G. E. CLEAVER.

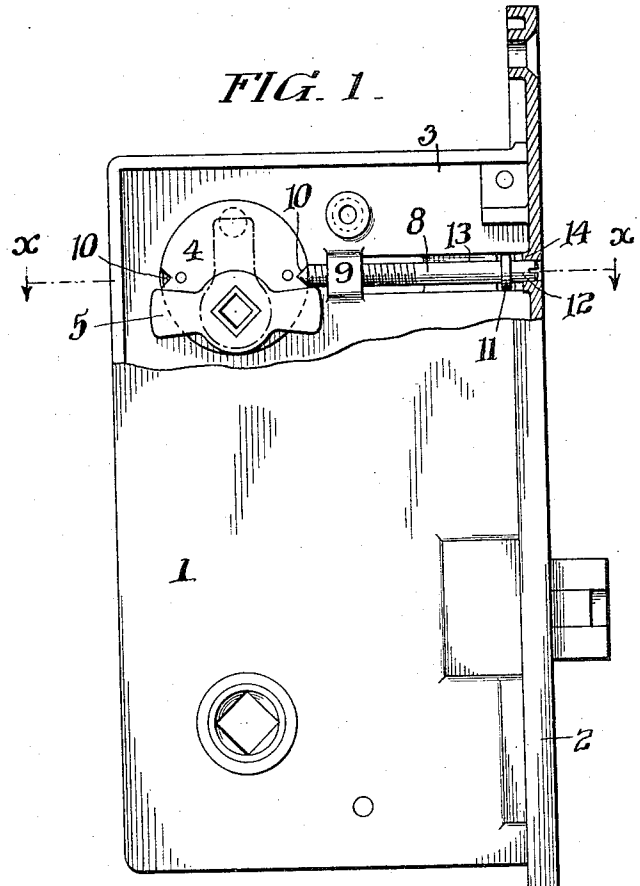
LOCK MECHANISM.

APPLICATION FILED FEB. 25, 1914.

1,122,862.

Patented Dec. 29, 1914.

FIG. 1.



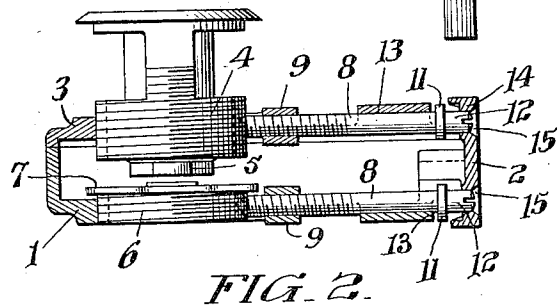


FIG. 2.

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UNITED STATES PATENT OFFICE.

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LOCK MECHANISM.

1,122,862. Specification of Letters Patent. Patented Dec. 29, 1914.

Original application filed March 24, 1913, Serial No. 756,366. Divided and this application filed February 25, 1914. Serial No. 820,836.

To all whom it may concern:

Be it known that I, GEORGE E. CLEAVER, a citizen of the United States, and resident of Reading, county of Berks, and State of Pennsylvania, have invented an Improvement in Lock Mechanism, of which the following is a specification.

My invention relates to improvements in locks, and the present application is filed as a division of application Serial No. 756,366, filed March 24th, 1913.

The invention has for an object to provide an effective means for holding the key cylinder, or the turn-knob cylinder, or both, against rotation when once adjusted in the case, and which cannot become detached or disconnected from their coöperating adjuncts.

My improvement will be described with reference to the accompanying drawings, which illustrate my invention in its preferred form, while the features of construction and combination of parts adapted for carrying out the invention in an effective manner will be fully set forth hereinafter, and more particularly defined in the claims.

Referring to the drawings: Figure 1 represents a side elevation of the lock proper with a portion of the case and the turn knob cylinder removed to more adequately illustrate the invention; and Fig. 2 represents a transverse section of my improved mechanism taken on line *x*—*x* of Fig. 1.

Similar numerals of reference indicate corresponding parts.

1 designates the box portion of the lock case which, as generally arranged, is secured to the front plate 2 and is provided with a removable cover plate 3 by which access is had to the mechanism contained within the case, and by which said mechanism is protected when the lock is in use.

4 designates the key cylinder, which may be of any suitable construction, adapted for threaded engagement with the side or cover plate 3 and provided as usual with the operating cam 5 at its inner end, by means of which certain parts, comprising the dead bolt and latch bolt of the lock, are operated. Juxtaposed and in alinement with respect to the key cylinder and threaded into the opposite side plate of the case 1 is the unit turn knob cylinder 6 provided with a cam 7 for coöperation with similar parts of the operating mechanism actuated by the key cylinder. It will be noted that as both the cylinders 4 and 6 have threaded engagement with their supporting parts of the case, provision is made for adjusting the cylinders in proper relation to the elements respectively controlled thereby, and in the case of the key cylinder to the thickness of the floor.

As both the key cylinder 4 and turn hub cylinder 6 are required to be held against rotation after they have once been properly adjusted, I provide in the present instance set screws 8 of substantial length for this purpose, each of which is adapted to engage one of the cylinders and lock the same against movement. Furthermore it will be noted that these screws are so constructed and arranged with respect to the case in which they are mounted as to prevent their becoming disengaged accidentally, or otherwise, or removed from the case and lost. In the construction shown, the set screws 8 are screwed through threaded portions 9 on the respective parts 1 and 3, and are provided with pointed ends to engage suitable V-shaped notches 10 in the respective cylinders.

11 designates a collar with which each of the screws 8 is provided and which are located respectively adjacent the slotted ends 12 of the screws, but at a suitable distance therefrom to provide sufficient clearance for the proper movement of the screws for locking or unlocking engagement with the cylinders. Furthermore, the respective collers 11 are interposed between the shoulders 13 and 14, the former forming a part of the casing while the latter are formed upon the front plate 2, though it will be noted there is sufficient clearance at each side of the respective collars to permit of the desired movement of the screws in their adjustment. The ends 12 of the screws 8 extend into holes or apertures 15 in the front plate 2 so that a suitable implement may be inserted to rotate them into or out of engagement with the respective cylinders. Thus, while either or both screws may be operated for releasing the cylinders, or for locking them against rotation, the longitudinal movement of the screws is limited by the engagement of the collars 11 with one or the other of the abutments 13 and 14, and therefore it is not possible, in assembled condition of the

parts, for either of the set screws to travel out of the aperture 15 in either direction of movement. This construction effectively precludes either of the set screws from becoming disengaged from their coacting elements and dropping down inside of the case, as well as preventing their removal from the assembled lock and becoming lost.

It will now be seen that I have provided a complete unitary structure embodying set screws for respectively locking the key cylinder and the turn-knob cylinder of a lock, wherein in assembled condition of the parts the aforesaid set screws are positively contained in non-removable association with the casing and may, while being adapted to be actuated from the exterior of the casing, lock or release the cylinder which they control.

It will now be apparent that I have devised a novel and useful construction which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and I have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a lock, a case having a screw threaded hole parallel to and in its side, an end plate for said case and having a guide hole in alinement with the screw threaded hole, combined with a cylindrical part containing means for operating the lock mechanism secured through the side of the case in alinement with the hole in the case and the guide hole in the end plate, a long set screw extending through said holes for holding the cylindrical part from rotation, a collar carried by said set screw adjacent said end plate, an abutment formed on said end plate and terminating adjacent said collar to limit the movement of said screw in the direction of said end plate, and an abutment on said case on the opposite side of said collar from said end plate and located in the path of movement of said collar to limit the movement of said set screw in a direction away from said end plate whereby said set screw may be moved to operatively engage said cylindrical part, but is prevented from disengagement from either said screw threaded hole or said guide hole.

2. In a lock, a case having a removable end plate, combined with turn knob and key cylinders respectively screwed into the opposite sides of the case, and two long set screws screwed into the sides of the case to respectively engage the cylinders to hold them against turning, said set screws having their ends in alinement with the holes in the end plate and having collars arranged between the end plate and sides of the case with freedom of longitudinal movement, whereby said set screws have only a limited movement through the end plate and are held against accidental disengagement.

In testimony of which invention, I hereunto set my hand.

GEORGE E. CLEAVER.

Witnesses:
SARA G. RHOADS,
ANNA E. RHOADS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."