

No. 742,876.

PATENTED NOV. 3, 1903.

J. E. KEVERLINE.
LOCK FOR DOUBLE DOORS.
APPLICATION FILED MAR. 23, 1903.

2 SHEETS—SHEET 1.

NO MODEL.

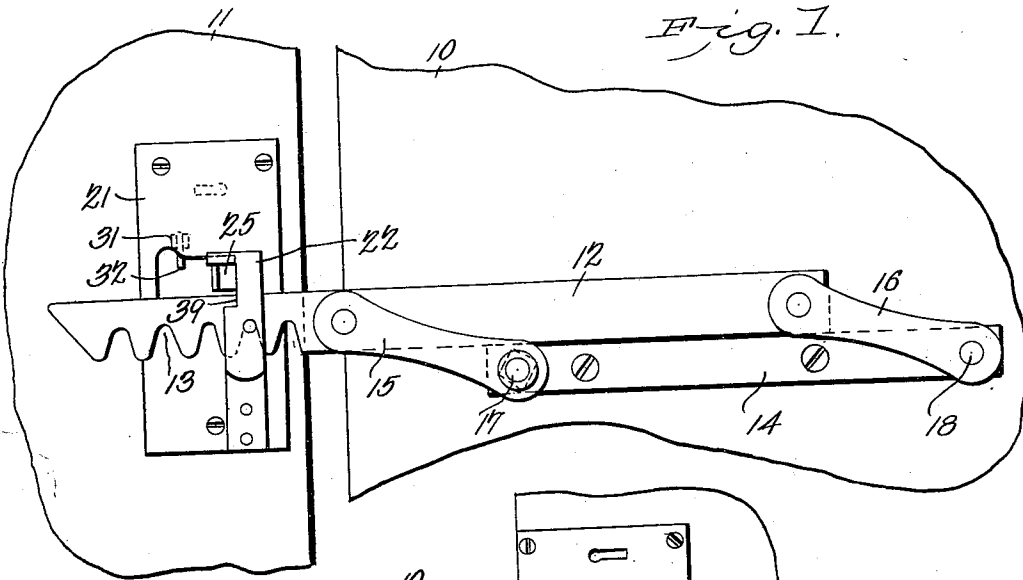


Fig. 1.

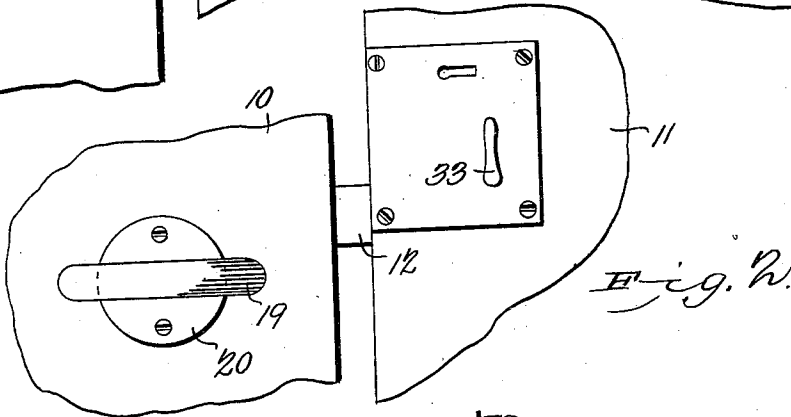


Fig. 2.

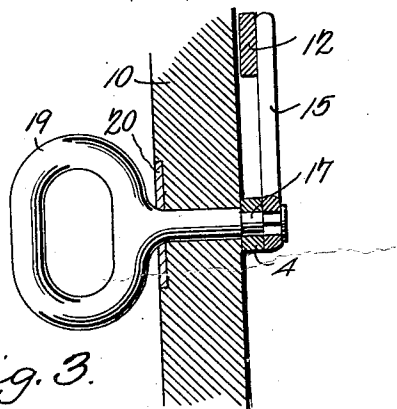


Fig. 3.

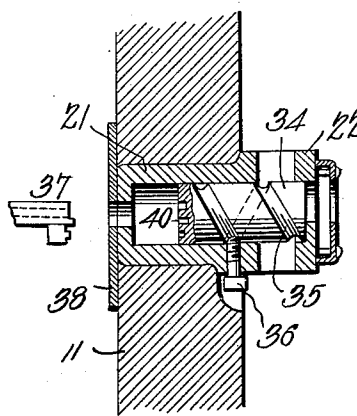
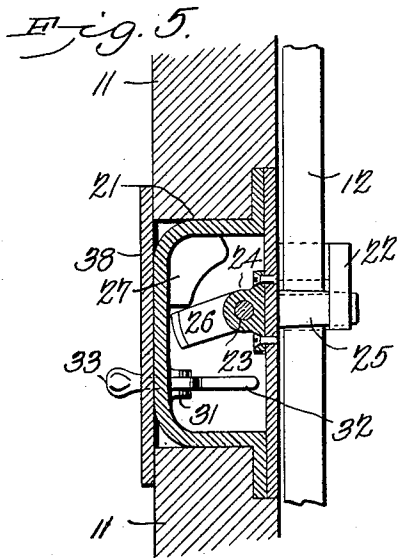
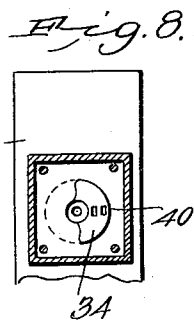
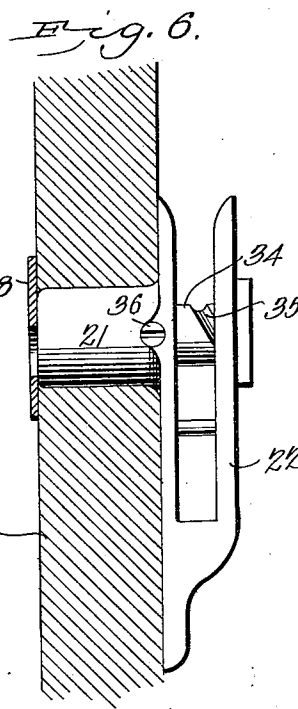
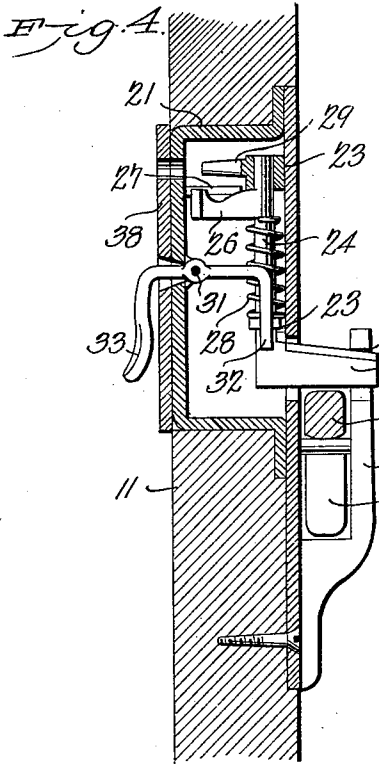
Witnesses
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOSEPH E. KEVERLINE, OF COALHILL, PENNSYLVANIA.

LOCK FOR DOUBLE DOORS.

SPECIFICATION forming part of Letters Patent No. 742,876, dated November 3, 1903.

Application filed March 23, 1903. Serial No. 149,194. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. KEVERLINE, a citizen of the United States, residing at Coalhill, in the county of Venango and State of Pennsylvania, have invented a new and useful Lock for Double Doors, of which the following is a specification.

This invention relates to door-locks, more particularly to locks employed for securing the large doors of barns, sheds, warehouses, and the like, either double or single, and has for its object to simplify and improve the locking means for closures of this class and to provide for securing the doors even when prevented from tightly closing from any cause, such as heaving or sagging of the doors or frames, the presence of ice or snow, or the accumulation of other obstructions; and the invention consists in certain novel features of construction, as hereinafter shown and described, and specified in the claims.

In the drawings illustrative of the invention, in which corresponding parts are denoted by like designating characters, Figure 1 is a side elevation from the interior of the adjacent portions of a pair of doors with the device applied, and Fig. 2 is an outside view of the same. Fig. 3 is a transverse section, enlarged, of the operating portion of the catch-bolt. Fig. 4 is an enlarged vertical sectional view, and Fig. 5 is an enlarged transverse section, of the lock mechanism. Fig. 6 is a side elevation, Fig. 7 is a transverse section, and Fig. 8 is a front view, partially in section, illustrating a modification in the lock mechanism.

The device may be applied to any of the various forms of sliding or swinging doors, either double, single, or folding, or mounted upon rollers above or below the doors, but is more particularly applicable to the large doors employed in barns, sheds, warehouses, shops, and like structures. The doors of such structures are generally double and movably supported by guide-rollers or suspension-pulleys, and for the purpose of illustration the improved device is shown applied to the adjacent edges of a pair of double doors; but while this is the preferable manner of employing the device it will be understood that I do not wish to be limited in any manner to any specific form of door or its adjacent parts,

but reserve the right to the use of the device in connection with any form of structure and in any locality to which it is adapted.

The door members are indicated at 10 11, respectively, and are generally formed of one thickness of ordinary lumber with suitable transverse cleats and supporting-braces; but as the form and arrangement of the cleats and braces are so well understood they are not illustrated.

The improved device comprises two parts—a catch member and a locking means upon one door or upon the jamb or casing adjacent to the door to be secured and a latch-bolt movably connected to the door to be secured and adapted to be projected into engagement with the catch member upon the other door. The movable latch-bolt is represented at 12 and will preferably be provided with a plurality of spaced recesses 13, as shown. Attached to the door 10 or 11, as the case may be, is a base-bar 14, having arms 15 16, pivotally connected at 17 18 at its ends, the arms likewise pivotally connected by their other ends to the bolt 12, as shown.

The pivot 17 is extended through the door to which the base-plate is attached and terminates in a handle 19, as shown, and in order to render the handle effective it is rigidly connected to the arm 15 by forming the pivot 17 square, as shown in Fig. 3. A guide-plate or "escutcheon" 20 preferably surrounds the bolt upon the exterior of the door. By this simple means it will be obvious that the free or recessed end of the bolt 12 may be projected beyond the edge of the door to which it is attached.

The combined catch and lock mechanism attached to the other door or to the adjacent jamb or frame consists of a casing 21, having a catch member 22 extending from one side in position to be engaged by one of the recesses 13 of the bolt 12 when the latter is projected by rotating the pivot-bolt 17 by the handle 19, the casing 21 adapted to be inserted through an aperture in the door or jamb or frame, as the case may be, and secured in place by suitable screws.

Within the casing 21 is mounted for oscillation, as by bearings 23, a lock-bolt 24, having one end 25 extensible above the bolt 12 and into a cavity 30 in the catch 22 and adapt-

ed to thereby lock the bolt 12 into engagement with the catch and with the other end 26 adapted to engage a stop 27 within the casing when the position of the bolt is reversed.

The lock-bolt is arranged with a slight longitudinal movement in its bearings and is provided with a spring 28, adapted to exert its force in two directions, one circumferentially of the bolt to maintain the end 25 yieldably in its projected position and the other longitudinally of the bolt to maintain the laterally-extended lug 26 on the bolt 24 in the rear of the stop 27, and thus hold the bolt in its withdrawn position.

Supported within the casing adjacent to the lug 26 of the lock-bolt is a key-supporting pin 29, over which a key is adapted to be operated, the "bits" of said key being adapted to engage the extended lug 26 and "throw" the lock-bolt into engagement with the stop 27.

Movably connected at 31 to the casing 21 is a trip-lever having one portion 32 resting above the path of the end 25 of the bolt and with other end 33 extending through the casing and within reach of the operator outside the door. By these simple arrangements it will be obvious that when the key is rotated its bits will engage the lug 26 and turn the bolt and force the free end of the lug 26 beneath the stop 27 and withdraw the end 25 into the casing and release the latch-bolt 12, the force of the spring 28 maintaining the lock-bolt in its withdrawn position by its longitudinal pressure upon the bolt. This leaves the locking mechanism in position to receive the latch-bolt 12 when the doors are again to be secured.

If the operator is inside the building, he merely throws the latch-bolt 12 over by hand until one of its recesses 13 engages the catch 22 and then pushes the end 25 of the lock-bolt 24 downward a short distance, which action releases the end 26 from the stop 27 and permits the spring 28 to rotate the lock-bolt and project the end 25 over the latch-bolt 12 and into the recess 39, as before.

If the operator is outside the building, he throws the bolt 12 by turning the handle 19 and then moves the outer end 33 of the trip-lever upward, which depresses the inner end 32 into engagement with the part 25 of the lock-bolt and moves the latter longitudinally and releases the lug 26 from the stop 27 and permits the spring 28 to throw the end 25 over the latch-bolt above the catch 22 and into the recess 39, as before. By this means the device may be operated from either inside or outside the door and can be opened only from the outside by means of the key. Thus the doors can be very securely fastened and secured.

If for any reason the doors do not engage closely by their adjacent edges, the plurality of the recesses 13 will permit the latch-bolt to be securely connected with the locking means under such circumstances.

In Figs. 6, 7, and 8 is shown a modification in the manner of forming the combined catch and lock mechanism, consisting in forming the lock-bolt cylindrical, as at 34, and mounting it to be moved transversely of the lock-casing 21 and projected above the catch 22, the lock-bolt having a spiral groove 35 engaging a pin 36, so that the rotation of the bolt will cause it to be moved longitudinally, as will be obvious.

The ends of the lock-bolt 34 are provided with recesses 40, with which the key (indicated at 37) is adapted to engage, the recesses on the bolt and the bits of the key so corresponding that only the proper key will fit and operate the bolt. By this means the lock-bolt can be operated only by a key, which modification may be required under some circumstances.

The lock-casing aperture will be covered by a guard-plate 38, which is also provided with a keyhole and an aperture for the end 33 of the trip-lever.

Having thus described the invention, what I claim is—

1. A door-lock comprising a latch-bolt adapted to be projected from a door, a catch member connected to the opposite door or to the adjacent jamb or casing and with which said projected latch-bolt engages, and a lock-bolt connected to the door adjacent to and adapted to be extended into engagement with said projected latch-bolt, means operative for yieldably supporting said locking-bolt out of action, and trip means operative exteriorly of the door for releasing said lock-bolt, substantially as described.

2. A door-lock comprising a latch-bolt adapted to be projected from a door, a catch member connected to the opposite door or to the adjacent jamb or casing and with which said projected latch-bolt engages, and a lock-bolt connected to the door adjacent to and adapted to be extended into engagement with said projected latch-bolt, a spring disposed to maintain said lock-bolt yieldably in its projected position, and a trip means operative from the exterior of the door for releasing said lock-bolt, substantially as described.

3. A door-lock comprising a latch-bolt adapted to be projected from a door, a catch member connected to the opposite door or to the adjacent jamb or casing and with which said projected latch-bolt engages, a stop and a lock-bolt movably connected to the door adjacent to said projected latch-bolt and having one end extended to project thereover, and with other end extended to engage said stop when the bolt is withdrawn, a spring disposed to maintain said bolt yieldably in operative position, and likewise in yieldable engagement with said stop when the bolt is withdrawn, substantially as described.

4. A door-lock comprising a latch-bolt adapted to be projected from a door, a catch member connected to the opposite door or to the adjacent jamb or casing and with which

said projected latch-bolt engages, a stop and a lock-bolt movably connected to the door adjacent to said projected latch-bolt and having one end extended to project thereover, and with the other end adapted to engage said stop when the bolt is withdrawn, a spring disposed to maintain said lock-bolt yieldably in operative position, and a trip-lever adapted to detach said bolt from said stop and thereby release it for engagement with said projected latch-bolt, substantially as described.

5. A door-lock comprising a latch-bolt adapted to be projected from a door, a catch member connected to the opposite door or to the adjacent jamb or casing and with which said projected latch-bolt engages, a lock-casing adjacent to said catch member or stop carried by said casing, a lock-bolt movably mounted in said casing and adapted to be projected at one end to lock said projected latch-bolt into engagement with said catch member, and with the other end adapted to engage said stop when the lock-bolt is withdrawn, means for yieldably supporting said lock-bolt out of action, and a trip-lever carried by said lock-casing and adapted to release said lock-bolt from said stop, substantially as described.

6. In a door-lock, a catch member adapted to support a projected latch-bolt, a lock-casing adjacent to said catch, a stop, a spring-operated lock-bolt mounted for oscillation in said casing and having one end adapted for projection across said projected latch-bolt, and with the other end adapted to engage said stop when said bolt is withdrawn, a key disposed to actuate said bolt into engagement with said stop, and a trip-lever carried by said lock-casing and adapted to release said lock-bolt from said stop, substantially as described.

7. In a lock for double doors, a casing adapted to be inserted through an aperture in one door and having a catch member extending from one side, a latch-bolt projecting from

the other door into engagement with said catch member, a stop carried by said casing, a lock-bolt yieldably supported in said casing with one end extensible across said projected latch-bolt and with the other end extensible in the rear of said stop when the lock-bolt is withdrawn, a key disposed to withdraw said bolt, a trip-lever carried by said casing and operative to release said bolt from said stop, and a guard-plate forming a closure to said casing-aperture, and likewise a support for said key and trip-lever, substantially as described.

8. In a door-lock, a catch member upon one door or upon the adjacent jamb or casing, a latch-bolt connected to the other door by spaced pivoted arms and adapted to be projected with its free end into engagement with said catch member, means operative from the exterior of the door for operating said movable latch-bolt, a lock-bolt adapted to be extended into engagement with said projected latch-bolt, and means operative by a key from the exterior for withdrawing said lock-bolt, substantially as described.

9. In a door-lock, a catch member upon one door or upon the adjacent jamb or casing, a latch-bolt connected to the other door by spaced pivoted arms and adapted to be projected with its free end into engagement with said catch member, a turn-bolt connected to one of the pivots of said spaced arms and operative exteriorly of the door to "throw" said projected latch-bolt, a lock-bolt adapted for extension into engagement with said projected latch-bolt, and means operative by a key for withdrawing said lock-bolt, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH E. KEVERLINE.

Witnesses:

M. M. POWELL,
W. W. POWELL.