

No. 880,985.

PATENTED MAR. 3, 1908.

O. T. GRANN.
DOOR LOCK.

APPLICATION FILED APR. 3, 1907.

Fig. 1.

Fig. 5.

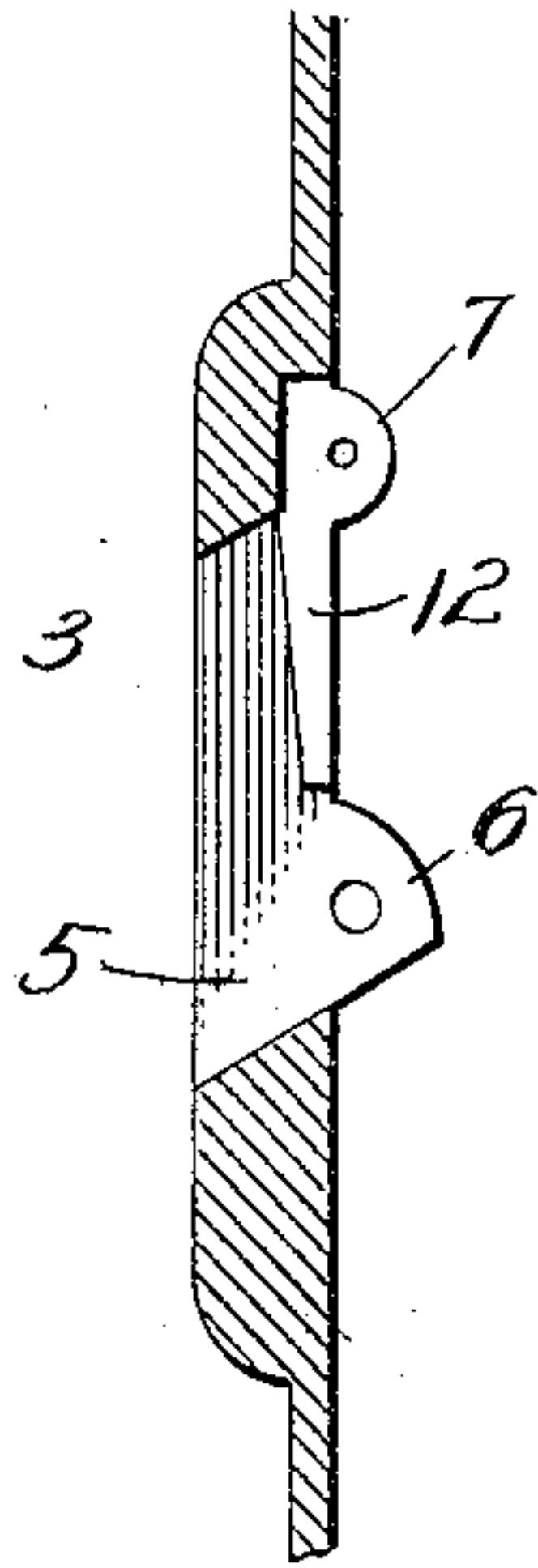


Fig. 6.

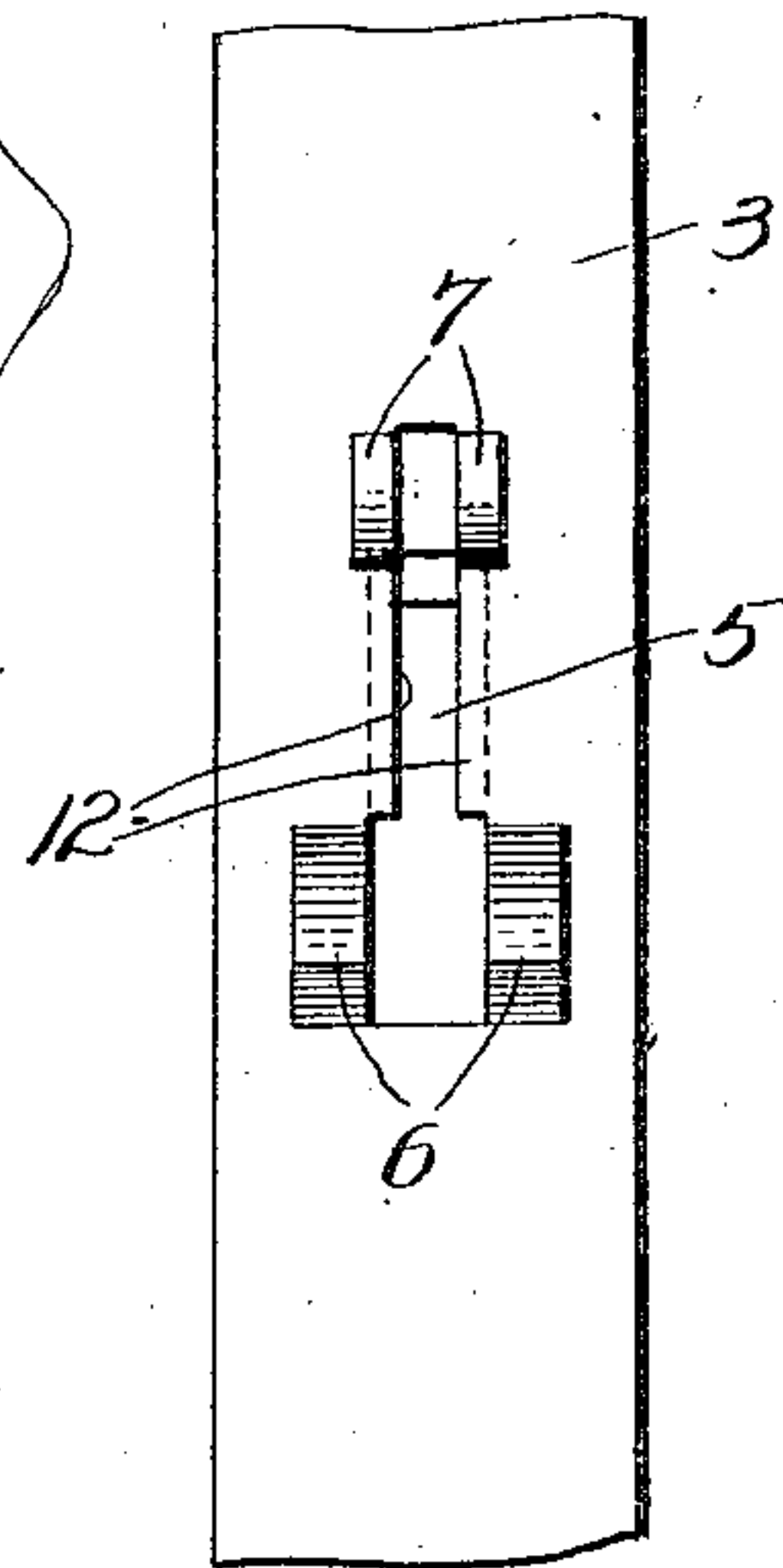


Fig. 3.

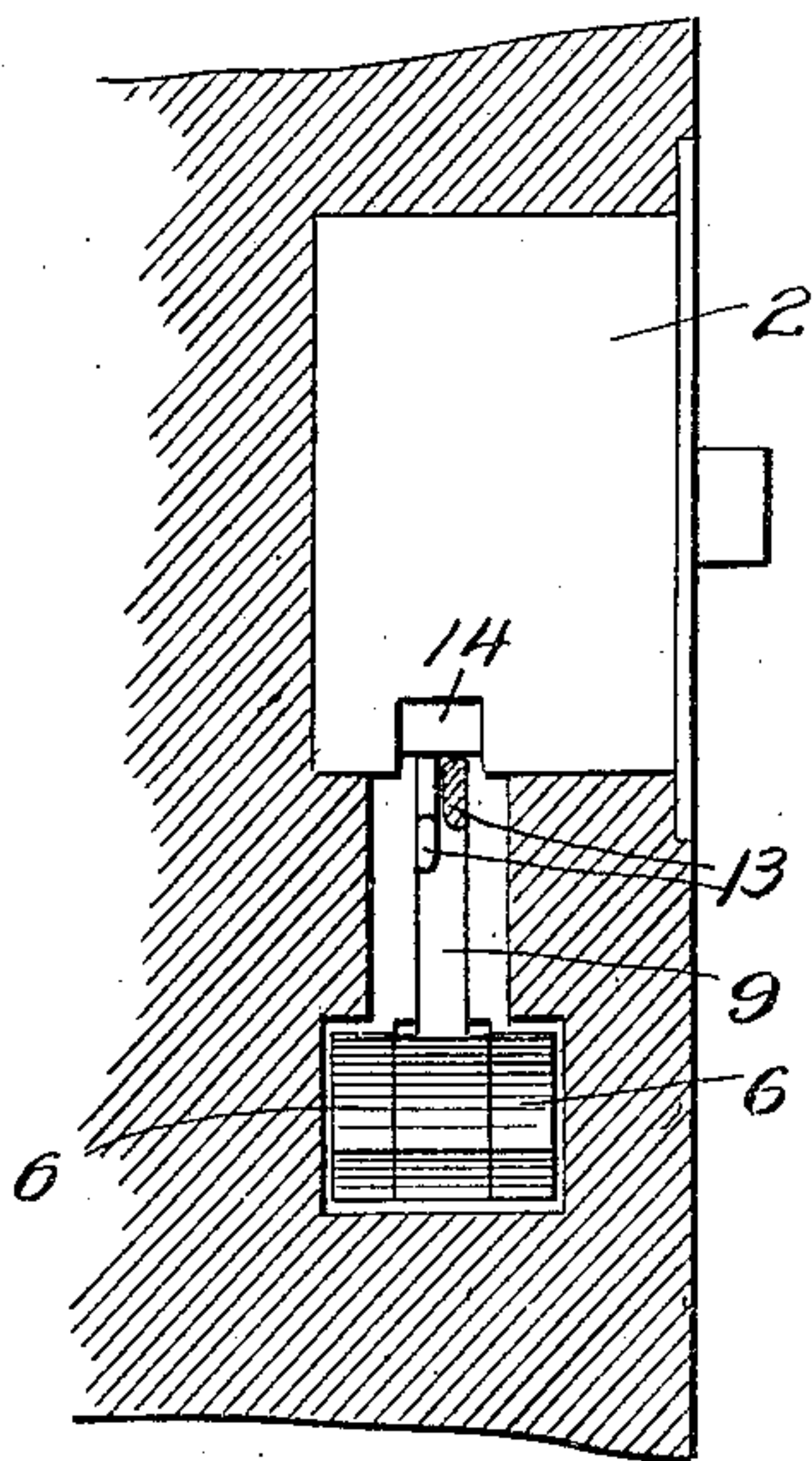


Fig. 2.

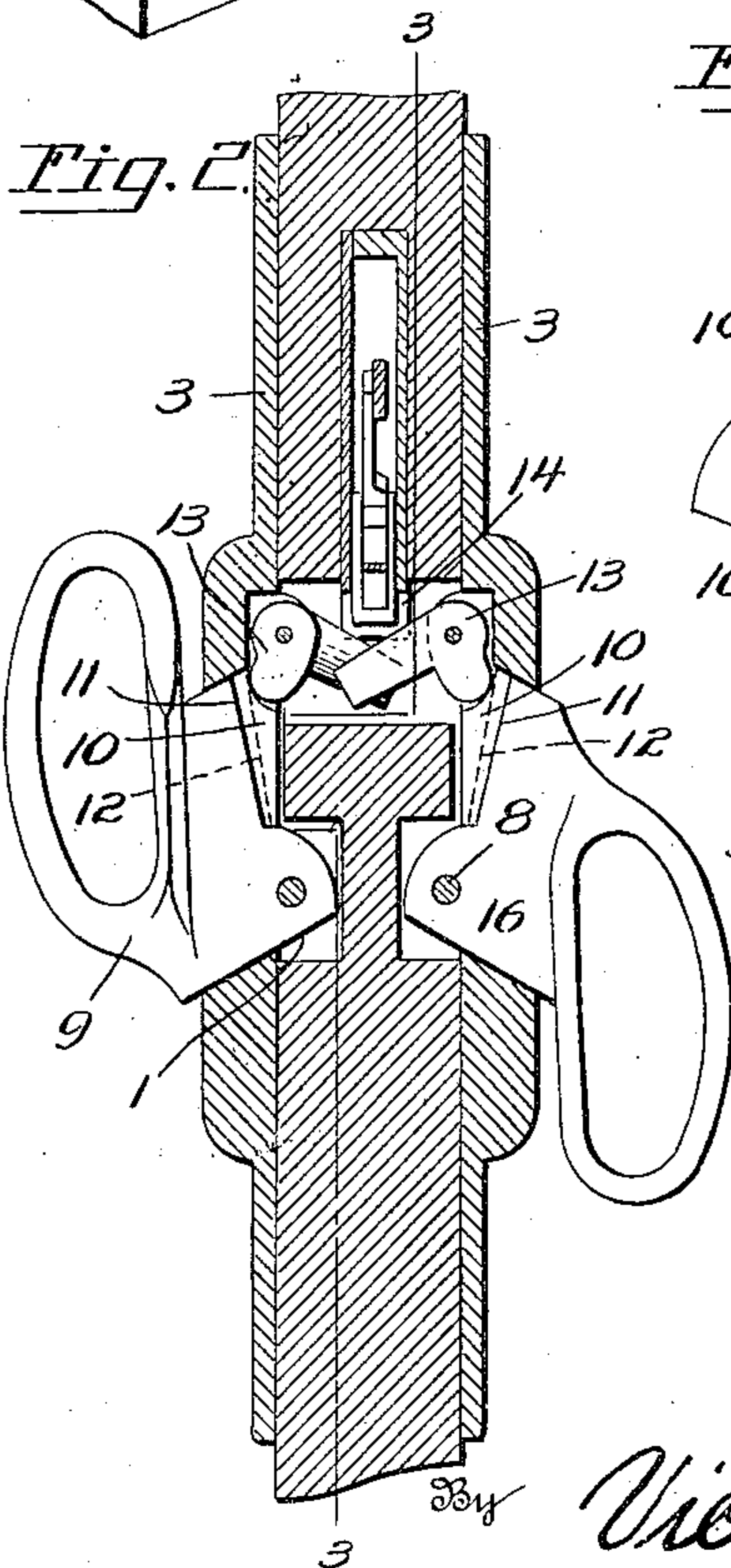
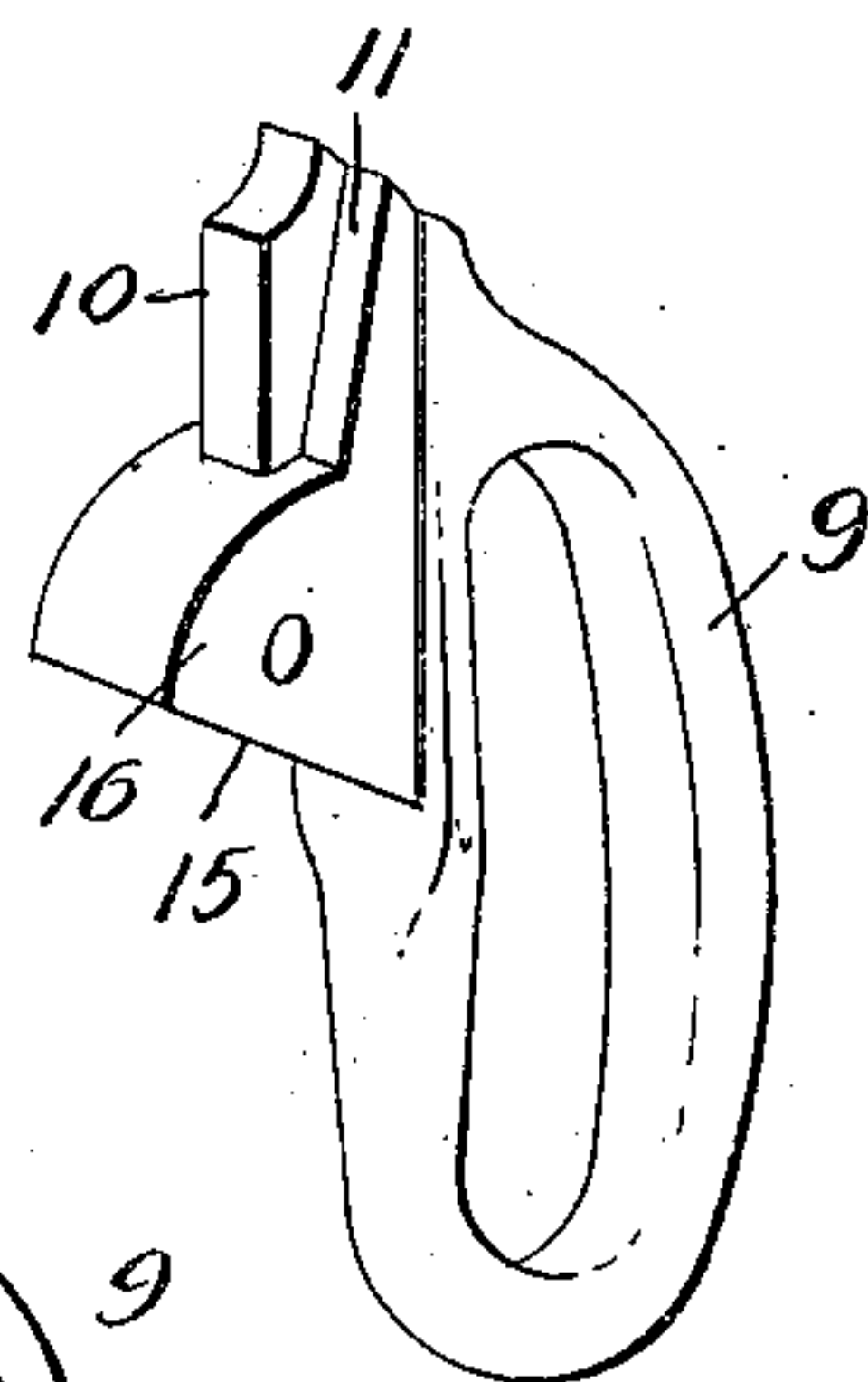


Fig. 4.



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DOOR-LOCK.

No. 880,985.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed April 3, 1907. Serial No. 366,150.

To all whom it may concern:

Be it known that I, OSCAR T. GRANN, a citizen of the United States, residing at Cadillac, in the county of Wexford and State of Michigan, have invented new and useful Improvements in Door-Locks, of which the following is a specification.

This invention relates to a door latch or set of that type provided with hingedly mounted handles, one arranged to be pulled and the other pushed in order to withdraw the bolt of the lock or latch for unlocking and opening the door.

The invention has for one of its objects to improve and simplify the construction and operation of devices of this character so as to be comparatively easy and inexpensive to manufacture, composed of few parts, reliable in use, and designed to do away with the usual thumb piece for withdrawing the bolt of the lock and enabling the same movement exerted on the handles for opening the door to be employed for actuating the bolt, thus requiring little effort on the part of the person opening or closing the door.

A further object of the invention is the provision of a door set or latch having oppositely disposed handles which operate on dogs through which the bolt of the lock is withdrawn.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one of the embodiments of the invention, Figure 1 is a perspective view of the door set shown in position on the door. Fig. 2 is a vertical section of the door set or latch drawn on an enlarged scale. Fig. 3 is a section on line 3—3, Fig. 2. Fig. 4 is a perspective view of one of the handles. Fig. 5 is a longitudinal section of one of the metal side plates. Fig. 6 is a back view of one of the plates.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, 1 designates a portion of a door having a mortised opening for the reception of a lock 2 of ordinary construction. Arranged on the inner and outer

surfaces of the door are metal plates 3 having apertures for the reception of screws 4 for holding the plates in position.

Each plate has a longitudinal slot 5 enlarged at its lower end and extending from the inner surface of the plate are spaced apertured lugs 6 and 7 at opposite ends of the slot. The lugs 6 are arranged below the narrow portion of the slot and receive a pintle 8 on which the handle 9 is mounted. The handle on the inside of the door extends downwardly below its pintle, while the outside handle has its free end extending upwardly above its pintle. Each handle, which is in the form of a loop, has a lug 10 projecting the narrow part of the slot 5 and adjacent the bottom of the lug are inclined shoulders 11 that are adapted to engage the stops 12 on the plate 3 for limiting the inward movement of the lugs 10. The lugs 10 are arranged to operate on pivoted dogs 13 mounted between the lugs 7 of the plates 3, the dogs being each in the form of a bell crank lever with their free ends arranged in overlapping relation under the follower 14 of the lock 2, by which the bolt is withdrawn. The parts of the door set that are movably mounted are so proportioned that they automatically return to their normal position after they have been actuated, since the weight of the parts is so distributed that they return by gravity.

In practice, the outside handle is pushed toward the door which is in the same direction as the door swings open. The inward movement of the lug 10 of the handle is limited by the stops 12 engaging the shoulders 11, and during the inward movement, the dog 13 engaged by the lug 10 will be oscillated to move the follower 14 of the lock. Upon releasing the handle, the parts will fall back to their normal position. To unlock the door from the inside, the downwardly extending handle 9 is pulled, thereby throwing its upper end inwardly to move the dog engaged by the stop 10 thereof, thus actuating the bolt-withdrawing member of the lock. The inclined under surfaces 15 of the tongues 16 of the handles 9 engage the inclined bottom walls 17 of the slots 5, which walls serve as stops or abutments on which the handles normally bear as clearly shown in Fig. 2.

From the foregoing description taken in connection with the accompanying drawing, the advantages of the construction and of

the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus shown is merely illustrative and that such changes may be made when desired, as are within the scope of the claims.

Having thus described the invention, what I claim is:—

1. The combination of a door set provided with a follower for withdrawing the bolt, with a plurality of dogs arranged in coöperative relation with the follower, and handles mounted to return by gravity for separately actuating the dogs.

2. A door lock or set comprising a bolt and a follower for actuating the same, in combination with oppositely disposed pivotally mounted members arranged with portions in overlapping relation and movable into and out of engagement with the follower and returned to normal position by gravity, and hingedly mounted handles arranged to separately actuate the members and adapted to return by gravity.

3. A door set or lock having a bolt-actuating member, in combination with a pair of pivotally mounted bell crank levers arranged with arms extending under the said member to engage the same and disposed to return by gravity to their normal positions, and hingedly mounted handles adapted to engage the other arms of the levers and dis-

posed to return by gravity to their normal positions, one handle extending upwardly and the other downwardly from their pivots.

4. A door set or lock provided with a bolt-actuating member movable in a vertical direction, oppositely disposed bell crank levers arranged with corresponding arms to engage the member and adapted to return by gravity to their normal positions, and handles mounted to operate on the levers for throwing the latter into engagement with the member of the door set.

5. The combination of a pair of plates, hingedly mounted handles thereon arranged one to swing upwardly and the other downwardly, means for limiting the movement of the handles, members pivoted on the plate and normally held in engagement with the handles, and a device actuated by the members.

6. The combination with a door having a vertically movable follower, of a pair of plates each having suitably arranged stops, gravity handles hingedly mounted on the plates and movable between the stops, follower actuating members movably mounted on the plates and arranged to be permanently held in engagement with the handles by gravity, and a device actuated by the members.

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

OSCAR T. GRANN.

Witnesses:

PETER NYSTROM,
JOHN G. ANDREW.