

Aug. 11, 1925.

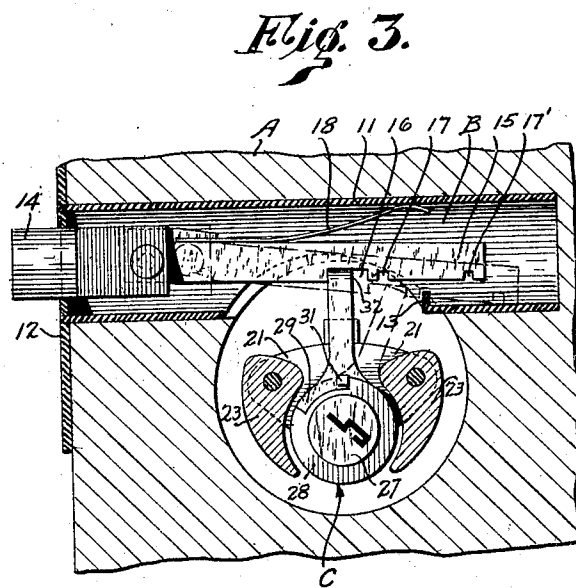
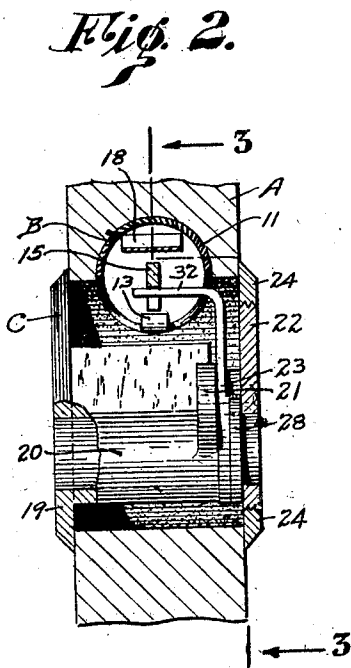
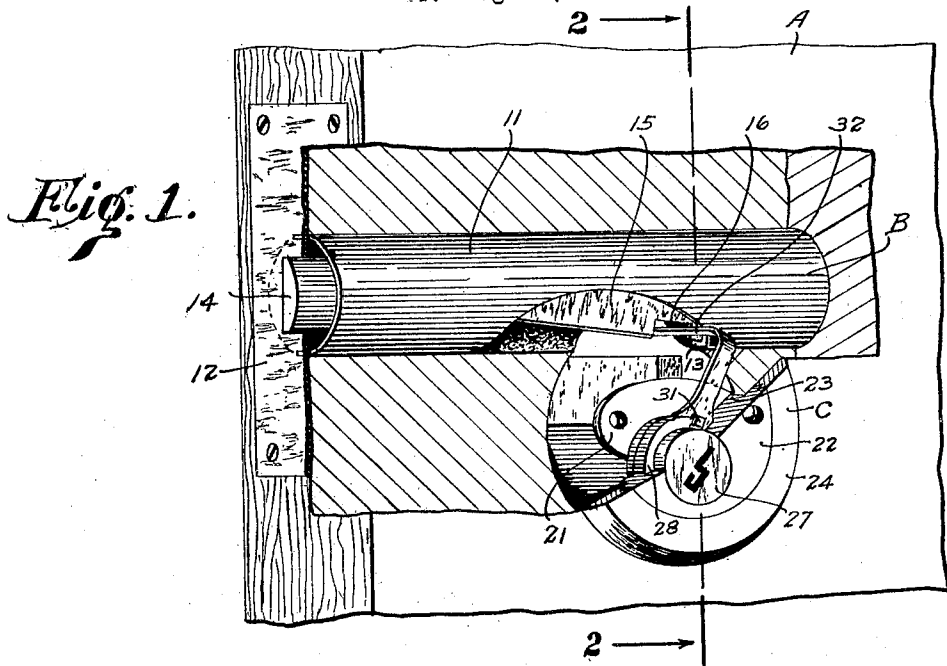
1,549,603

E. O. MURMANN

DOORLOCK

Filed Aug. 12, 1922

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 4.

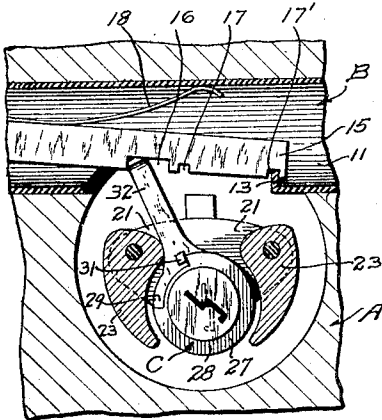


Fig. 5.

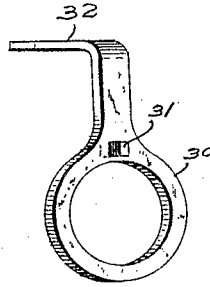


Fig. 6.

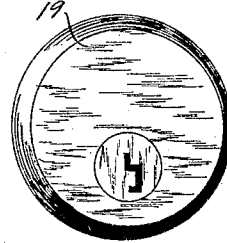


Fig. 7.

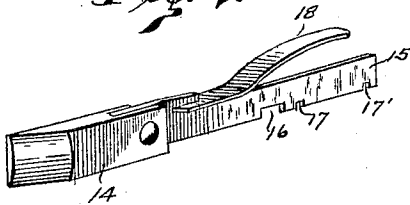


Fig. 8.

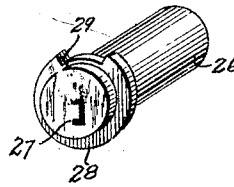


Fig. 9.

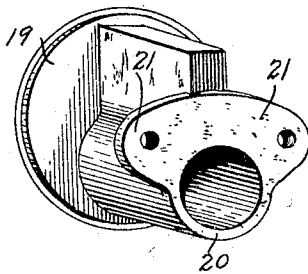
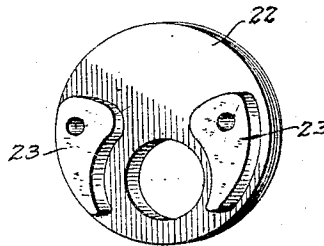


Fig. 10.



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UNITED STATES PATENT OFFICE.

EUGENE O. MURMANN, OF GLENDALE, CALIFORNIA.

DOORLOCK.

Application filed August 12, 1922. Serial No. 581,450.

To all whom it may concern:

Be it known that I, EUGENE O. MURMANN, a citizen of the United States, and resident of Glendale, in the county of Los Angeles, State of California, have invented new and useful Improvements in a Doorlock, of which the following is a specification.

This invention relates to a lock for doors, and pertains especially to a two member lock, namely, a bolt operating member and a bolt member.

It is desirable to provide a mortise lock which can be installed by boring cylindrical recesses in a door instead of cutting rectangular recesses. This invention has to do with a lock of the character above described and has for its primary objects the provision of a simple, compact, positively operating, and easily installed structure.

These objects together with other objects and corresponding accomplishments are obtained by means of the embodiment of my invention, illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view partly in section showing my lock installed; Fig. 2 is a section as seen on the line 2—2 of Fig. 1; Fig. 3 is a section as seen on the line 3—3 of Fig. 2; Fig. 4 is a view similar to Fig. 3 showing the idler finger and bolt in another position; Fig. 5 is a perspective view of the idler finger; Fig. 6 is a perspective view showing the face of a cover plate; Fig. 7 is a perspective view of the bolt; Fig. 8 is a perspective view of the lock cylinder; Fig. 9 is a perspective view of the lock barrel; and Fig. 10 is a perspective view showing the rear of the plate.

Referring more particularly to Figs. 1 to 4 a door is indicated by A. A cylindrical recess is bored therein from the edge of the door and disposed therein is the bolt member indicated by B. Extending from one face of the door to the other and intersecting the bolt member is a cylindrical recess for the bolt operating member indicated by C. The bolt operating member is key actuated as described later in detail.

Referring more particularly to the details of the bolt member, it comprises tubular member 11 to the end of which is secured a selvage plate 12. An opening is cut in the member 11, and a catch lug 13 upset therefrom at one end. An opening is provided in the selvage plate for a bolt 14.

The bolt has a tail 15 pivotally secured thereto. The tail has on its under side a coupling notch 16 to receive the idler arm, and notches 17 and 17' for dead locking the bolt. A leaf spring 18 is secured to the upper edge of the tail and presses against the tubular casing tending to force the tail downwardly.

The bolt actuating member comprises a plate 19 adapted to cover one end of the door recess and a barrel body 20 preferably formed integral with the plate. At the other end are wings 21 for attaching a plate 22. Plate 22 has spacing lugs 23 formed thereon. The spacing lugs and plate have apertures therethrough for screws to engage threaded openings in the wings 21 for fastening the barrel to the plate. Plate 22 is threaded on its outer edge to receive a ring 24.

Disposed in the bore of the barrel is the lock cylinder 26. The lock cylinder and barrel are preferably of the well known cylinder type, the details of which are well known and need not be shown herein. However, upon insertion of the proper key in the keyhole of the lock, the latter cylinder is released from the barrel so that it may be rotated. The cylinder has a collar 28.

Collar 28 is provided with a cut-a-way portion 29 in its periphery. Rotatably mounted on the cylinder 28 is an idler 30 having a lug 31 disposed in the cut-a-way portion of the collar. The idler is formed with a finger 32 which extends backwardly, and overhangs the cylinder. Upon turning the cylinder to the left as shown in Fig. 3, the end of the cut-a-way in the collar will engage the lug 31 on the idler and move the idler finger.

Referring particularly to Fig. 3, the dotted lines show the first position of the finger. Movement of the finger to the left will lift the tail 14, and then push the latter into locking position. The dotted lines in Fig. 3 show the position of the tail, in which the notch 17 is engaged with the lug 13. The movement of the finger 32 first lifts the tail to release it from the lug 13 and then moves it forwardly to the position shown in Fig. 4, in which position the tail drops so that the notch 17' is engaged by the lug 13.

This prevents the bolt from being pushed backwardly except by means of the key. In the position of the parts shown in Fig. 4, it is impossible to withdraw the key, but the key may be rotated backwardly and with it the cylinder, until the key is in an upright

position as shown by the dotted lines in Fig. 4, when it may be withdrawn. Such movement will not disturb the position of the idler finger. Insertion of the key and turning of the cylinder to the right will engage the end of the cut-a-way with the lug 31 and rotate the finger to the right. First, the finger lifts the tail to release it from the locking lug 3, then retracts the latch and finally drops the tail so that lug 3 rests in notch 17, thereby locking the bolt in position. The cylinder can then be turned backwardly to position for release of the key. The spring 18 serves to hold the tail downwardly and cause it to dead-lock. Without the idler arm and its lost motion connection with the cylinder, the key could not be withdrawn when in the locking position of the parts.

20 What I claim is:

1. A structure of the character described comprising the combination of a key actuated rotatable member, a pivotally mounted idler finger, a lost motion connection between said member and said finger permitting relative rotation in either direction limited to a partial revolution, a slidable bolt, and coupling means connecting said finger and said bolt for sliding the latter where by said rotatable member may be returned to key entrance position without disturbing the position of the bolt characterized by the coupling means comprising a tail pivotally secured to said bolt, said tail having a notch, said finger being disposed to engage said notch.

2. A structure of the character described comprising the combination of a key actuated rotatable member, a pivotally mounted idler finger, a lost motion connection between said member and said finger permitting relative rotation in either direction limited to a partial revolution, a slidable bolt, and coupling means connecting said finger and said bolt for sliding the latter where by said rotatable member may be returned to key entrance position without disturbing the position of the bolt characterized by the coupling means comprising a tail pivotally secured to said bolt, said tail having a notch in which the finger is disposed, and catch means for engaging and dead-locking said tail at either end of its travel.

3. A structure of the character described comprising the combination of a key actuated rotatable member, a pivotally mounted idler finger, a lost motion connection between said member and said finger permitting relative rotation in either direction limited to a partial revolution, a slidable bolt, and coupling means connecting said finger and said bolt for sliding the latter where by said rotatable member may be returned to key entrance position without dis-

turbing the position of the bolt characterized by said coupling means comprising a tail pivotally secured to said bolt, said tail having a coupling notch on its lower edge for receiving the finger so that movement of the latter will raise and slide the tail, said tail having locking notches on the lower edge, a stationary catch lug for engagement in said locking notches, whereby at either end of the travel of the tail it is dead-locked and movement of the finger will raise the tail, release the latter from the catch lug and slide it.

4. A structure of the character described comprising the combination of a key actuated rotatable member, a pivotally mounted idler finger bent to overhang the member, a lost motion connection between said member and said finger, permitting relative rotation in either direction limited to a partial revolution, a slidable bolt disposed above said member and said finger, and coupling means connecting said finger and said bolt for sliding the latter, whereby said rotatable member may be returned to key entrance position without disturbing the position of the bolt.

5. A structure as specified in claim 4 characterized by the coupling means comprising a tail pivotally secured to said bolt, said tail having a notch and the finger being disposed in said notch.

6. A structure as specified in claim 4 characterized by a coupling comprising a tail pivotally secured to said bolt, said tail having a notch in which the finger is disposed, and catch means for engaging and dead-locking said tail at either end of its travel.

7. A structure as specified in claim 4 characterized by the coupling comprising a tail pivotally secured to said bolt, said tail having a coupling notch on its lower edge for the finger so that movement of the latter will raise and slide the tail, said tail having locking notches on its lower edge, a stationary catch lug for engaging in said locking notches whereby at either end of the travel of the tail it is dead-locked and movement of the finger will raise the tail, release it from the catch and slide it.

8. A structure of the character described comprising the combination of a key actuated rotatable member, an idler finger being pivotally mounted on said member and overhanging the latter, a lost motion connection between said member and said finger permitting relative rotation in either direction limited to partial revolution, a slidable bolt, and coupling means connecting said finger and said bolt for sliding the latter, whereby said rotatable member may be returned to key entrance position without disturbing the position of the bolt.

9. A structure as specified in claim 8 characterized by a coupling comprising a tail

pivotally secured to said bolt, said tail having a notch and the finger being disposed in said notch.

5 10. A structure as specified in claim 8 characterized by the coupling member comprising a tail pivotally secured to said bolt, said tail having a notch in which the finger is disposed, catch means for engaging and
10 dead-locking said tail at either end of its travel.

11. A structure as specified in claim 8 characterized by a coupling member com-

prising a tail pivotally secured to said bolt, said tail having a notch disposed for receiving the finger so that movement of the latter will raise and slide the tail, said tail having notches on its lower edge and a stationary catch lug for engaging said locking notches whereby at either end of the travel of the tail it is dead-locked. 15 20

In witness that I claim the foregoing I have hereunto subscribed my name this 3rd day of August, 1922.

EUGENE O. MURMANN.