement applied thereto, showing the parts in normal position, the hook being closed and locked. Fig. 2 is a sectional plan view of the same. Figs. 3 and 4 are views similar to Fig. 1, showing, respectively, the locking-pin supported in unlocked released positions. Fig. 5 is an enlarged view of the upper portion of the locking-pin. Figs. 6, 7, and 8 are detail views, on an enlarged scale, of the swinging member and its dogs, showing their positions in normal, supporting, and intermediate positions.

The coupler as regards the head 1 and swinging hook or knuckle 2 is constructed in the usual or any suitable manner.

The locking-pin may be of any form or shape and is so arranged as to be capable of being shifted into and out of the path of the tail 3 of the knuckle by a substantially-vertical movement. By preference the locking-pin consists of a head 4 and a guiding-stem 5 and is provided with guide-openings in the upper and lower walls of the coupler-head, said openings being so located that the stem 5 will be at all times outside of the path of movement of the tailpiece 3; but the head 4 will when the pin is in normal position project into such path of movement. The head 4 is

formed with a bevel or incline 6, against which the tailpiece 3 will strike when the knuckle is swung to closed position, thereby raising the pin and holding it in such position until the tailpiece 3 has passed beyond the head 4, whereupon the head will drop and lock the knuckle in closed position.

It is very frequently desirable in the yard drilling of cars to raise the locking-pin to unlocking position and maintain it in such position independent of its operating mechanism, thereby permitting of the opening of the knuckle at some subsequent time without further manipulation of the locking-pin. To this end a post or latch 7 is pivotally mounted on the locking-pin in such manner that its lower or free end will swing outside of the path of movement of the locking-pin, the center of movement of the post or latch being above the path of the tailpiece of the knuckle. As clearly shown in Fig. 3, the post or latch is made of such a length and its point of connection with the locking-pin is so located that its lower end will project when the post or latch is in supporting position below the lowest point of the incline 6 and will take a bearing on the tailpiece of the knuckle if the latter is in closed position, thereby supporting or holding the locking-pin entirely clear of the path of movement of the tail of the knuckle. The shape or contour of the post or latch or that of the tail of the knuckle is immaterial, provided that the post or latch shall have a bearing on the tailpiece when the latter is in or approximately in closed position and the pin raised to unlocking position. As in the construction shown in the drawings, the pivotal point of the post or latch is in front of that face *a* of the head 4 against which the tail of the knuckle bears, and a ledge or shelf 8, adapted to form a bearing or step for the post or latch, is formed on the front side of the tailpiece. In the construction shown the post or latch is provided at or near its upper end with a laterally-projecting pin 9, which is loosely mounted in holes 10, formed in the walls of the head 4. As the lower end of the post or latch projects below the inclined face 6 and would therefore be in the path of movement of the tailpiece when the pin is down, the post or latch will be pushed to one side by the

closing movement of the tailpiece, as shown in Fig. 4. As the pin drops to locking position after the tailpiece has passed from under the inclined face 6 the post or latch will be
 5 turned to the horizontal or locking position. (Shown in Figs. 1 and 2.) As the free end of the post or latch when in horizontal position extends under the upper wall of the coupler-head, it will prevent any upward movement
 10 of the locking-pin if locked in this horizontal position.

While any suitable form or construction of lock may be employed for holding the post or latch in locking position, the construction
 15 shown in the drawings forms a very desirable and efficient mechanism for that purpose. This mechanism consists of an arm 11, secured to or formed on the pivot-pin 9, so as to move within the hollow head 4. This arm is pro-
 20 vided on one side with teeth 12 and 13, adapted to engage a tooth 14 on the gravity-block 15, movably arranged within the head of the pin. When the post or latch is in a vertical position, the rounded outer end of the arm
 25 11 enters a correspondingly-shaped recess on one side of the tooth 14 of the gravity-block and serves to steady the post or latch while in a vertical position, but not to present any material resistance to its being shifted by the
 30 tailpiece when moving to closed position. When the post or latch has been turned from supporting position to the intermediate position (shown in Fig. 4) by the tailpiece, the tooth
 35 14 will engage the inside face of the tooth 13 of the arm, and thereby prevent any return of the post or latch to supporting position, but will permit of the shifting of the post or
 40 latch to locking position, as shown, by the dropping of the locking-pin to locking position, as shown in Fig. 1. The post or latch is held in locking position by the engagement of the tooth 14 with the tooth 12 of the arm
 45 11, as shown in Fig. 6. It will be observed that the teeth on the arm 11 and the tooth on the gravity-block 15 are so inclined that pressure of one tooth on the other will not have any considerable lifting action, but tends to move the block horizontally. Such move-
 50 ment is prevented by the sides of the opening in which the block is placed. In order to raise the block, and thereby release the post or latch, the lifting-link 16 of the locking-pin is connected to the gravity-block by a pin 17, passing through lugs 18 and 19 on the block
 55 and locking-pin, respectively. The lug 19 of the locking-pin is slotted, so as to permit of a sufficient preliminary movement of the

block to release the post or latch before the locking-pin is lifted.

In order to shift the post or latch from sup- 60
 porting position without opening and closing the knuckle, a finger 20 is so formed on the post or latch as to be accessible through an opening in the upper wall of the draw-head.

I claim herein as my invention— 65

1. In a car-coupler of the vertical-plane or Janney type, the combination of a vertically-
 moving locking-pin, a post or latch so con- 70
 nected to the pin as to swing to a vertical position onto the tailpiece of the knuckle when the locking-pin is raised and to a horizontal position when the locking-pin is dropped, and means for locking the post or latch in such horizontal position, substantially as set forth.

2. In a car-coupler of the vertical-plane or 75
 Janney type, the combination of a vertically-moving locking-pin or block, a movable post or latch adapted in one position to support the pin in unlocked position and to be shifted
 80 by the tail of the knuckle and when shifted to lock the pin in locking position, and means for locking the post or latch in locking position, substantially as set forth.

3. In a car-coupler of the vertical-plane or 85
 Janney type, the combination of a locking-pin or block automatically movable to locking position, a post or latch automatically movable on the shifting of the pin from en-
 90 gagement with the tail of the knuckle to a position where it will hold the pin or block out of engagement with the tailpiece and movable by the tailpiece when the knuckle is closed to a position where it will hold the
 locking-pin or block in engagement with the tailpiece, substantially as set forth. 95

4. In a car-coupler of the vertical-plane or 100
 Janney type, the combination of a vertically-moving locking-pin, a post or latch 7 pivoted to the locking-pin, and a gravity-block for holding the latch in locking position, substantially as set forth.

5. In a car-coupler of the vertical-plane or 105
 Janney type, the combination of a vertically-moving locking-pin, a post or latch 7 pivoted to the locking-pin, a toothed arm connected to the post or latch and a gravity-block provided with a tooth for engagement with said arm, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JOSEPH KELSO.

Witnesses:

JOSEPH STANTON,
 J. W. HARTLEY.