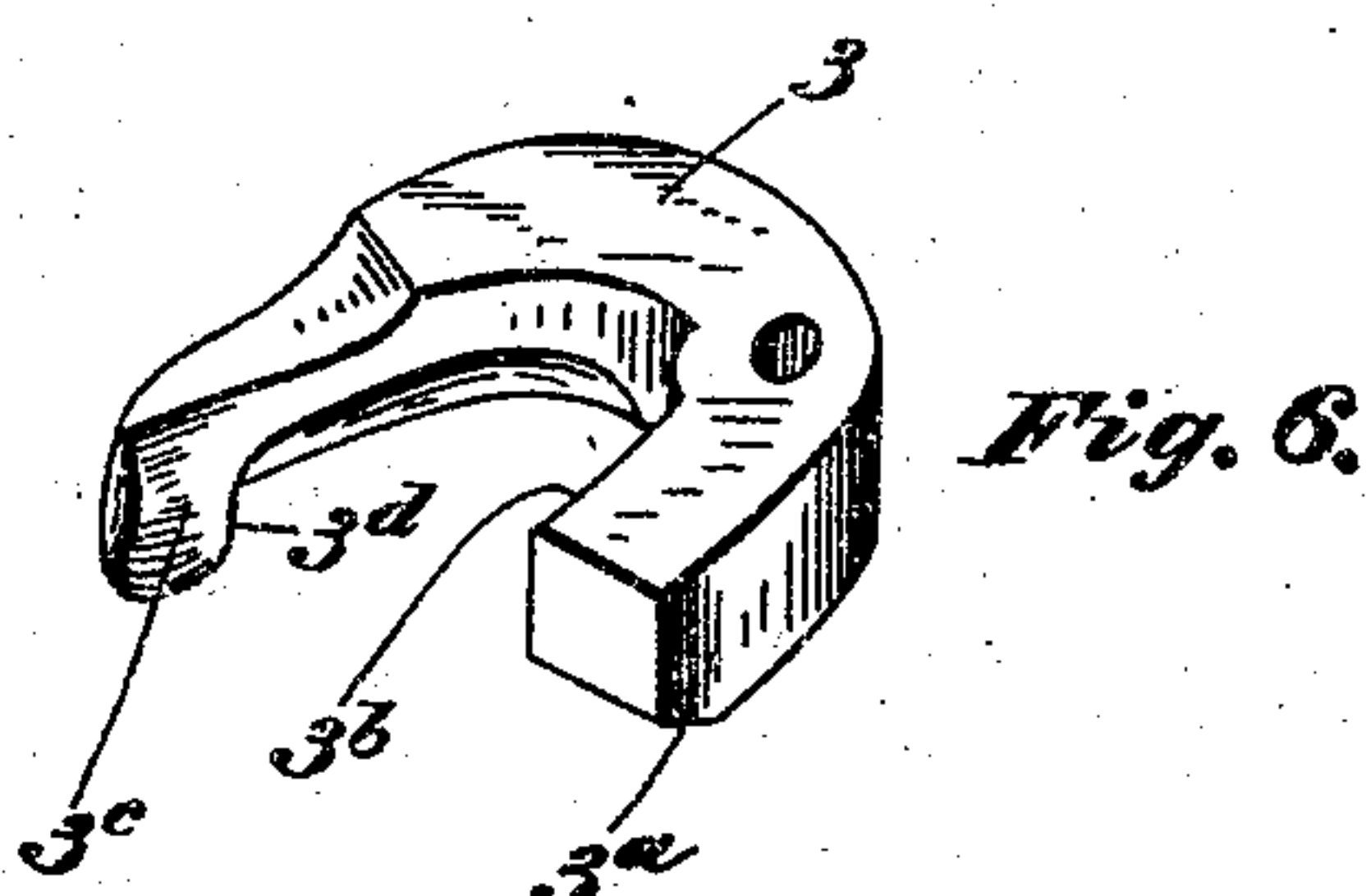
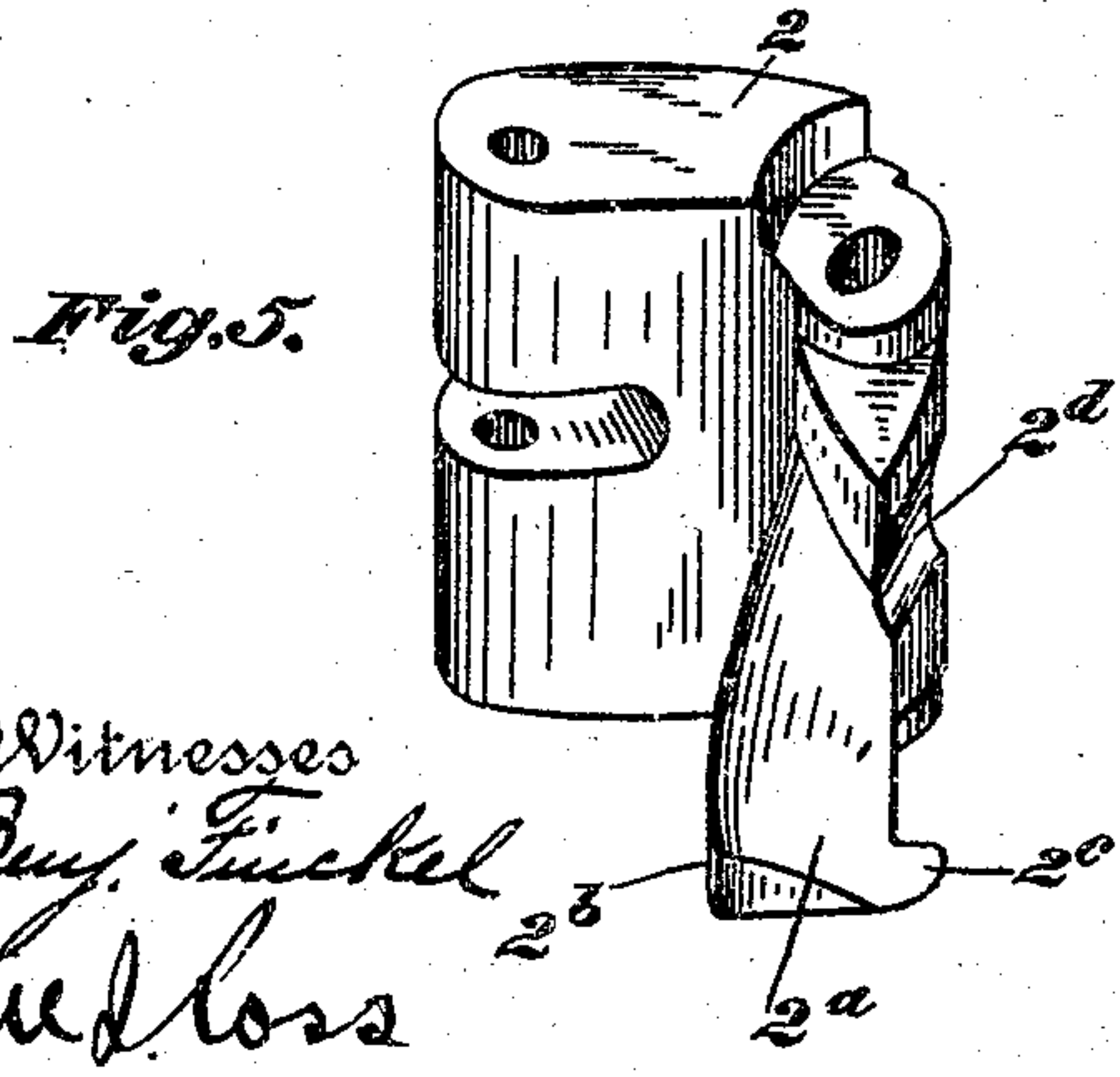
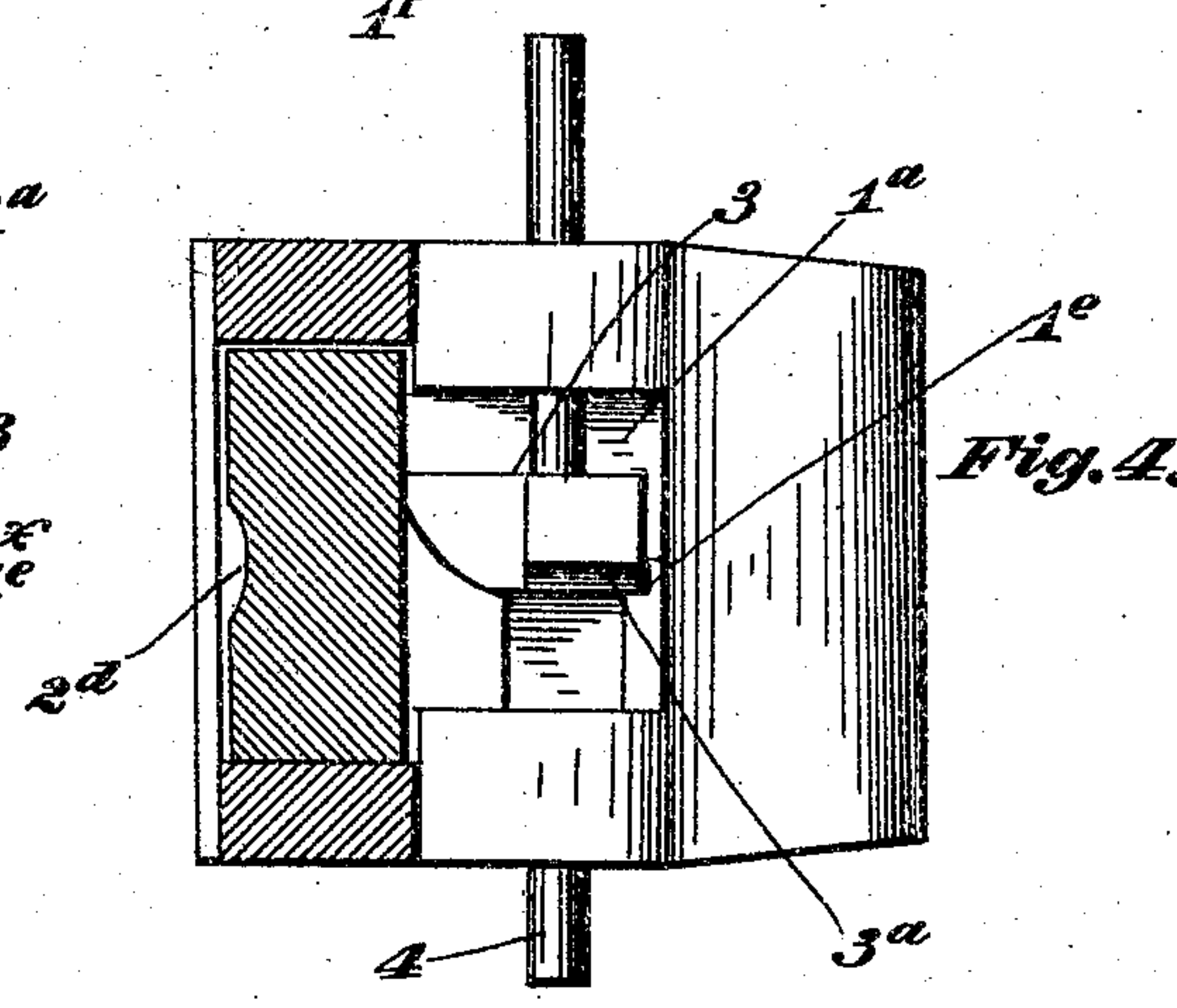
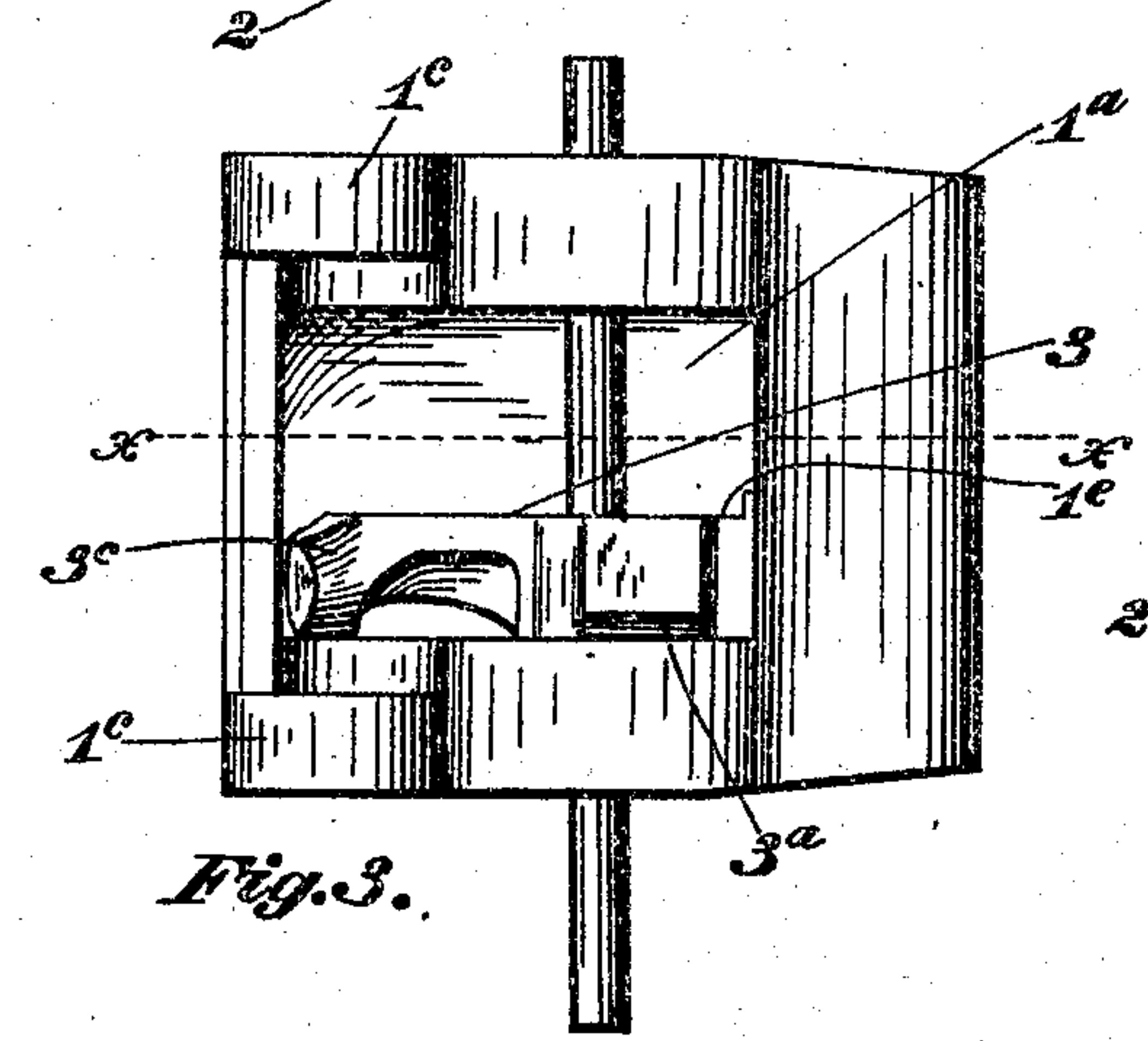
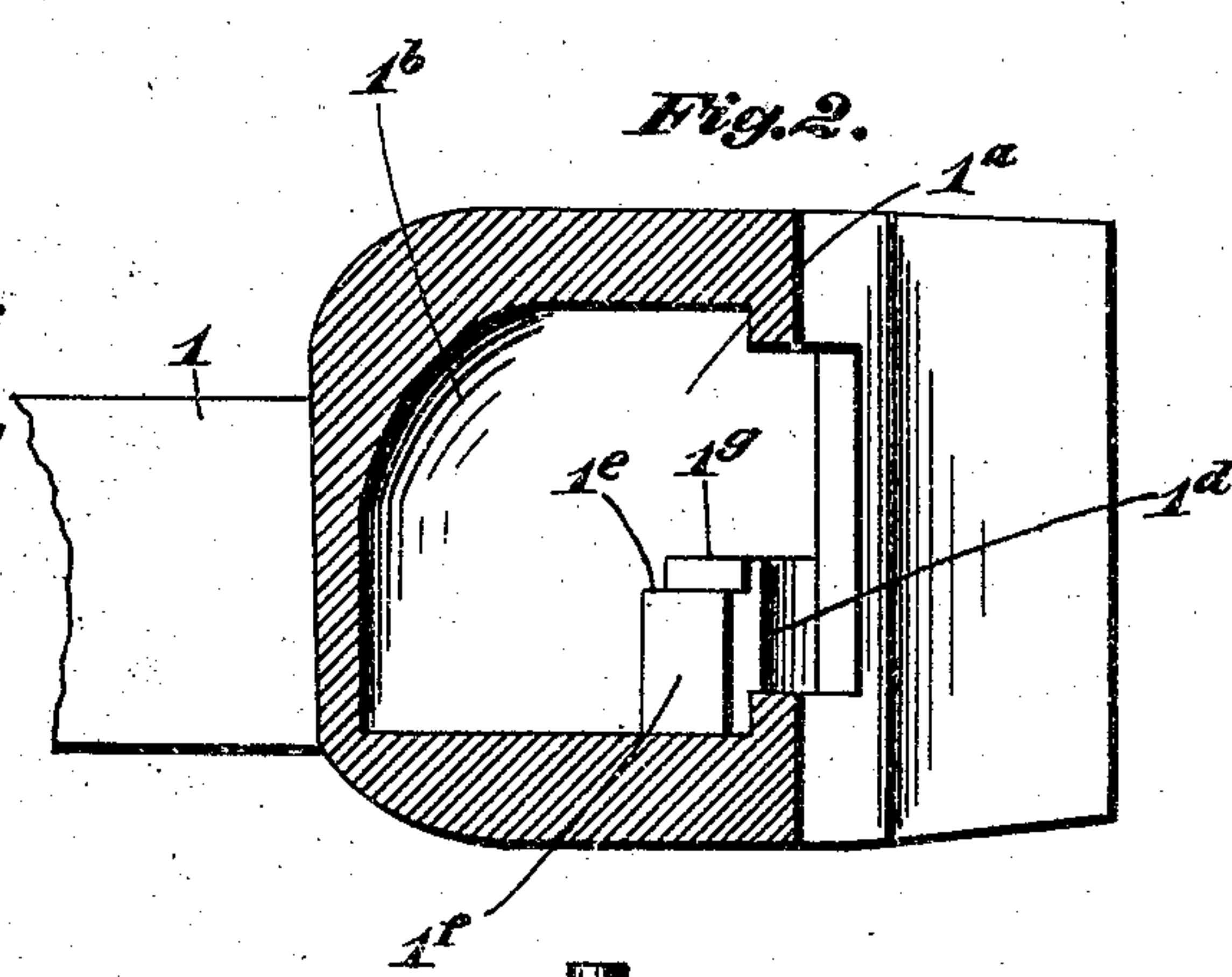
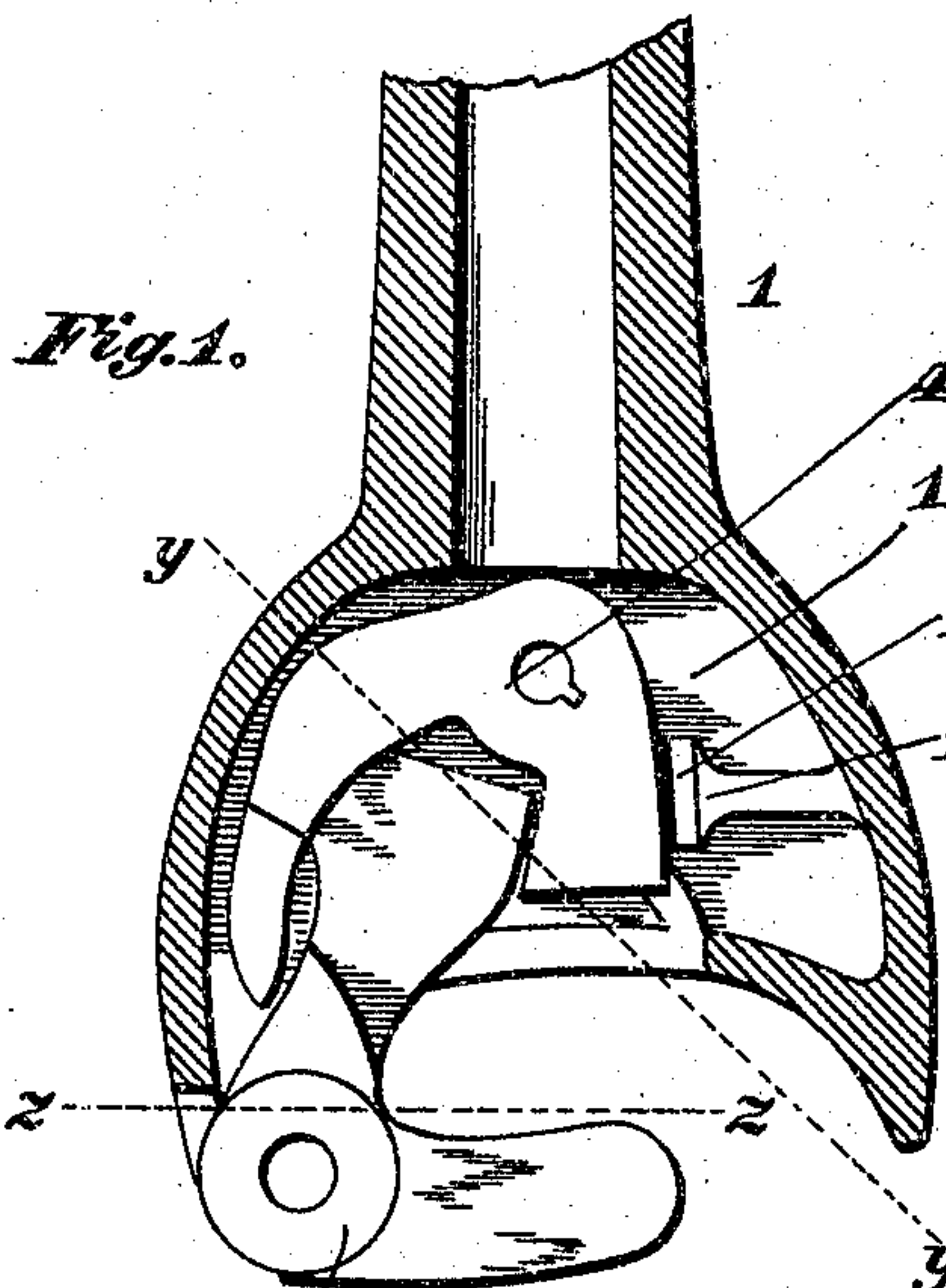


No. 785,250.

PATENTED MAR. 21, 1905.

I. I. CASKEY.
CAR COUPLING.

APPLICATION FILED JULY 12, 1904.



Witnesses
By *Finckel*
Olued loss

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By *Finckel*
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UNITED STATES PATENT OFFICE.

ISAAC I. CASKEY, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO
MARION L. GASKILL, OF COLUMBUS, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 785,250, dated March 21, 1905.

Application filed July 12, 1904. Serial No. 216,250.

To all whom it may concern:

Be it known that I, ISAAC I. CASKEY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-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.

The object of this invention is to improve the construction of car-coupling illustrated in United States Letters Patent No. 737,605, dated September 1, 1903. In the coupling of said patent it may be sometimes impracticable to operate the knuckle-lock 3 to permit the uncoupling of the cars, especially when they are jammed together, without first relieving the jammed condition.

The present invention therefore consists in such a construction of the parts of the coupling referred to as will permit the setting of the coupling even if the cars are jammed together.

In the accompanying drawings, Figure 1 is a horizontal sectional view on the plane $x x$, Fig. 3. Fig. 2 is a vertical section on the line $y y$, Fig. 1, with the knuckle and lock omitted. Fig. 3 is a front elevation with the knuckle removed. Fig. 4 is a vertical section on the line $z z$, Fig. 1. Fig. 5 is a perspective view of the knuckle. Fig. 6 is a perspective of the lock.

As in the previous patent herein referred to, 1 designates the draw-head. This has a cavity 1^a, with the upper part of its rear wall at one side curved inwardly toward the roof of the cavity, as indicated at 1^b, to form a cam to act on an arm of the lock to throw that arm outward toward the mouth of the cavity when the lock is raised.

2 designates the knuckle, which is hinged to ears 1^c at one side of the draw-head. The knuckle has a coupling-wing and a locking-wing, the latter to enter the cavity of the draw-head, and this locking-wing has at its lower end a wedge-shaped toe 2^a and a square heel 2^b. The toe 2^a in the present instance is provided with an angular projection 2^c to

reach behind a projection on the lock, as hereinafter described; but the principal difference between the knuckle in the present invention and that of the prior patent herein referred to consists in the provision of a cavity 2^d in the inner wall of the locking-wing.

3 designates the lock. This is secured to a vertically-movable pin 4, passing through perforations in the upper and lower walls of the draw-head, so that the lock can be raised and lowered. The lock, as in the former patent herein referred to, is generally a block of angular lever form, the pin 4 constituting the fulcrum. One arm of the lock is formed with a beveled under side 3^a, adapted to be acted on by the beveled toe 2^a of the knuckle to raise the lock, and a square side 3^b, adapted to engage the heel 2^b on the knuckle when said heel has entered the proper distance into the cavity and the lock has fallen into its locking position at the bottom of the cavity, as indicated in Fig. 3. The other arm of the lock is provided with a rounded inner side 3^c to act on the inner wing or arm of the knuckle and a downward projection 3^d to stand in front of the angular projection 2^c of said arm of the knuckle. The right-hand wall of the cavity is provided in its lower portion with an inward projection 1^d, having a vertical face 1^f and two horizontal seats 1^e and 1^g, the latter being arranged above and to the right of the former.

The operation is as follows: When two cars are coupled, the knuckles and locks are in the position indicated in Fig. 1. When the cars are to be uncoupled, the lock is raised and turned slightly to rest on the seat 1^e. It will be observed that the recess 2^d permits the lock to rise to be so seated without action of the part 3^c on the inner arm of the knuckle and that one of the knuckles can be turned out by the action of the other when the cars are separated. To throw an unset knuckle into open or coupling position, however, the lock is further lifted, and when so lifted the wall 1^b turns the left-hand arm of the lock against the inner arm of the knuckle, and therefore throws the outer arm into the open position. The coupling and locking is auto-

matic whether the lock is resting on the seat 1^o or 1^g or is resting at the bottom of the cavity. In the first two cases the lock is thrown around by the inner arm of the knuckle into position to drop into the bottom of the cavity and in the last case it is lifted by the wedge-toe 2^a of the inner arm of the knuckle.

In case the pin connecting the knuckle to the draw-head breaks the projection 2^c cooperates with the projection 3^d to prevent the knuckle from pulling out.

What I claim, and desire to secure by Letters Patent, is—

1. In a car-coupling, the combination of a draw-head, a knuckle hinged thereto, a lock movable vertically and rotatable horizontally in said draw-head adapted to be lifted by the knuckle, and adapted to be lifted independently of and without acting on the knuckle into position to permit the knuckle to be opened, and a seat to support the lock when so lifted.

2. In a car-coupling, the combination of a draw-head, a knuckle hinged thereto, a lock movable vertically and rotatable horizontally in said draw-head adapted to be lifted by the knuckle, and adapted to be lifted independently of action on the knuckle into position to permit the knuckle to be opened, a seat to support the lock when so lifted, means for throwing the lock when lifted off

said seat into contact with the knuckle to throw the latter into open or coupling position.

3. In a car-coupling, the combination of a draw-head, a knuckle hinged thereto, a lock movable vertically and rotatable horizontally in said draw-head adapted to be lifted by the knuckle, and adapted to be lifted independently of action on the knuckle into position to permit the knuckle to be opened, a seat to support the lock when so lifted, means for throwing the lock when lifted off said seat into contact with the knuckle to throw the latter into open or coupling position and a second seat for the lock in its further raised position.

4. In a car-coupling of the kind described, the combination with a draw-head having a cam-surface 1^b, the knuckle hinged to said draw-head having its inner arm provided with a cavity 2^d, the vertically-movable and horizontally-rotatable lock having a member to extend into said cavity 2^d and act on the inner arm of the knuckle beyond said cavity, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC I. CASKEY.

Witnesses:

OLIN J. ROSS,

GEORGE M. FINCKEL.