Nov. 29, 1932. J. H. SHAW 1,889,454

LOCK

Filed June 20, 1930

Fig. 1.

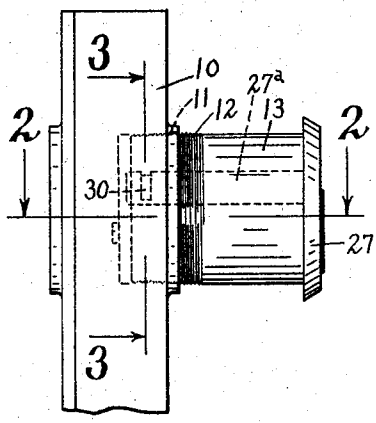


Fig. 2.

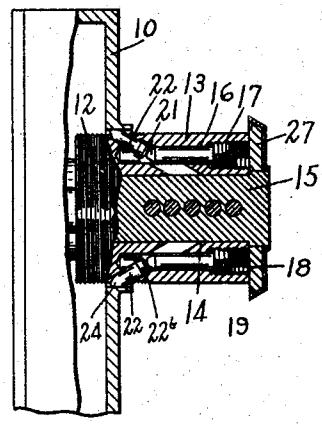


Fig. 3.

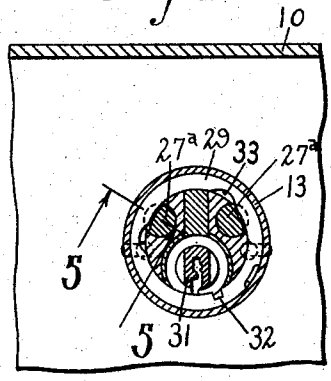


Fig. 4.

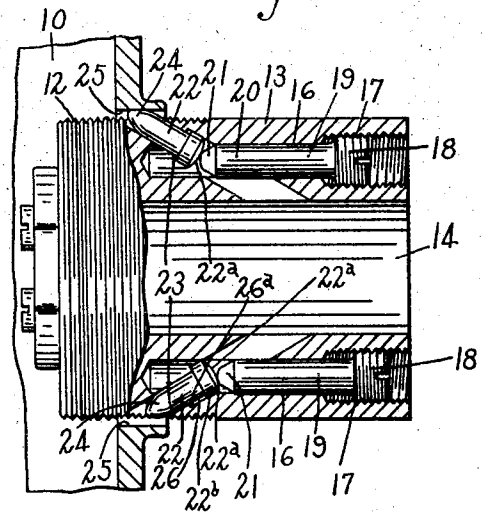
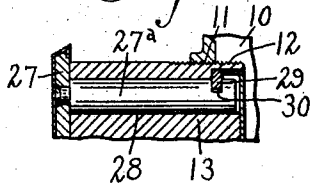


Fig. 5.



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UNITED STATES PATENT OFFICE

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LOCK

Application filed June 20, 1930. Serial No. 462,627.

My invention relates to a lock and more especially to an arrangement for securing a cylinder lock or the like immovably in place in a casing or other part of a locking mechanism.

Cylinder locks and the like, are ordinarily provided with threaded surfaces by means of which they may be screwed into threaded openings in a casing or other part of a locking mechanism, the cylinder locks being held against detachment by one or more set screws mounted in the locking mechanism and bearing against the outer surface of the cylinder lock casing. The heads of these set screws are usually covered by face plates or other parts of the locking mechanism, so that it is necessary to dismantle the locking mechanism to a considerable extent before the cylinder lock may be removed.

It is, in general, an object of the present invention to bring about an improved arrangement for securing a cylinder lock or the like on a locking mechanism.

Another object of the invention is to bring about an improved arrangement for securing a cylinder lock on the locking mechanism, in which the securing means may become readily accessible without dismantling any of the parts of the locking mechanism to which the cylinder lock is attached.

In a more specific aspect, the invention relates to an arrangement wherein the securing means is carried for the most part, if not entirely, on the cylinder lock and may be made readily accessible by dismounting certain of the parts of the cylinder lock.

A further object of the invention is to provide an arrangement having the above characteristics in which the dismounting of the parts of the cylinder lock is controlled by a key inserted in the mechanism of the cylinder lock.

To these and other ends, the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the drawing:

Fig. 1 is a side view of a portion of a locking mechanism having a cylinder lock attached thereto;

Fig. 2 is a cross-sectional view along line 2—2 of Fig. 1;

Fig. 3 is a cross-sectional view along line 3—3 of Fig. 1;

Fig. 4 is a view similar to Fig. 2 but on an enlarged scale, and

Fig. 5 is a sectional view along line 5—5 of Fig. 3.

Referring to the drawing in which I have illustrated my invention by showing a preferred embodiment of the same, the reference numeral 10 indicates the casing of a locking mechanism which is provided with a threaded opening 11, in which a threaded end 12 of a cylinder lock shell or casing 13 is received. Cylinder lock casing 13 is provided with an axially directed bore 14 for the reception of core 15 and one or more axially directed openings 16, counterbored and threaded at 17 for the reception of the enlarged threaded heads 18, of screws 19, the latter being provided with elongated cylindrical stems 20 received in openings 16 and having conical rounded ends 21 engaging plugs 22, mounted in openings 23, diagonally intersecting openings 16 and extendng from bore 14 toward and through the threaded surface 12 intermediate the length of the threaded portion thereof. Plugs 22 are rounded at their inner ends as at 22^a, for engagement with the conical rounded ends 21 of screws 19, and at their outer ends are provided with conical points 24, adapted to be seated in axially directed slots 25 in the threaded opening 11 of casing 10. The openings 23 in cylinder lock casing 13, are counterbored at 26, for the reception of the enlarged plug heads 22^b, which engage the shoulders 26^a to limit the amount the plugs 22 may protrude from casing 13, and to prevent the plugs 22 from falling out of the openings 23 when the cylinder lock is separated from casing 10.

The exposed ends of openings 17 are covered by face plate 27 when the cylinder lock is assembled on casing 10, the face plate 27 being held on casing 13 in any convenient manner, as for example, that described and claimed in my co-pending application for a cylinder lock, Serial No. 318,449, filed November 10, 1928, and comprising a pair of

studs 27ª, secured to face plate 27 and passing through openings 28 in casing 13, studs 27ª being normally held against detachment from casing 13 by means of locking ring 29, which engages in notches 30 in the inner ends of studs 27ª.

The core 15 is provided with a pin tumbler mechanism and a key plug 31 in which a suitable key may be received, the plug 31 being rotated to bring the end of the key opposite the notch 32 in ring 29, whereupon the end of the key may be inserted in the notch 32 and the ring 29 rotated with the key to bring the notches 33 opposite the ends of studs 27ª, whereupon the latter and the face plate may be removed from the cylinder lock casing 13 to expose the ends of openings 17.

In assembling the cylinder lock on the locking mechanism, the face plate 27 is removed from the shell 13 and the screws 19 threaded outwardly a sufficient distance to bring the ends of the plugs 22 below the threaded surface of the shell 13, whereupon the latter is threaded into the opening 11 to the desired depth, the ends 24 of plugs 22 being opposite the notches 25 in casing 10. The screws 19 are engaged by a screw-driver or other suitable tool, and upon being threaded inwardly engage the rounded ends 22*a* of plugs 22 to force the latter outwardly into tight engagement with the notches 25 in casing 10, whereupon the shell 13 is securely held against detachment from casing 10. The studs 27ª are inserted in openings 28 and ring 29 rotated by means of a suitable key received in notch 32 to lock the studs 27ª and face plate 27 against detachment from the cylinder lock casing, whereupon the key may be withdrawn.

It will be readily understood from the above description of my invention that I have provided a relatively simple arrangement for securing a cylinder lock or the like to a locking mechanism, wherein it is unnecessary to disassemble any of the parts of the locking mechanism in order to detach the cylinder lock, the separation of the latter from the locking mechanism being under the control of a key which is received in the cylinder lock.

While I have shown and described a preferred embodiment of my invention, it will be understood that it is not to be limited to all of the details shown, but is capable of modification and variation within the spirit of the invention and within the scope of the appended claims.

What I claim is:

1. In a cylinder lock having a casing shaped to be received within an opening in a locking mechanism, a lock core in said casing, a face plate mounted on said casing and securing the core therein, said face plate being separable from said casing independently of the core, means in the casing adapted to engage the locking mechanism to secure the casing against movement in the opening, said means being accessible on removal of the face plate from the cylinder lock while the core remains in the casing.

2. In a cylinder lock having a casing shaped to be received within an opening in a locking mechanism, a lock core in said casing, a face plate mounted on said casing and securing the core therein, said face plate being separable from said casing independently of the core, means in the casing adapted to engage the locking mechanism to secure the casing against movement in the opening, the removal of the face plate being controlled by a key inserted in the cylinder lock, and said means being accessible upon removal of said face plate while the core remains in the casing.

3. In a cylinder lock having a casing shaped to be received within an opening in a locking mechanism, the combination of means in the casing extending generally transversely thereof and adapted to engage the locking mechanism to secure the casing against movement in the opening, and a screw extending axially through the casing from the outer end thereof and engaging said means to force the latter into engagement with the locking mechanism.

4. In a cylinder lock having a threaded surface adapted to be received in a threaded opening in a locking mechanism, the combination of a face plate for the cylinder lock, a core for said lock, the face plate being removable while the core remains in the lock, and means exposed upon removal of the face plate for holding the cylinder lock against movement in the threaded opening in the locking mechanism.

5. In a cylinder lock having a threaded surface adapted to be received in a threaded opening in a locking mechanism, a transversely extending opening, a plug mounted in said opening and adapted to engage the locking mechanism to prevent movement of the cylinder lock in the threaded opening, a face plate for said cylinder lock, and means exposed upon removal of said face plate and engaging said plug to force the latter outwardly through the opening into engagement with the locking mechanism.

6. In a cylinder lock having a threaded surface adapted to be received in a threaded opening in a locking mechanism, a transversely extending opening, a plug mounted in said opening and adapted to engage the locking mechanism to prevent movement of the cylinder lock in the threaded opening, a face plate for said cylinder lock, and means exposed upon removal of said face plate and engaging said plug to force the latter outwardly through the opening into engagement with the locking mechanism, and means operable by a key inserted in the cylinder lock

to control the separation of the face plate from the cylinder lock.

7. In a cylinder lock shaped to be received within an opening in a locking mechanism, the combination of a casing, an element mounted in said casing for movement in an axial direction therein, and a member mounted in said casing for movement by said element in a transverse direction and adapted to engage the locking mechanism to hold the cylinder lock against movement therein.

8. In a cylinder lock, a casing shaped to be received in an opening in a locking mechanism and having an axially directed bore, a tumbler mechanism mounted within said bore, and means carried in said casing for engaging the locking mechanism to hold the casing against movement, said means including an opening extending into the casing from one end thereof, a member mounted in said opening for axial movement therein, means engaged by said member and adapted to be forced thereby into engagement with the locking mechanism, and key controlled means covering the end of said opening.

9. In a cylinder lock, a casing shaped to be received in an opening in a locking mechanism and having an axially directed bore, a tumbler mechanism mounted within said bore, and means carried in said casing for engaging the locking mechanism to hold the casing against movement, said means including an opening extending into the casing from one end thereof, a member mounted in said opening for axial movement therein, and an element mounted for movement transversely of the casing and engaged by said member to be forced thereby into engagement with the locking mechanism, and key controlled means covering the end of said opening.

10. In a cylinder lock, a casing shaped to be received in an opening in a locking mechanism and having an axially directed bore, a tumbler mechanism mounted within said bore, and means carried in said casing for engaging the locking mechanism to hold the casing against movement, said means including a threaded opening extending inwardly from one end of the casing, a threaded member mounted in said opening, a substantially cylindrical opening extending generally transversely of the casing, a plug generally cylindrical mounted in said generally transversely extending opening and movable by said threaded member into engagement with the locking mechanism.

11. In a cylinder lock, a casing shaped to be received in an opening in a locking mechanism and having an axially directed bore, a tumbler mechanism mounted within said bore, and means carried in said casing for engaging the locking mechanism to hold the casing against movement, said means including a threaded opening extending inwardly from one end of the casing, a threaded member mounted in said opening, an opening extending generally transversely of the casing, a plug mounted in said generally transversely extending opening and movable by said threaded member into engagement with the locking mechanism, and a key controlled removable face plate covering the end of said threaded opening.

12. In a cylinder lock, a casing shaped to be received in an opening in a locking mechanism and having an axially directed bore, a tumbler mechanism mounted within said bore, and means carried in said casing for engaging the locking mechanism to hold the casing against movement, said means including a substantially cylindrical opening extending generally transversely outwardly through said casing, a generally cylindrical plug mounted in said transversely extending opening, means for moving said plug outwardly through said opening against the locking mechanism, and means for limiting the outward movement of said plug.

13. In a cylinder lock, a casing shaped to be received in an opening in a locking mechanism and having an axially directed bore, a tumbler mechanism mounted within said bore, and means carried in said casing for engaging the locking mechanism to hold the casing against movement, said means including an opening extending generally transversely outwardly through said casing, a plug mounted in said transversely extending opening, an opening extending inwardly from one end of the casing, means in said last named opening for moving said plug outwardly against the locking mechanism, means for limiting the outward movement of said plug, and a key controlled removable plate covering the end of the second opening.

In witness whereof, I have hereunto set my hand this 18th day of June, 1930.

JOHN H. SHAW.