

No. 764,835.

PATENTED JULY 12, 1904.

W. WRIGHT & J. KELSO.

CAR COUPLING.

APPLICATION FILED FEB. 2, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

FIG. 1.

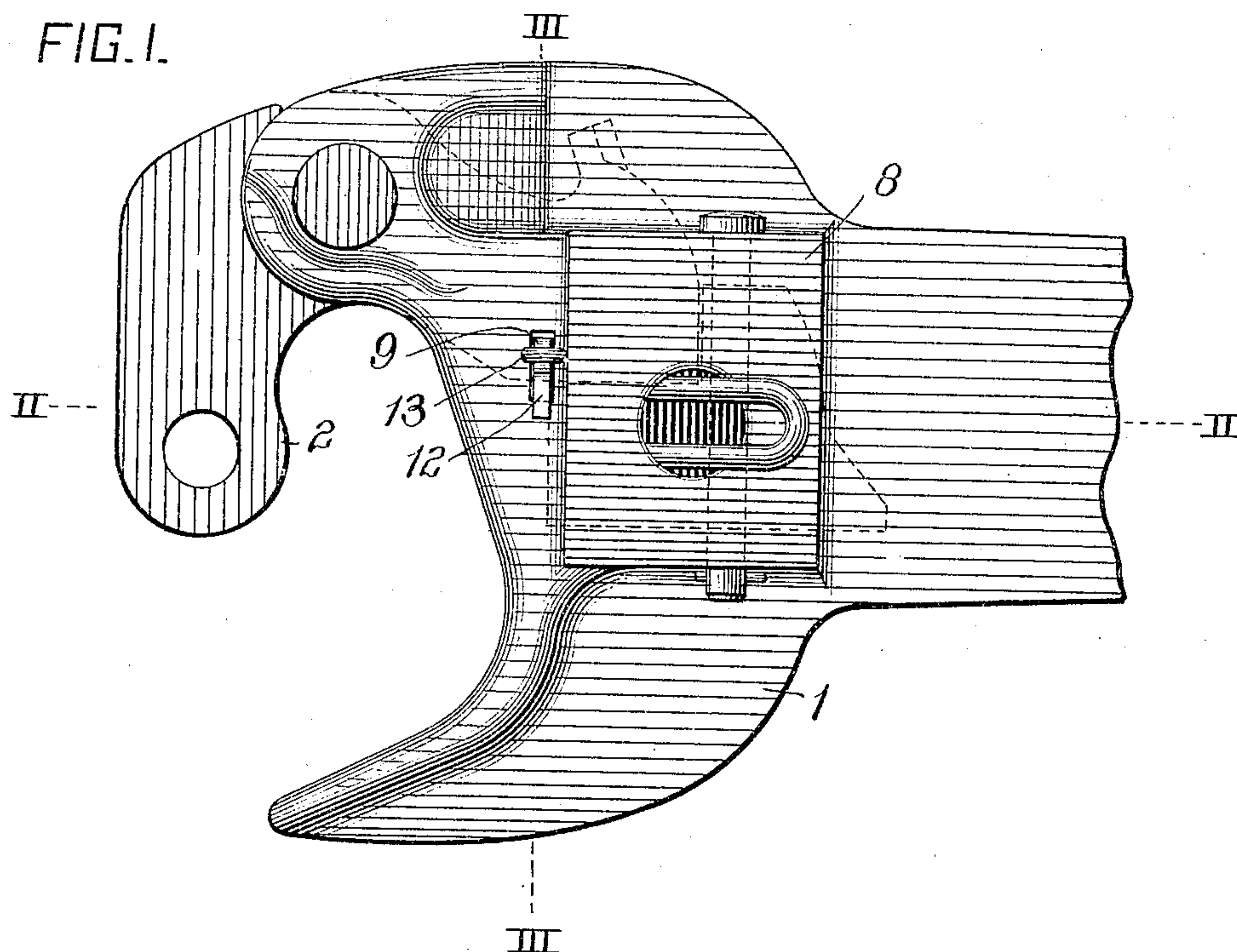
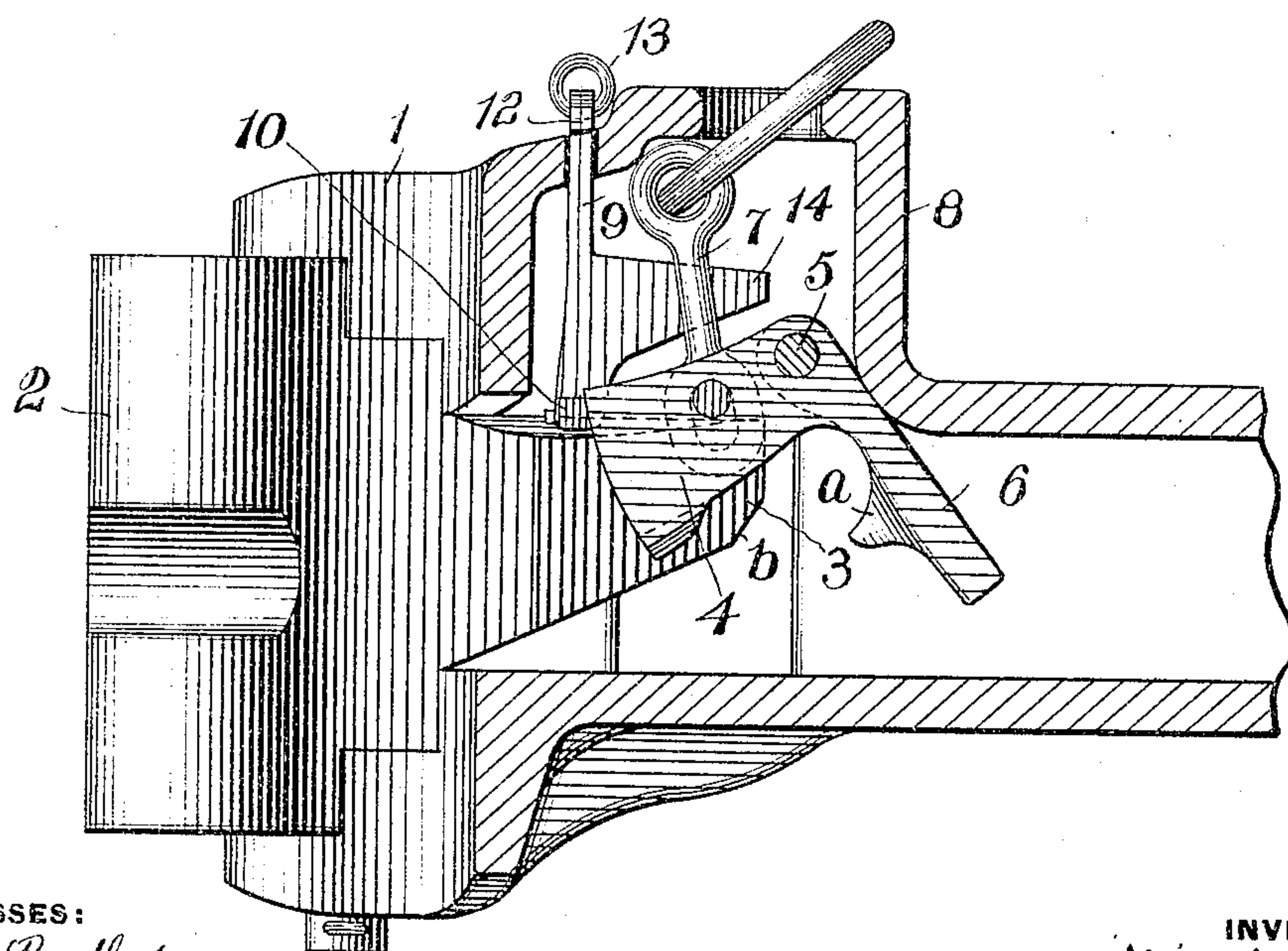


FIG. 2.



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Herbert Bradley.  
Fred Kirchner.

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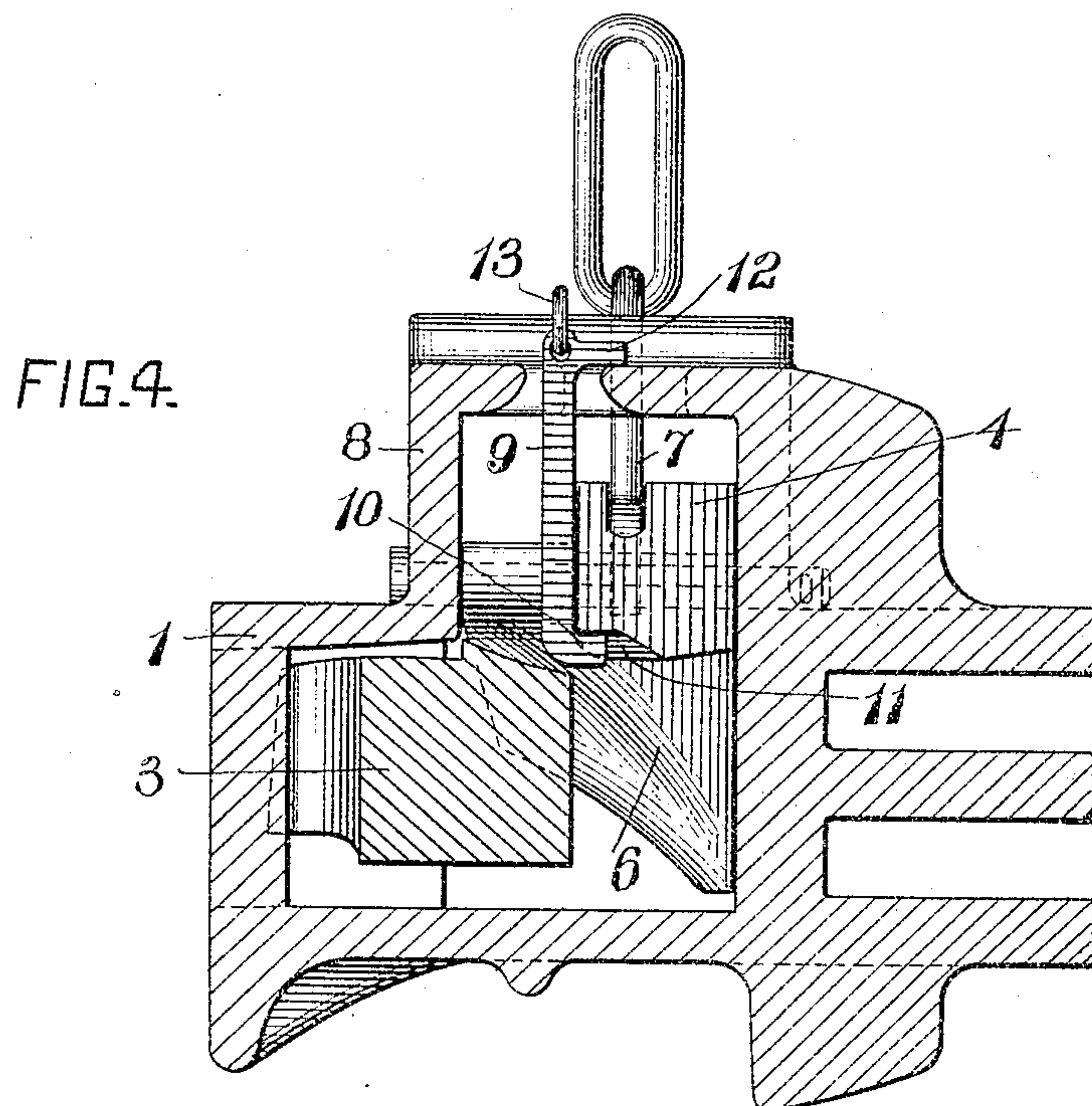
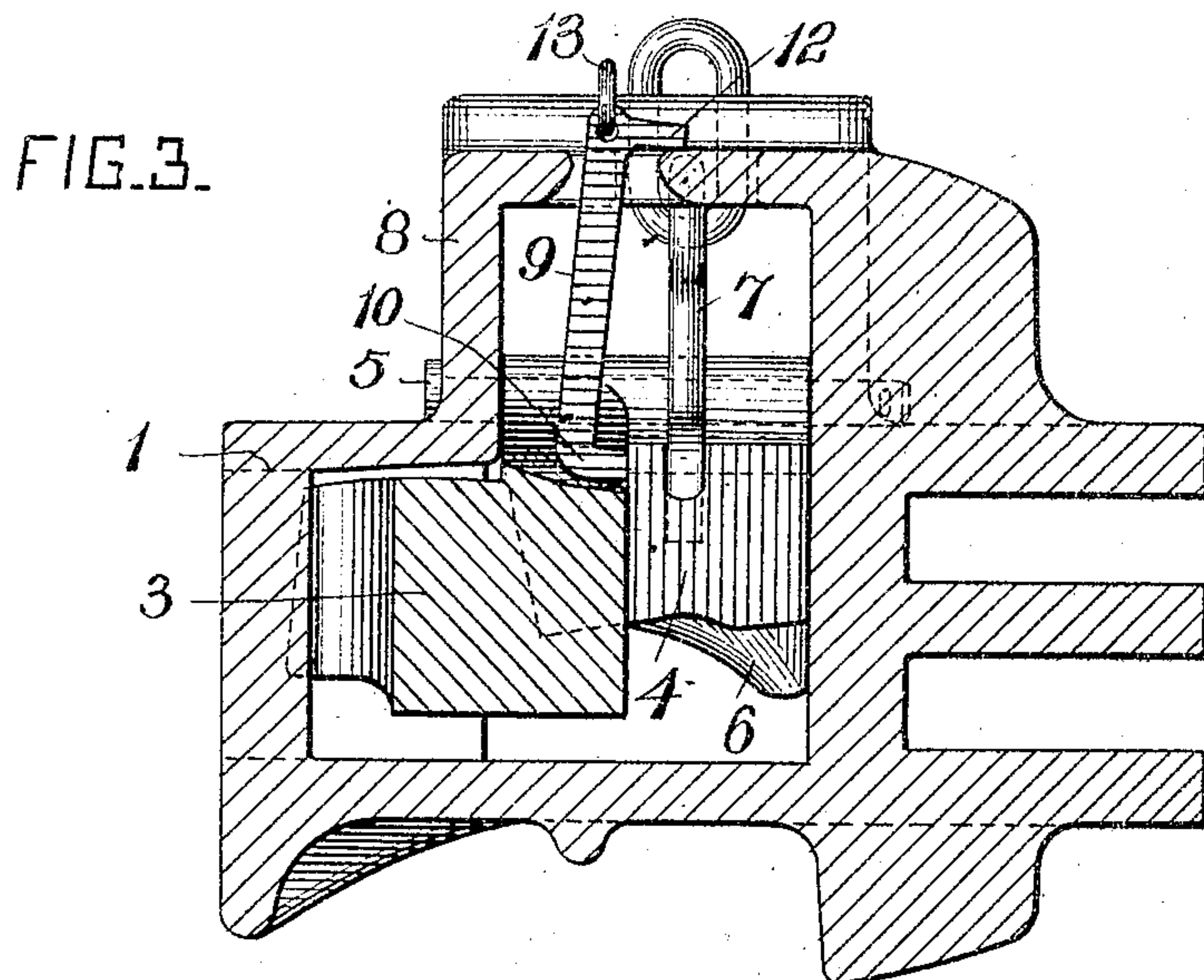
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

FIG. 5.

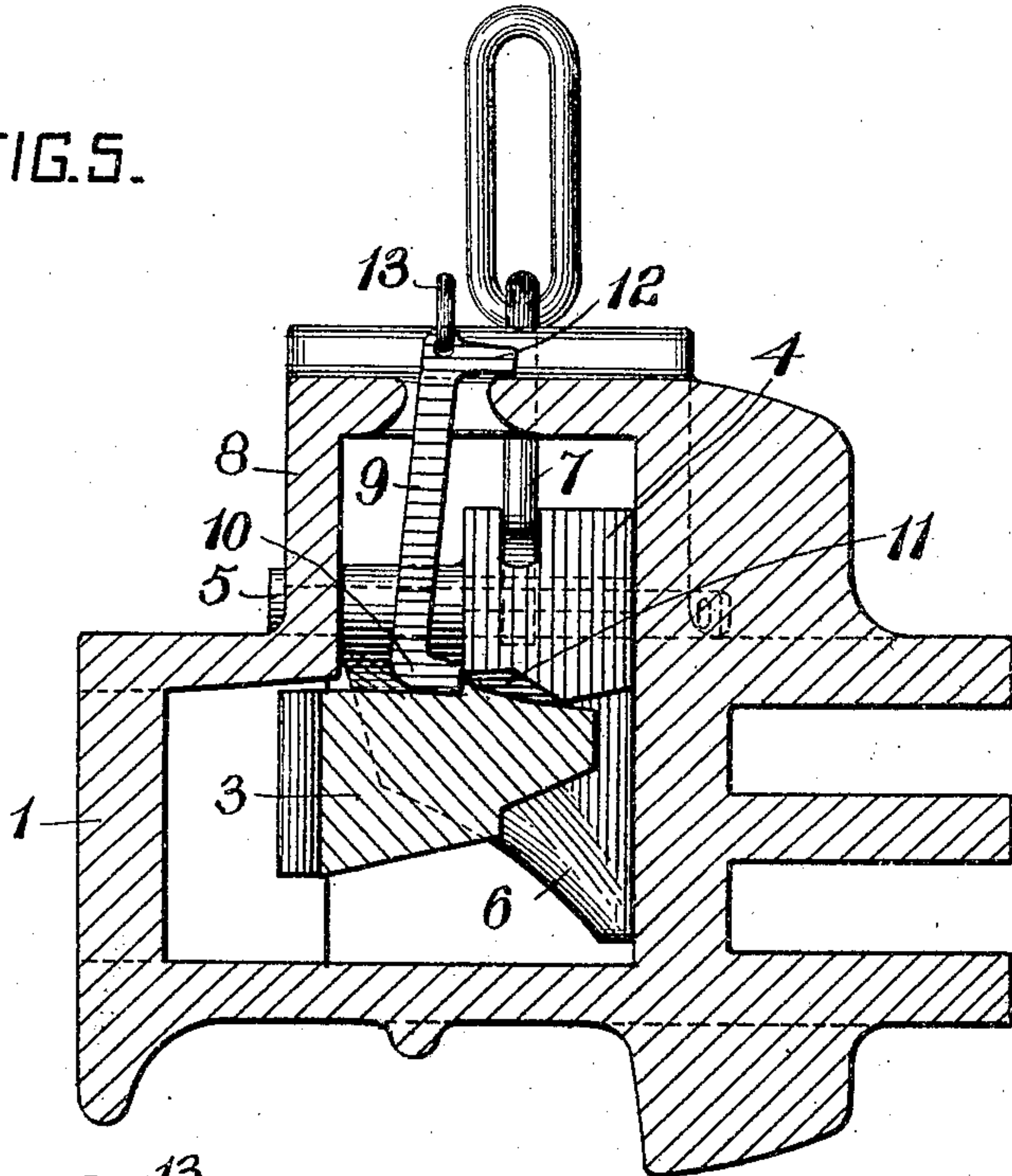


FIG. 6.

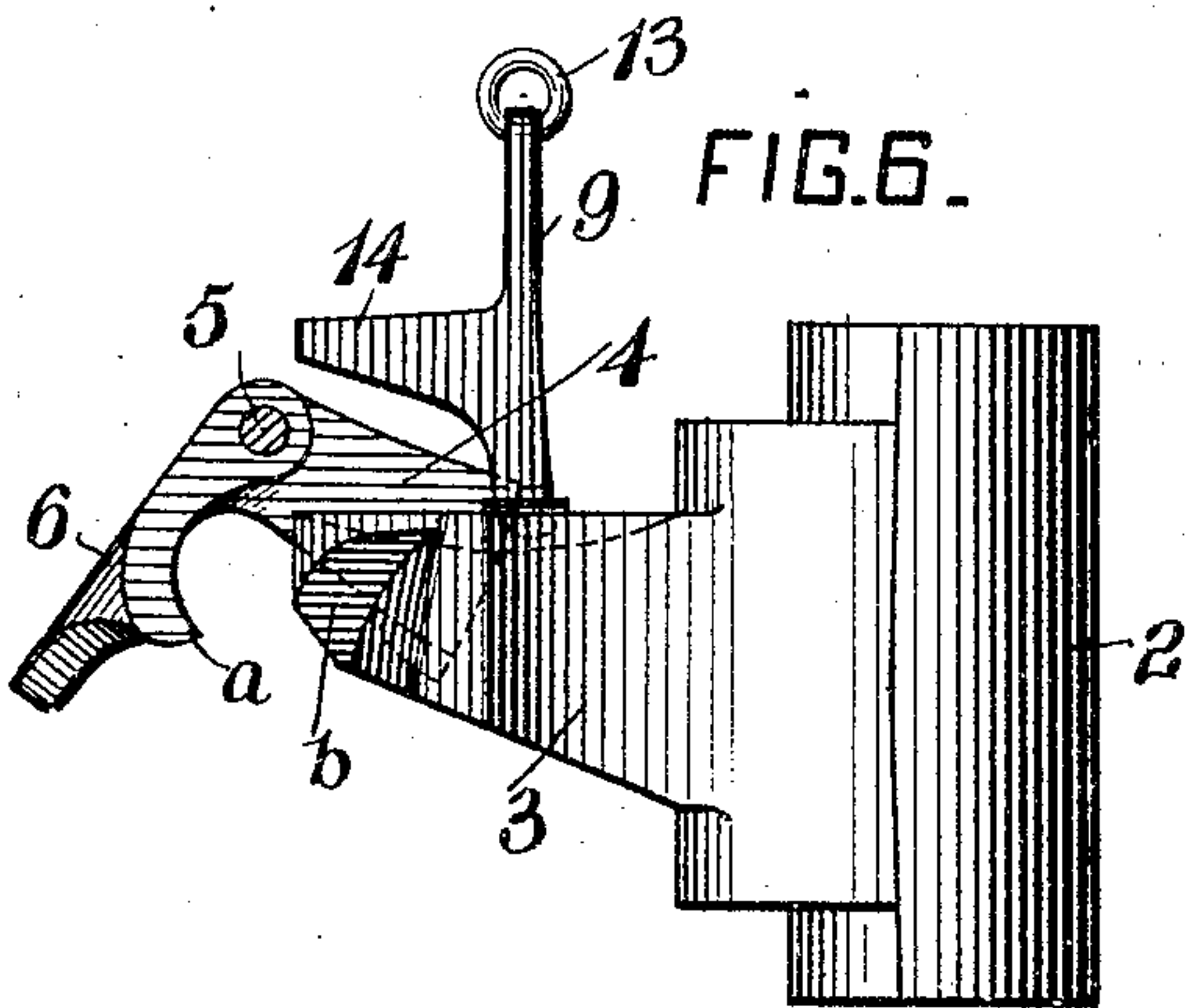


FIG. 7.

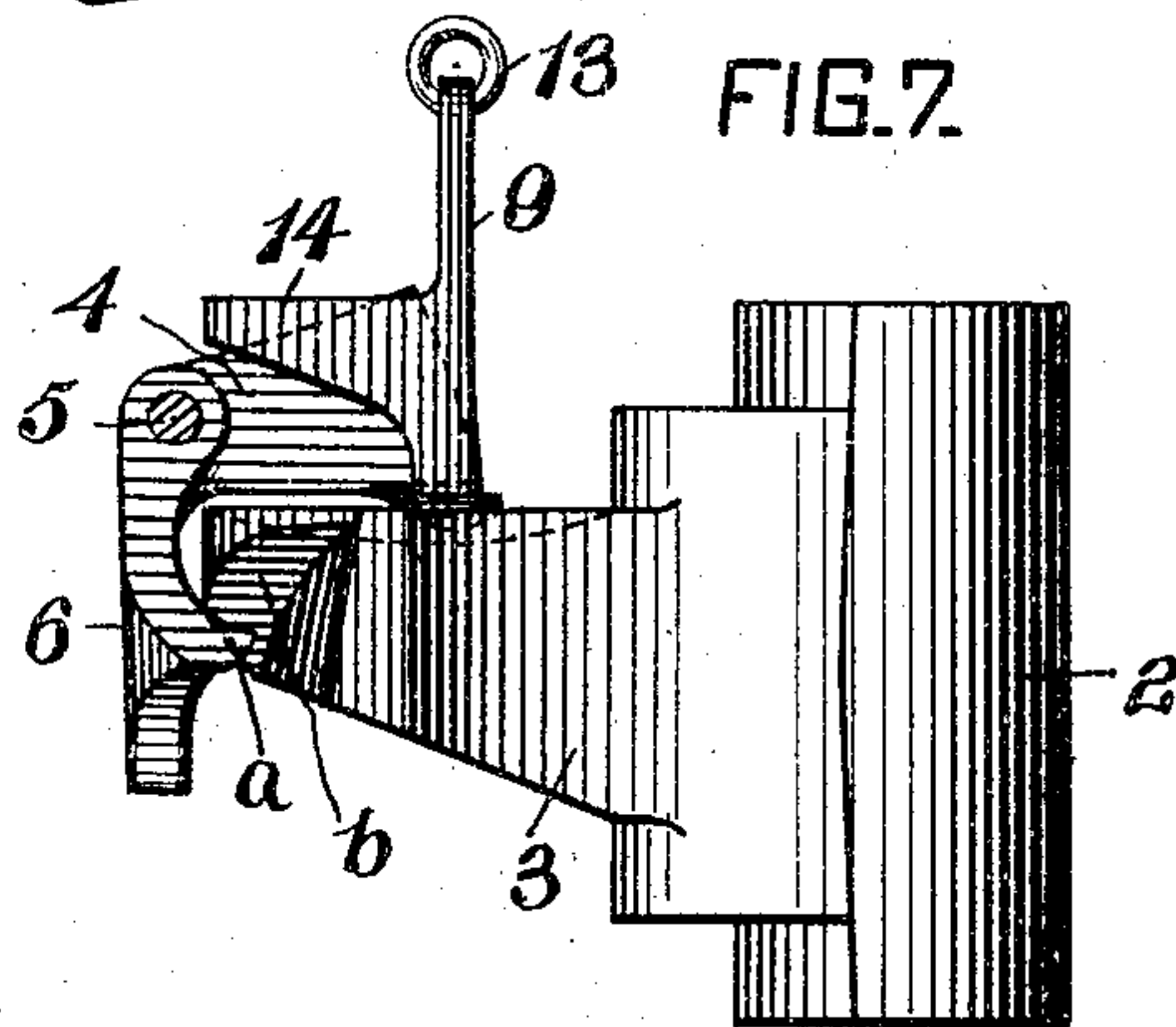
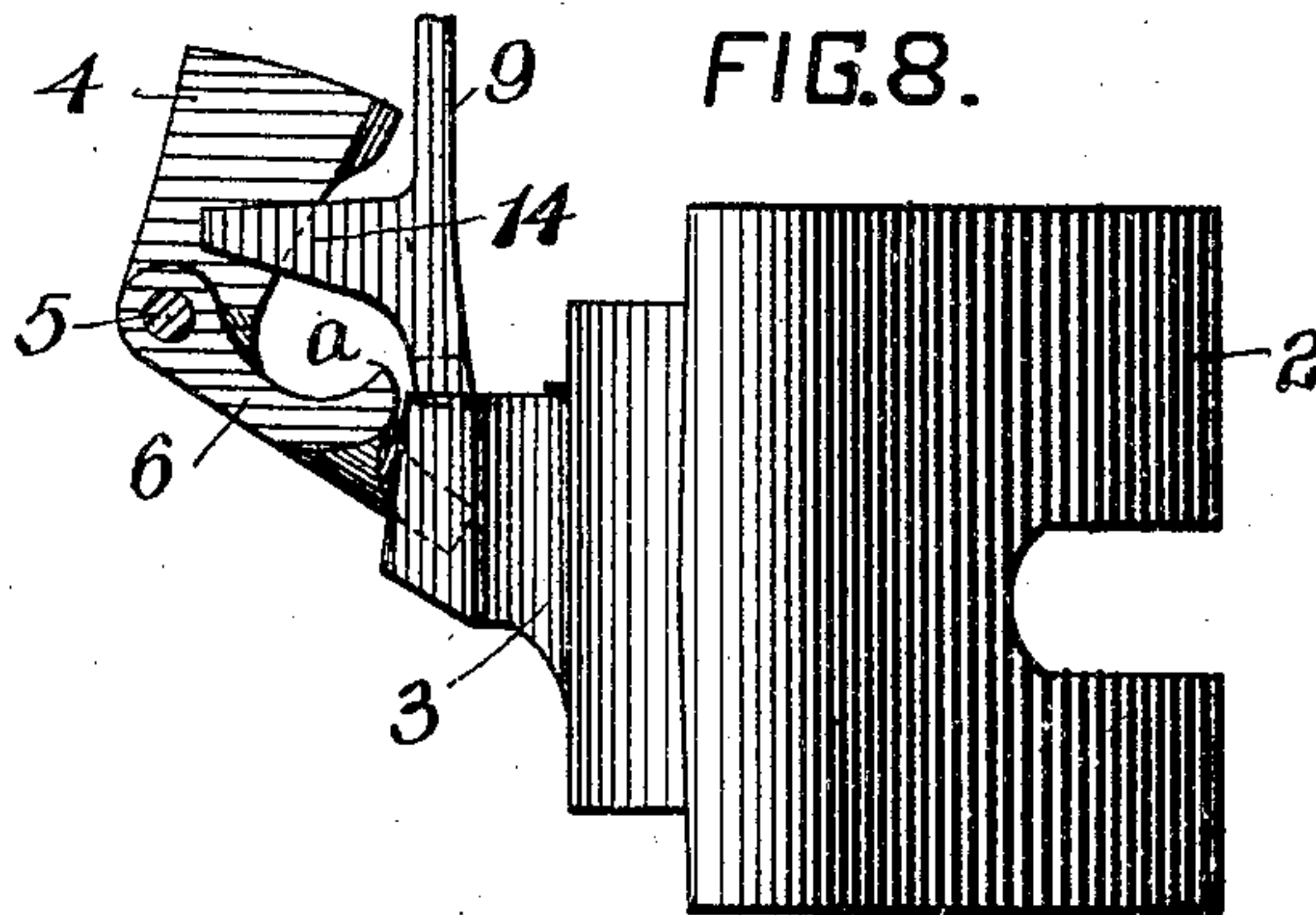


FIG. 8.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

WILLIAM WRIGHT AND JOSEPH KELSO, OF PITTSBURG, PENNSYLVANIA,  
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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 764,835, dated July 12, 1904.

Application filed February 2, 1903. Serial No. 141,483. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM WRIGHT and JOSEPH KELSO, citizens of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Car-Couplers, of which improvement the following is a specification.

The invention described herein relates to certain improvements of the Master Car-Builders' or swinging-hook type, and has for its object a construction wherein the locking-block and knuckle-opening device are simultaneously operative by a continuous movement of the locking-block.

It is a further object of the invention to provide for a support of the locking-block in unlocking position, also for locking the same in locking position.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a top plan view of a car-coupler embodying our improvements. Fig. 2 is a sectional elevation on a plane indicated by the line II II, Fig. 1. Figs. 3, 4, and 5 are sectional elevations on a plane indicated by the line III III, Fig. 1, and illustrate, respectively, different positions of the parts of the mechanism. Figs. 6, 7, and 8 are views in elevation of the swinging hook, combined locking-block, and knuckle-opener, and lock-set, showing the several parts in different positions.

In the practice of our invention the coupler, as regards the head 1 and knuckle or hook 2, is constructed in the usual or any suitable manner. The locking-block 4 is pivotally supported on a pin 5 in such position relative to the path of movement of the tail 3 of the knuckle as to drop in front of and lock the same when the latter is in closed position.

A dependent plate 6 is provided which moves simultaneously with the locking-block, said plate being preferably formed integral with the locking-block and so arranged as to engage a face of spiral form on the upper

part of the tail of the knuckle to propel the knuckle to full open position when the locking-block has passed above the upper surface of the knuckle. As both the plate and the tail of the knuckle move in circular paths, their contacting surfaces *a* and *b* are so shaped that the action of one upon the other is similar to that of the worm and worm-wheel, the circular-shaped face of the lower edge of the plate dependent through the locking-block representing the worm and the tail of the knuckle representing the worm-wheel, the guiding-surface *a* of the small plate moving in one direction to cause the tail of the knuckle to be screwed out in a direction at right angles thereto. It will be observed that the construction of the tail of the knuckle and arm 6 is such that the point of contact of the arm on the tail of the knuckle is always closely adjacent to the end of the tail of the knuckle and does not appreciably change position during the opening movement of the knuckle. A link or rod 7 is pivotally connected to the locking-block and also to suitable means on the car-body for shifting the locking-block. It will be seen by reference to Fig. 2 that the link or rod 7 is made of such a length as regards the box 8 on top of the coupler for the reception of the locking-block that when the locking-block is in locking position the upper end of the link will swing to one side or the other, passing under the top of the box 8, thereby holding the locking-block securely in locking position. When the lifting mechanism is operated, the link 7 will be drawn into line with the opening in the top of the box 8 and can pass up through the same, shifting the locking-block.

The lock-set consists of a hanger 9, pivotally connected in any suitable manner to the coupler-head without resting on the knuckle and in such relation to the locking-block that when the latter is raised to unlocking position the hanger will swing toward the locking-block, and a toe 10 on the lower end of the hanger will pass into a recess 11 on the under side of the locking-block and support the



same in unlocking position. At all times when the locking-block is in position other than unlocking position the toe of the lock-set rests against the side of the locking-block and is always in position to drop into engagement with the locking-block as soon as the latter is raised. As shown in the drawings, the pivotal support for the lock-set is formed by an arm 12, projecting laterally from the hanger 9 and resting upon the coupler, the point of support or bearing of the lock-set being so arranged with reference to the locking-block that the lock-set always acts by gravity. The lock-set is provided with a link 13 or other suitable means whereby it may be shifted from engagement with the locking-block. It will be observed that the toe extends down sufficiently far as to be struck by a wedge-shaped projection 15 on top of the tail of the knuckle and shifted from engagement with the locking-block when the knuckle is moved to closed position. The hanger or lock-set 9 may be formed with a lateral projection or wing 14, adapted to bear against the side of the locking-block and hold the lock-set in such position as to insure the engagement of its toe with the locking-block.

We claim herein as our invention—

1. A car-coupler of the Master Car-Builders' type having in combination a swinging knuckle or hook, a locking-block pivotally mounted and arranged to swing longitudinally of the coupler-head, and a lock-set movably suspended to swing transversely of the coupler-head, and automatically engage and support the locking-block when in unlocking position, substantially as set forth.

2. A car-coupler of the Master Car-Builders' type having in combination a swinging knuckle or hook, a locking-block pivotally mounted to swing into the path of movement of the tail of the knuckle, a lock movably suspended from the top of the coupler-head to swing transversely of the head and to automatically engage and support the locking-

block when in unlocking position, substantially as set forth.

3. A car-coupler of the Master Car-Builders' type having in combination with a swinging hook or knuckle, a locking-block swinging in a vertical plane on a pivot pin or bolt lying in a horizontal position and in a path parallel to the axis of the coupler, said locking-block having a dependent plate of spiral form along its lower edge arranged to engage a face of spiral form on the upper part of the end of the tail of the knuckle, parting when the locking-block reaches unlocked position to propel the knuckle to full open position by screw action similar to the action of the revolving worm operating a worm-wheel, substantially as set forth.

4. A car-coupler of the Master Car-Builders' type having in combination a swinging hook or knuckle, a locking-block having a rotary movement to unlocking position and having an arm arranged to bear upon the tail of the knuckle when the block reaches unlocking position, and by a further rotary movement of the block shift the knuckle to full open position, and a lock-set suspended from the top of the coupler-head to automatically engage and support the locking-block in unlocking position, substantially as set forth.

5. A car-coupler of the Master Car-Builders' type having in combination a head provided with a box having an upwardly-projecting top wall, a swinging knuckle or hook, a pivotally-mounted locking-block, a lifting-rod pivotally connected to the block and adapted to swing under a top wall of the box and lock the block in locked position, substantially as set forth.

In testimony whereof we have hereunto set our hands.

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JOSEPH KELSO.

Witnesses:

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