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S. L. ORNOSKI

THREE-WAY DOOR LOCK

Filed March 19, 1926

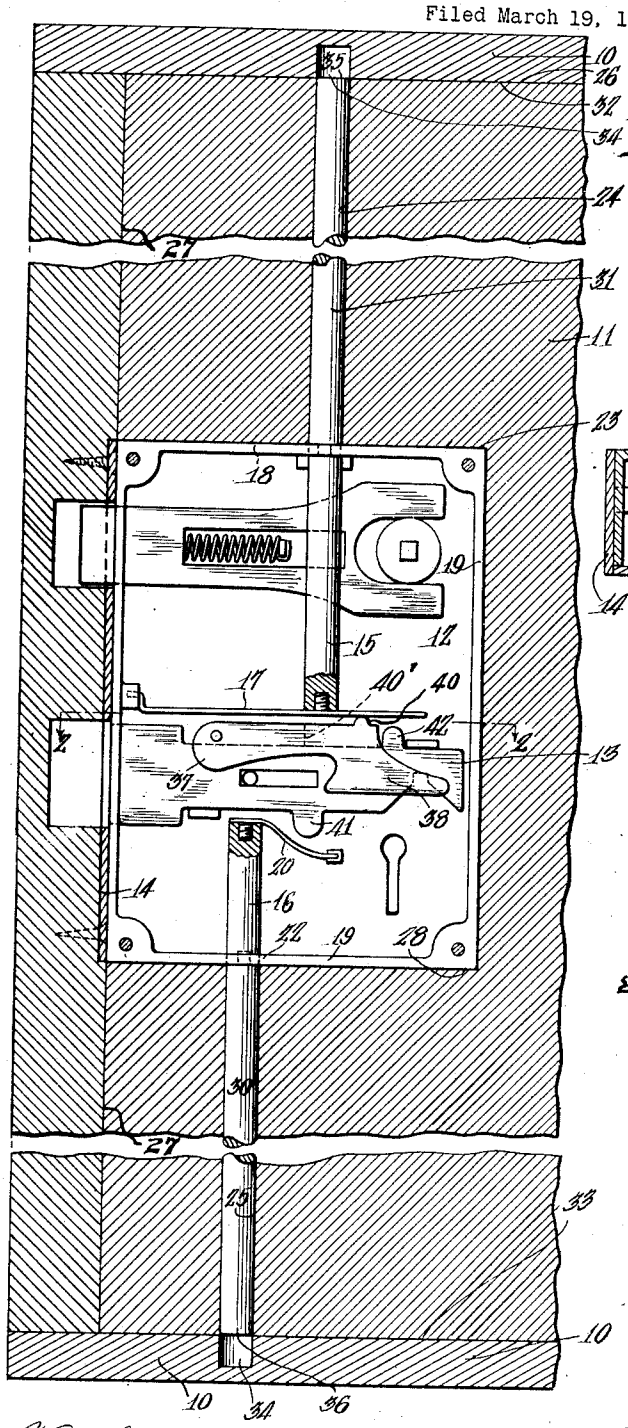


Fig. 1.

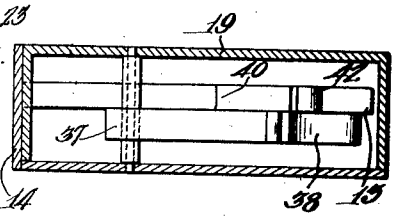


Fig. 2.

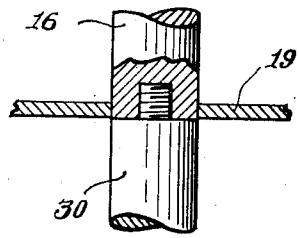


Fig. 3.

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UNITED STATES PATENT OFFICE.

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THREE-WAY DOOR LOCK.

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This invention relates to door locks, and more particularly to a door lock which is provided with bar means interconnected with and operable by a conventional type of mortised lock for securing a door in a casement therefor, by extending the said bar means into the door casement at a fixed point on a plurality of the door edges comprising in conjuction with the latch and locking bolt of the door lock. The principal object of the invention is to provide a door with locking bar means operatively associated with a mortised type of door lock, which provides a plurality of bar locking points about the rectangular side edges of the door, in addition to the locking mechanism comprising the lock and said locking bar means simultaneously operable with the said door lock upon the insertion of the usual latch key in said lock.

Another object of the invention is to provide a door and casement therefor, with locking means whereby the door will be securely locked in the casement therefor, and which cannot be easily forced open or removed out of the casement by removing the hinges from the door or forcing the door otherwise.

Other objects of the invention will appear in the following detail description, and in the accompanying drawings, wherein:

Figure 1—is an elevational view of a door and casement therefor partly in section, showing the locking elements as applied.

Figure 2—is a cross section through the lock on the line 2—2 of Figure 1.

Figure 3—is a detail view illustrating the manner of connecting the locking bars to the studs positioned in the lock.

Referring more particularly to the drawing, the invention comprises a casement 10 and a door 11 therefor, provided in the usual manner, with a mortised lock 12 of conventional design with a key-operated bolt 13 for projection into a bolt plate 14 usually provided in a casement edge. Operably associated with and in the interior of the mortised lock 12, are a pair of studs 15 and 16 vertically disposed therein, with the upper stud 15 having its lower end threadably attached to a flat spring 17, comprising a part of the lock mechanism, and said stud 15 projecting through the upper side 18 of the mortised lock casing 19. The stud 16 is similarly attached in the lower portion of the lock casing 19 to a spring 20 suitably anchored in the casing 19. The said studs 15 and 16 are positioned in the interior of the lock 12, and normally extend flush with the upper side 18 and lower side 22 of the casing 19. In addition to the recess 22, the door 11 is further provided with a pair of vertical bores 24 and 25, the upper bore 24 extending from the top edge 26 of the door 11, and downwardly through the door and terminating in the recess 23. The lower bore 25 extends from the recess 23, in a vertical manner through the entire lower portion of the door 11 and terminates adjacent the lower door edge 33 of the door 11. Said bores adapted to receive a pair of locking bars 30 and 31, normally positioned flush with the upper and lower edges of the door and into the recesses 22 and 23, for threaded connection to the upper and lower protruding ends of the studs 15 and 16, which are positioned in the lock casing 19. The door opening jamb of the casement 10 has its inner upper and lower edges 32 and 33 suitably recessed, as at 34. Said recess placed in central alignment with the locking bars 30 and 31, and extended to receive the ends 35 and 36 of the locking bars 30 and 31, upon the operation of the lock, from unlocked into locked position.

In order to actuate the locking bars 30 and 31, and the studs 15 and 16 therefor, the interior mechanism of the mortised lock 12, has a lever 37 and heel 38 formed thereon, pivoted in the casing 19 of the lock 12, and to one side of the key-actuated locking bolt 13. Said heel 38 extending to the rear end of the locking bolt 13 and adapted to be actuated by the key for the lock, simultaneously with the bolt 13. The pivoted lever 37 is also provided on its top edge with an upwardly projecting lug 40 for engaging the underside of the flat spring 17 upon the upward movement of the heel 38 and the lever 37. The bottom edge of the bolt 13 is likewise provided with a depending lug 41 for engaging against the top surface of the flat spring 20, upon the outward movement of the bolt 13 into locked position.

Upon the examination of Figure 1 of the drawing, it will be readily seen that when the key for the lock 12 is inserted therein, the locking bolt 13 is urged by the key to extend outwardly of the casing 19, in the usual manner, and that the pivoted lever 37 is raised simultaneously with the outward movement of the bolt 13. This movement

of the locking bolt 13 also causes the lugs 40 and 41 to engage the springs 17 and 20, which in turn actuate the studs 15 and 16, carrying the locking bars 30 and 31, and project the ends 35 and 36 of the said bars into the recess 34, provided in the upper and lower edges of the casement 10 simultaneously with the entering of the outer end of the locking bolt 13 into the latch plate 14 provided therefor, and secured to the edge 37' of the casement 10, in the usual manner.

The lug 41 holds the spring 20, and the bar 30 in a depressed or locked position, when the bolt 39 is extended, while the lug 40 on the lever 37 engages the spring 17 for raising the said spring and the locking bar 31 into locked position, and in order to maintain the bar 31 in this locked position, the lever 37 has a laterally projecting shoulder 40' extending inwardly over the top edge of the bolt 13 for engagement of the underside of the said shoulder on the heel 42 provided on the top surface of the bolt 13, in order to hold the lever 37 in raised position against the spring 17, when the bolt 13 has been extended by the key for the lock 12.

Upon the return of the bolt 13 into normal unlocked position, the lever 37 will drop into normal position and release the spring 17, stud 15 and bar 31 therefor, and at the same time, the spring 20 will be released to move under its own tension upwardly, and thereby raise the stud 15 and the bar 30, out of locked position.

While I have shown and described one practical embodiment of my invention, it is to be understood, that I do not limit myself to the exact construction as set forth, but consider myself at liberty to make such changes and modifications, as fairly fall within the scope of the appended claim.

What I claim is:

In a three-way door lock, the combination with a keeper plate for fixed attachment to the jamb of a door opening, of a lock casing for mortised attachment to the edge of the door, a key operable bolt operatively mounted in the casing and adapted to engage with the keeper plate, vertical bolts mounted in the lock casing with very remote extremities positioned to penetrate into the upper and lower jambs of said door opening, yieldable means to which the adjacent ends of said vertical bolts are connected to retain the remote ends thereof from penetration into said upper and lower jambs, and gravity lever pivoted in said casing and having a heel in the path of the wing carried by the key for the purpose of actuating the lever, said lever having a lateral lug overlying the key operated bolt and provided with means engaging under the yieldable means of one of the vertical bolts for actuating it when the lever is tilted, the key operated bolt having means to ride under the lateral lug when the lever is tilted, and means on the lower edge of the key operated bolt for operating against the yieldable means of the other vertical bolt for actuating the latter into the lower jamb.

In testimony whereof I affix my signature.

STANLEY L. ORNOSKI.