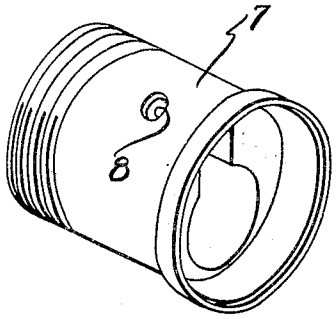
June 20, 1933. E. P. HURD 1,914,639

LOCK

Filed Oct. 21, 1931

Fig. 1.



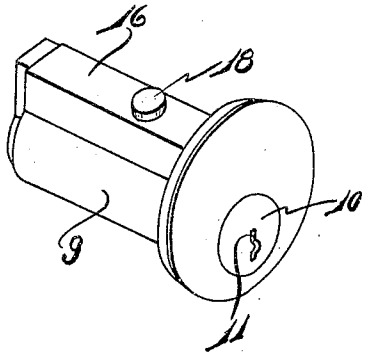


Fig. 2.

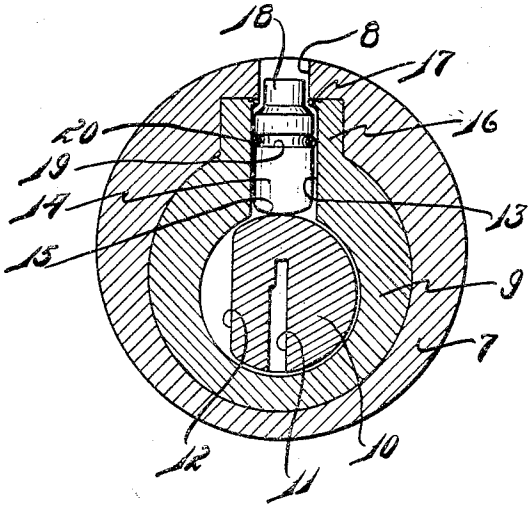
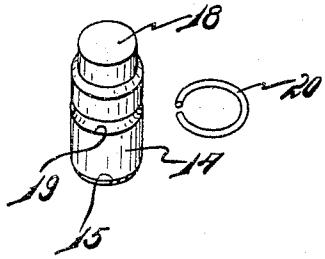


Fig. 3.



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UNITED STATES PATENT OFFICE

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LOCK

Application filed October 21, 1931. Serial No. 570,059.

My invention relates to a new and useful improvement in a lock and particularly that type of lock in which a key plug and a core are mounted in a suitable casing or supporting structure.

It is an object of the present invention to provide in a lock of this class a mechanism whereby the core may be locked in the casing or supporting structure and the locking mechanism moved to unlocked position manually upon a rotation of the key plug to a predetermined position in the core.

It is another object of the present invention to provide in a lock of this class of a locking mechanism for locking the core in the casing or supporting structure so arranged and constructed that the locking mechanism will be retained in any position in which it may be placed until moved to another position by the person operating the lock.

It is another object of the present invention to provide in a lock of this class of a locking mechanism for securing the core in its casing or supporting structure and so arranged that, when the locking mechanism is in unlocked position, a rotation of the key plug relatively to the core will effect a movement of the locking member to locking position.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

The invention will be best understood by a reference to the accompanying drawing, which forms a part of this specification, and in which,

Fig. 1 is a perspective view of the core and casing in separated relation.

Fig. 2 is a transverse sectional view of the invention, and

Fig. 3 is a perspective view of the locking member and friction ring used in the invention.

In the drawing I have illustrated a core enclosing casing 7 which may be mounted in a suitable supporting structure. It is believed obvious that the casing 7 may be dispensed with if desired and the core mounted directly in a bore formed in the supporting structure. The casing 7 is provided with a radial opening 8 and is adapted for the reception of the locking core 9 in which is rotatably mounted the key plug 10 having the key receiving slot 11 formed therein. A peripheral notch 12 is formed in the key plug 10. Slidably mounted in a radial passage 13 formed in the casing 9 which registers with the opening 8 is a lock pin or plunger 14 having the blunt end 15 and provided at its other end with the reduced portion 18 projectable into the opening 8, the portion 16 of the core being peened as at 17 to prevent removal of the locking pin 14. A peripheral groove 19 is formed in the pin 14 and engaging in this groove 19 is an interrupted friction ring 20 formed from resilient wire or the like.

The construction is such that when the key plug 10 is rotated to bring the notch or pocket 12 into registration with the passage 13, the locking pin 14 may be forced downwardly into the passage by inserting a suitable tool or wire into the opening 8 to engage the end of the reduced portion 18. This pin 14 is slidably mounted in the passage 13 and of such a size that the ring 20 will engage the walls of the passage 13 and serve to retain the pin in any position into which it may be moved. When the pin 14 engages in the pocket or recess 12, the core 9 may be removed from the casing or supporting structure 7.

In inserting the core 9 into the casing or supporting structure 7, the pin 14 will be engaged in the notch or pocket 12 and when placed in the proper position the key plug 10 will be rotated relatively to the core 9 and the tapered end 15 will facilitate the riding of the pin 14 out of the pocket or recess 12 so that the reduced end 18 will be projected into the opening 8. Consequently, it is seen that when the locking pin is in locking position, it cannot be removed therefrom until the key plug 10 and the core 9 are moved to a predetermined relative position. In order to do this, it will be necessary to use the key which operates the locking mechanism in the key plug 10. When the pocket or recess 12 is brought into registration with the passage

13, the pin 14 may then be pushed downwardly into unlocking position. Thus the locking mechanism which I have provided for retaining the core in the casing or supporting structure 7 must be both key operated and manually operated.

The structure is one which may be very economically manufactured, which is quite durable and efficient in use, and easily and quickly assembled.

While I have illustrated and described the preferred form of construction of my invention, I do not wish to limit myself to the precise details of structure shown, but desire to avail myself of such variations and modifications as may come within the scope of the appended claims.

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

1. In a lock of the class described, a core adaptable for mounting in a bore of a supporting structure having an opening therein communicating with the bore; a key plug rotatably mounted in said core; a locking pin carried by and projectable outwardly from said core and engageable in said opening for locking said core in said supporting structure, said key plug having a peripheral notch adapted for registering with said pin upon rotation to a predetermined position, said pin being projectable inwardly of said core upon said registration sufficiently for disengaging from said opening; and friction means for resisting movement of said pin from either position to the other.

2. In a lock of the class described, a core adaptable for mounting in a bore of a supporting structure having an opening therein communicating with the bore; a key plug rotatably mounted in said core; a locking pin carried by and projectable outwardly from said core and engageable in said opening for locking said core in said supporting structure, said key plug having a peripheral notch adapted for registering with said pin upon rotation to a predetermined position, said pin being projectable inwardly of said core upon said registration sufficiently for disengaging from said opening; and friction resistance means carried by said pin for resisting movement of the same from either position to the other.

3. In a lock of the class described, a core adaptable for mounting in a bore of a supporting structure having an opening therein communicating with the bore; a key plug rotatably mounted in said core; a locking pin carried by and projectable outwardly from said core and engageable in said opening for locking said core in said supporting structure, said key plug having a peripheral notch adapted for registering with said pin upon rotation to a predetermined position, said pin being projectable inwardly of said core upon said registration sufficiently for disengaging from said opening; and resilient friction resistance means carried by said pin for resisting movement of the same from one position to another.

4. In a lock of the class described, a core adapted for mounting in the bore of a supporting structure, said structure being provided with an opening communicating with said bore; a locking pin carried by said core and projectable outwardly therefrom into said opening for locking said core in said supporting structure; a key plug rotatably mounted in said core and adapted through peripheral engagement with the inner end of said pin for forcing the same into said opening, said key plug having a notch formed in its periphery adapted for registering with said pin, said pin being projectable inwardly of said core into said notch for disengagement of said pin from said opening; and means for holding said pin in its various positions of movement relatively to said core.

In testimony whereof I have signed the foregoing specification.

EDWIN P. HURD.