W. E. DEIBERT.

CYLINDER LOCK.

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1,343,438.

Patented June 15, 1920.

Fig. 1.

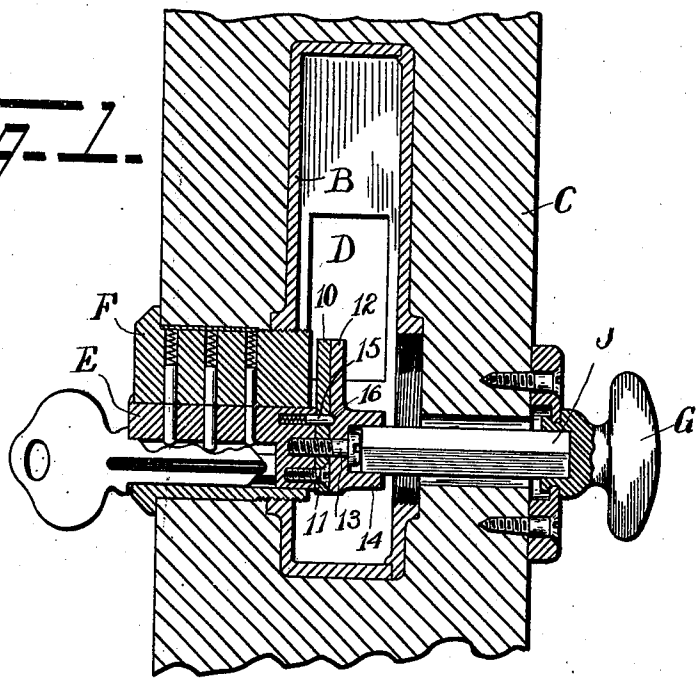


Fig. 2.

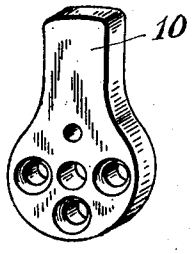
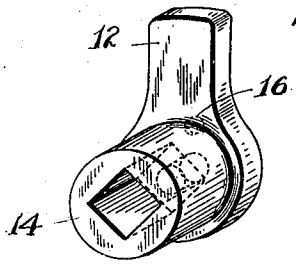


Fig. 3.



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CYLINDER-LOCK.

1,343,438. Specification of Letters Patent. Patented June 15, 1920.

Application filed November 17, 1919. Serial No. 338,741.

To all whom it may concern:

Be it known that I, WILLIAM E. DEIBERT, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Cylinder-Locks, of which the following is a specification.

My invention relates particularly to cylinder door locks in which a single key barrel is employed in connection with separate means for operating the same bolt from the other side of the door.

A turn knob and spindle have been commonly employed heretofore in cylinder locks, for operating the bolt from the inner side of the door. My invention provides for simplifying and improving the construction, assembling, application, and operation of such locks as hereinafter fully described in connection with the accompanying drawing, and the novel features thereof being specifically pointed out in the subjoined claims.

Figure 1 is a vertical sectional view indicating an applied lock embodying my invention, the bolt being omitted.

Figs. 2 and 3 are enlarged perspective detail views respectively of the two bolt-arms which are differently carried by the key barrel.

B, indicates an ordinary mortise lock casing, set into the door C, an opening D, being shown therein for the passage of the bolt which is operated in well known manner by a key barrel E, mounted in a tumbler cylinder F, secured to the casing. A turn knob G, having a spindle J, is shown extending oppositely into the casing to provide for operating the bolt independently of the key barrel.

My invention consists in providing improved means for effecting the operation of the bolt by the knob spindle J; the main object thereof being to avoid the use of a separate bolt-throwing device for such purpose, and to insure that the independent operation of the bolt from the inner side of the door shall in no case interfere with its operation by the key barrel, or vice versa. The essential feature of the invention consists in providing the key barrel with two bolt-throwing arms, one only of which is operative with said barrel to throw the bolt, and the other of which is independently operable by said knob spindle for the same purpose; the second arm being also adapted to be automatically moved by the key barrel as may be required to release the bolt for operation by the latter.

The key operated bolt-throwing arm 10, as indicated, is a separately formed part rigidly secured to the inner end of the key barrel E, by means of screws 11, 11, and projecting radially therefrom to operatively engage the bolt as usual. The knob-operated bolt-throwing arm 12, is a similar separately formed part which is pivotally connected to the barrel by a headed axially projecting pin 13, so as to swing past the fixed arm 10, in close proximity to the latter.

This pivoted arm 12, of the barrel is provided as shown, with a hollow hub 14, adapted to be engaged by the inner end of the spindle J, so as to cause said arm to rotate with the latter for operating the bolt independently of the key barrel; the arm 12, though secured to the barrel, thus becoming an operative part of the knob spindle in the assembled structure.

To provide for insuring satisfactory operation of the bolt it is important to prevent possible interference of the two bolt-throwing means provided. To this end I provide for automatically carrying the pivoted bolt-throwing arm 12, of the barrel with the fixed arm 10, thereof, sufficiently to insure the non-interfering positioning of the latter preliminary to the desired bolt-throwing action; this being accomplished, by providing frictional engagement between the arms when they are in corresponding radial position, by means of a spring-pressed pin 15, having a tapered end adapted to enter a recess 16, in the loose arm as indicated.

My construction provides for use of the lock for either right or left swinging doors without requiring any reversing of the lock mechanism or employment of additional knob-throwing attachments. The key barrel E, carrying both the key actuated throw arm 10, and knob-operated arm 12, may be inserted from either side of the door without change in the lock mechanism arrangement, which not only simplifies its application to a door but prevents unsatisfactory lock operation due to heretofore required readjustment of the lock mechanism by inexpert operators. The parts may now be made up in unchanged units to be readily assembled in the door, placing the key cylinder on either side as desired. The frictional en-

gagement of the arms 10 and 12, prevents the unintentional locking of the door by a half turned position of the knob-spindle which has heretofore been the case in separately controlled bolt-opening arms, my improved construction providing for engaging the half thrown arm 12, by the turning of the arm 10, and thereafter moving them together to throw the bolt. The construction is simple and cheap to manufacture, and permits of unitary structure for ready and easy assembly without inexperienced rearrangement of the more or less delicate lock mechanism, and in operation is positive and effective under all circumstances for either operation by the key or the inside knob.

What I claim is:—

1. In a cylinder lock, a key barrel, an axially recessed bolt-throwing arm independently rotative upon the barrel axis, and an axially alined independently operative spindle arranged to enter and rotatively engage said recessed arm.

2. In a cylinder lock, a key barrel having one bolt-throwing arm fixedly rotative therewith and another pivotally carried thereby, and means for independently operating said pivotally carried arm; said arm being frictionally engaged when in determined radial relation.

3. In a cylinder lock, a key barrel having one bolt-throwing arm fixedly rotative therewith and another independently rotative upon the barrel axis, said arms being frictionally engaged when in determined radial relation, and means for separately operating said independently rotative arm.

4. In a cylinder lock, a key barrel having one bolt-throwing arm fixedly rotative therewith and another independently rotative upon the barrel axis, and an axially alined knob spindle rotatively engaging said independently rotative arm.

5. In a cylinder lock, a key barrel having one bolt-throwing arm fixedly rotative therewith and another independently rotative upon the barrel axis, said arms being frictionally engaged when in determined radial relation, and an axially alined thumb-knob spindle rotatively engaging said independently rotative arm.

In testimony whereof I affix my signature.

WILLIAM E. DEIBERT.