

No. 716,581.

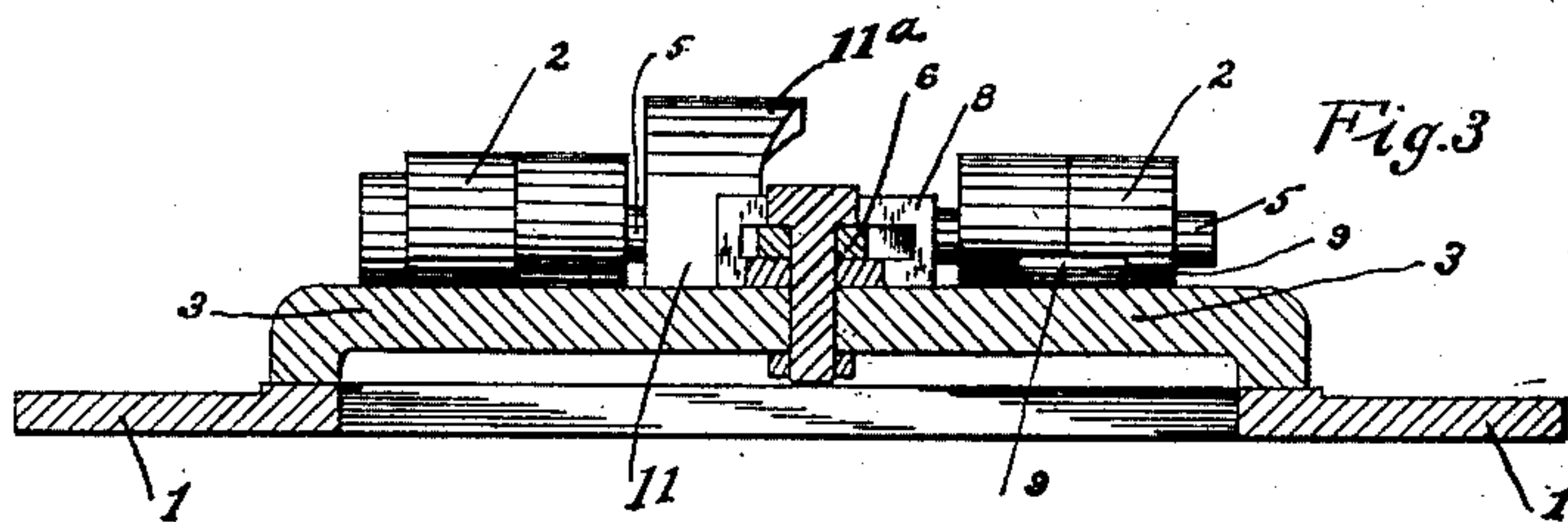
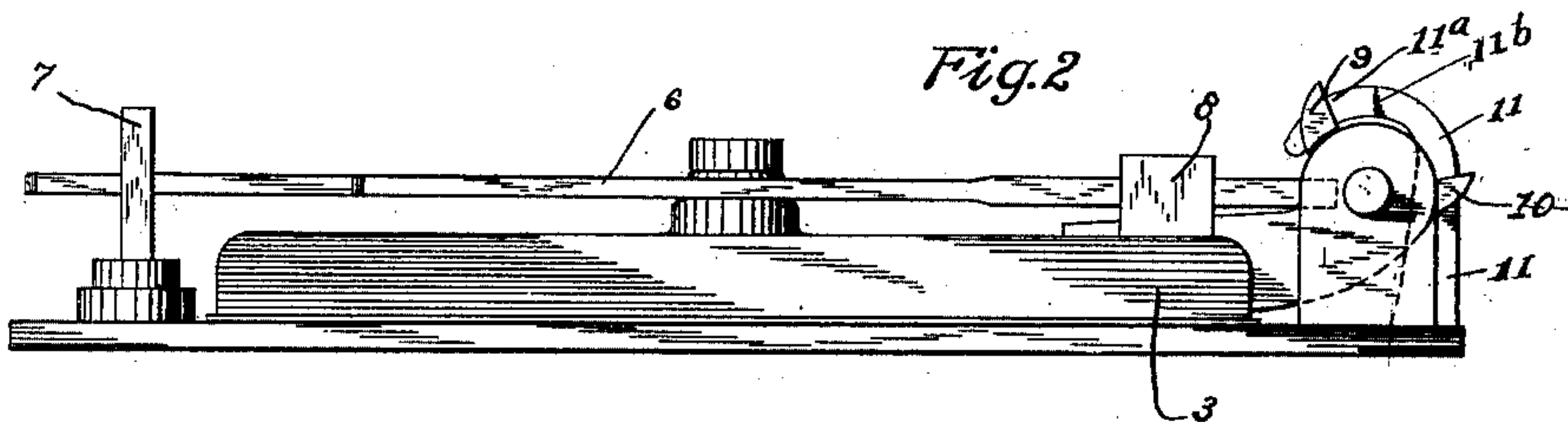
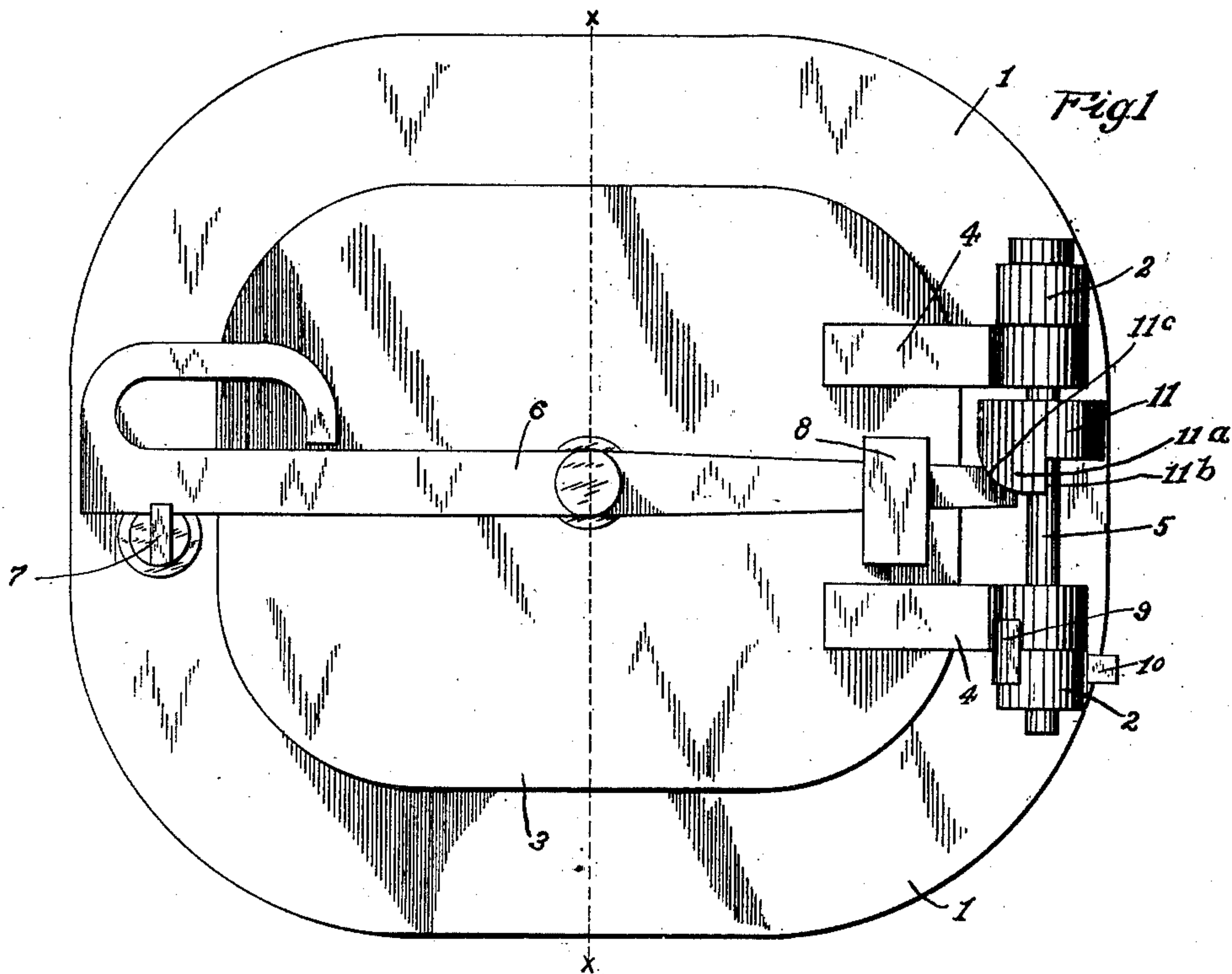
Patented Dec. 23, 1902.

H. RITTER & J. H. ROWLAND.

LOCK HINGE.

(Application filed Oct. 18, 1901.)

(No Model.)



WITNESSES:

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HERMANN RITTER, OF DENNISON, OHIO, AND JESSE H. ROWLAND, OF BLOOMINGTON, ILLINOIS.

LOCK-HINGE.

SPECIFICATION forming part of Letters Patent No. 716,581, dated December 23, 1902.

Application filed October 16, 1901. Serial No. 78,763. (No model.)

To all whom it may concern:

Be it known that we, HERMANN RITTER, residing at Dennison, in the county of Tuscarawas and State of Ohio, and JESSE H. ROWLAND, residing at Bloomington, in the county of McLean and State of Illinois, citizens of the United States, have invented a certain new and useful Improvement in Lock-Hinges, of which the following is a specification.

Our invention relates to the improvement of fire-door latch-bar locks for locomotive or other boilers, and has particular relation to that class of locking devices disclosed in our former patent issued under date of October 1, 1901, and numbered 683,706.

The objects of our present invention are to provide in connection with the fire-door improved means for locking or latching the door in position to insure the retention of the door in an open position when desired and to accomplish this object in a simple, effective, and inexpensive manner. These objects we accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a fire-box door-frame and door, showing the latter closed and having our improvement in connection therewith. Fig. 2 is an under side view of the same in elevation, and Fig. 3 is a sectional view on line *xx* of Fig. 1.

Similar numerals refer to similar parts throughout the several views.

1 represents an ordinary fire-box door-frame from the rear portion of which project outwardly the usual fixed hinge lugs or brackets 2.

3 represents the fire-door, the latter being shown in the drawings in its closed position. The fire-door is provided in its rear portion with the usual rearwardly-projecting hinge-arms 4, which are hinged in connection with the lugs or brackets 2 through the medium of a vertical hinge rod or pin 5.

Pivoted centrally to the door 3 is a latch-bar 6, the forward and heavier end portion of which is adapted to engage a recess of a suitable catch projection 7, which extends from the frame 1. The rear portion of the latch-bar 6 passes loosely through a keeper 8, which projects from the door 3.

As indicated at 9, we form the outer por-

tion of one of the hinge-arms 4 with a depending stop-lug 9, which by contact with a shoulder or stop-lug 10, formed on the adjoining hinge-bracket 2, is adapted to limit the outward or opening movement of the door.

Projecting outward from the frame 1 and thence curving forwardly over the hinge-pin 5 at a desirable height is our improved catch or latch-engaging body 11. This catch-body 11 is formed in its outer or head portion with a lateral or downward projection 11^a, through which is formed, in conjunction with the body 11, a vertical shoulder 11^b. The head portion 11^a of the body 11 is rounded or inclined on its under side, as indicated at 11^c.

When the latch 6 is raised out of its engagement with the catch projection 7 and the fire-door thrown open, it is obvious that owing to the weight of the outer end of said latch-bar the rear or inner end portion thereof will remain during the opening operation in contact with and traveling against the inclined portion 11^c of the head 11 until the door is in its full open position or until the end of said latch-bar has passed out of contact with the head portion 11^a of the lock or catch-body and is permitted to move upward against said body and in engagement with the shoulder 11^b. In this position it is obvious that the fire-door cannot be again closed or moved to the closed position without elevating the outer end portion of the latch-bar 6 until its inner end is out of engagement with said shoulder.

Although we have shown and described the catch-body 11 as projecting from a point in rear of the hinge-pin 5 and curving over the latter, it is obvious that the curvature of said body might be omitted and also obvious that said catch-body might be made to project from that side of the hinge-pin which is most convenient. It will also be understood that in view of the fact that the essential feature of our invention consists in providing a catch or lock projection with which the latch-bar is adapted when the door is in its open position to engage laterally both the curvature of said body and its projecting shoulder might be omitted, as it is obvious that even though a straight catch projection was provided the end of the latch-bar in the opening of the

door might pass under said projection and thence rise to effect a lateral engagement therewith, which engagement would accomplish the object of the invention. It will be understood, therefore, that we do not confine ourselves to the form of the catch projection shown.

It will be observed that the construction and operation of our present device are such as to prevent any contact of the outer side or surface of the latch-bar with the catch projection or lug when the door is in its open position, thereby obviating any tendency toward the bending of the latch-bar which might occur through such contact with the lug or other part, which may be caused by the door being swung open with unnecessary force or violence.

Having now fully described our invention, what we claim, and desire to secure by Letters Patent, is—

In a lock-hinge for fire-doors, the combination with a door-frame and door hinged thereto, a pivoted latch-bar having its forward portion adapted to engage a suitable latch projection and a keeper for said latch-bar at the rear end of the door, of a fixed lug projecting from the door-frame with which lug the inner side of the latch-bar is adapted to contact when the door is in its open position, the outer side of said latch-bar having no contact with said lug, substantially as specified.

HERMANN RITTER.

JESSE H. ROWLAND.

Witnesses as to the signature of Hermann Ritter:

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