Feb. 27, 1923. 1,446,632

A. H. BACON

LOCK

Filed Dec. 12, 1921

Fig. 1.

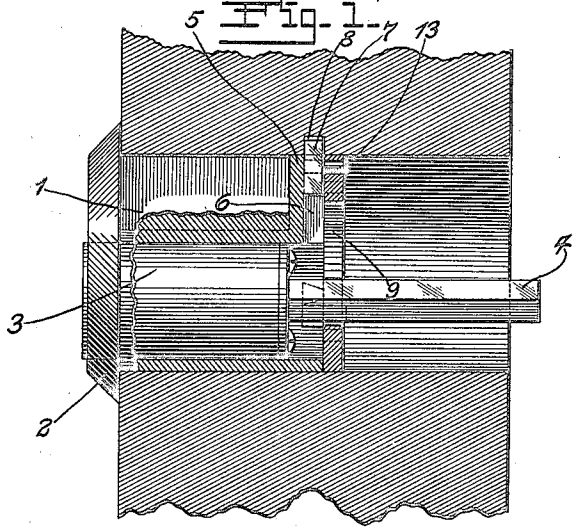


Fig. 2.

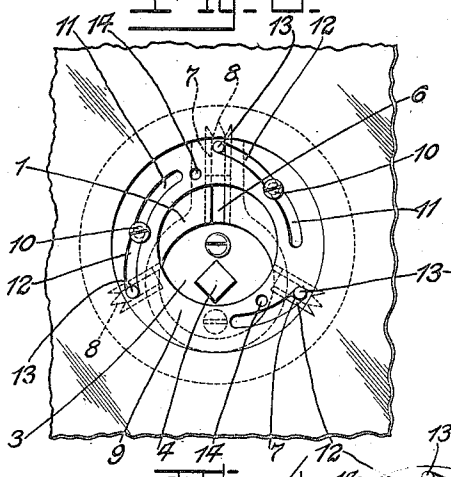


Fig. 3.

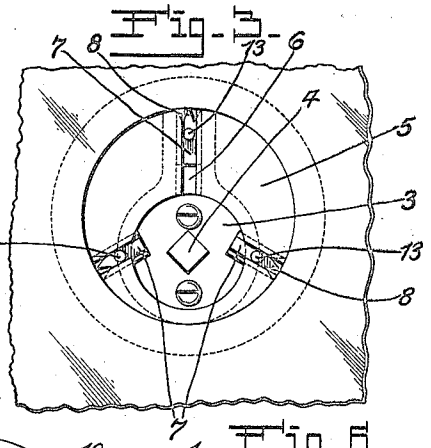


Fig. 4.

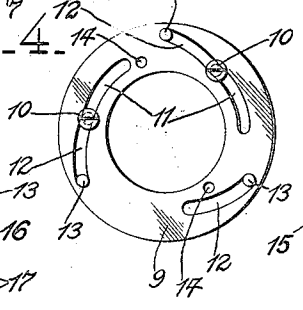


Fig. 5.

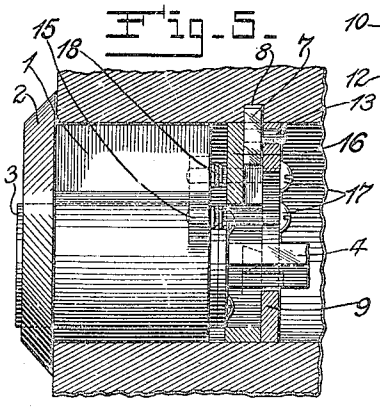
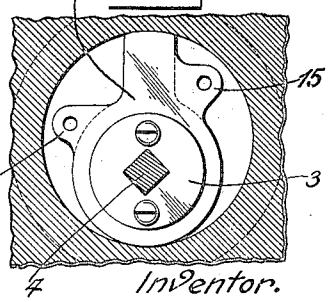


Fig. 6.



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His Attorneys.

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UNITED STATES PATENT OFFICE.

ALLAN H. BACON, OF ST. LOUIS, MISSOURI.

LOCK.

Application filed December 12, 1921. Serial No. 521,578.

To all whom it may concern:

Be it known that I, ALLAN H. BACON, a citizen of the United States, residing at the city of St. Louis and State of Missouri, have invented a new and useful Lock, of which the following is a specification.

This invention relates to locks.

An object of the invention is to provide improved means for securing a lock or other part in proper position for use.

Other objects will appear from the following description, reference being made to the drawing, in which

Fig. 1 is a view partly in section showing one embodiment of the invention.

Fig. 2 is an inner end elevation of the device.

Fig. 3 is an end view of the lock with the actuator for the fasteners removed.

Fig. 4 is a view showing the fastener actuator detached from the lock.

Fig. 5 is a view showing a modification of the invention.

Fig. 6 is a view showing other features of the modification shown in Fig. 5.

The lock in connection with which the present invention is shown for purposes of illustration, is a well known construction comprising a supporting part 1 arranged to fit within a hole or recess in a door or the like, and having an escutcheon 2 on its outer end. A barrel 3 is rotated within the support 1 and is controlled by the usual mechanism, not shown. An actuating element 4 extends axially through the rotated barrel 3.

It will be seen that it is necessary to retain the lock cylinder in position in order to make it effective. Different expedients have been used heretofore for this purpose, sometimes involving the use of screws which are difficult of application. The present invention dispenses with the use of screws for fastening the lock cylinder in position and overcomes the difficulties heretofore encountered.

In the embodiment shown in Fig. 1, the supporting part 1 of the lock is provided with a rigid disc 5 having a number or radial grooves 6 that may be of the familiar dove-tail construction as shown. Within each of the grooves 6 a radially movable retainer 7 is operatively mounted, the same having pointed or serrated outer extremities 8 to be embedded in the wood in which the lock cylinder is mounted. An actuator device for the retainers 7 is provided, the same comprising a ring 9 rotatively connected with the disc 5 by means of screws 10 passing through arcuate slots 11 in the ring 9 and engaging within said disc 5. The slots 11 are concentric with the ring 9.

The ring 9 is also provided with cam slots 12 which receive lugs 13 extending from the retainers 7 respectively. Thus it is apparent that by turning the ring 9 the retainers 7 will be moved radially, inwardly or outwardly, depending upon the direction in which the ring is turned. It is apparent that by turning the ring 9 in the proper direction the retainers 7 will be moved outwardly and forced into the wood in which the lock cylinder is mounted, thus securely holding the lock in position. Should it be desired to remove the lock it is only necessary to turn the ring 9 in the opposite direction to withdraw the retainers 7 from the wood, thereby leaving the lock free for removal. The ring 9 may be actuated by any appropriate device, such for instance, as a spanner wrench, and for that purpose is provided with holes 14 for engagement with the wrench.

After the retainers 7 have been forced into the wood the screws 10 may be tightened to prevent accidental displacement or loosening of the parts.

In the embodiment of the invention shown in Figs. 5 and 6, the lock supporting part 1 is formed with a number of projections 15 having threaded holes therethrough. A separate non-rotative disc 16 is provided to support retainers 7 and is formed with unthreaded holes adapted to be alined with the threaded holes in the projections 15. In this construction the screws 17 take the place of the screws 10. Springs 18 may be located between the projections 15 and the disc 16 to actuate said disc in a direction away from the lock device.

In mounting the lock cylinder shown in Figs. 5 and 6 the screws 17 are loosened without disconnecting them from the projections 15, thereby permitting the springs 18 to actuate the disc 16 away from the lock device. The lock cylinder is then placed in position in the hole in which it is to be mounted, after which the ring 9 is turned to force the retainers 7 into the wood. After the retainers have been forced into the wood the screws 17 are tightened, thereby drawing the lock cylinder into tight engagement with the door.

From the foregoing it is apparent that my invention obtains all of its intended objects and purposes. It avoids many of the objections encountered in securing locks of different construction in position and may be easily and conveniently mounted. I am aware that there may be many variations in the construction and arrangement of the parts without departing from the nature and principle of the invention. I do not restrict myself to the exact construction and arrangement shown or otherwise, except as set forth in the appended claims.

What I claim and desire to secure by Letters Patent is:—

1. The combination with a lock cylinder, of a number of radially movable retainers supported by the cylinder for radial movements at right angles to the axis of the cylinder, a ring supported for turning movements on the cylinder, and connections between said ring and all of said retainers whereby turning movement of said ring in one direction will move all of the retainers outwardly and turning movement of the ring in the opposite direction will move all of the retainers inwardly.

2. The combination with a lock cylinder adapted to be mounted within a support, of a number of radially movable retainers in connection with the cylinder, a rotary ring at the inner end of the cylinder, means for retaining the ring in connection with the cylinder, and elements connecting said retainers and said ring whereby turning movement of said ring in one direction will move the retainers outwardly into engagement with the support and turning movement of the ring in the opposite direction will move the retainers out of engagement with the support.

3. The combination with a lock cylinder adapted to be mounted within a support, of a number of radially movable retainers in connection with the cylinder, a rotary ring having eccentric slots therein, lugs on the retainers engaging in said slots respectively, and means for holding the ring in connection with the cylinder.

4. The combination with a lock cylinder adapted to be mounted within a support and having radial grooves at its inner end, of a number of radially movable retainers mounted in each of said grooves, a rotary ring having eccentric slots therein, lugs on said retainers extending into said eccentric slots respectively, and removable elements holding said ring in connection with said cylinder.

5. The combination with a lock cylinder adapted to be mounted in a support, of a number of radially movable retainers in connection with the cylinder for engaging the support to prevent withdrawal of the cylinder from the support, a device for actuating the retainers radially to engage the support to prevent withdrawal of the cylinder from the support, and means for drawing the cylinder into the support after the retainers have been engaged in the support.

6. The combination with a lock cylinder adapted to be mounted in a support, of a number of radially movable retainers having sliding engagement with said cylinder, a rotary ring having slots therein portions of which are eccentric and portions of which are concentric with respect to the center of the ring, elements extending through the concentric portions of said slots and engaging the cylinder to hold the ring in connection with the cylinder and to permit turning movements of the ring, and lugs in connection with said retainers extending into the eccentric portions of said slots for moving the retainers radially when the ring is turned.

7. The combination with a lock cylinder, of a supporting member in connection therewith, a number of radially movable retainers guided by said supporting member, a rotary element engaging said retainers, construction whereby the rotary movement of said element will move the retainers radially, and devices for holding said rotary element in proper position.

8. The combination with a lock cylinder, of a support in connection with the cylinder, radially movable retainers guided by said support, a ring having eccentric slots, projections on said retainers engaging in said slots whereby when said ring is turned the retainers will be moved radially, and screws passing through said ring and through said support and engaging with the cylinder.

9. The combination with a cylinder, of a support in connection with the cylinder, radially movable retainers guided by said support, a ring having eccentric slots, projections on said retainers engaging in said slots whereby when said ring is turned the retainers will be moved radially, screws passing through said ring and through said support and engaging with the cylinder, and springs interposed between said support and the cylinder arranged to actuate the support in a direction away from the cylinder.

ALLAN H. BACON.