Sept. 13, 1932. E. N. JACOBI 1,877,404

LOCK

Filed July 29, 1929

Fig. 1.

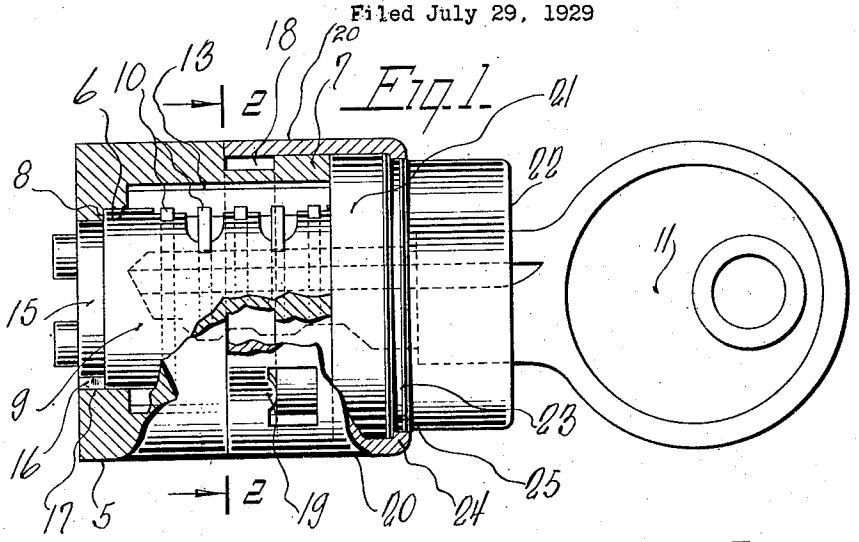


Fig. 2

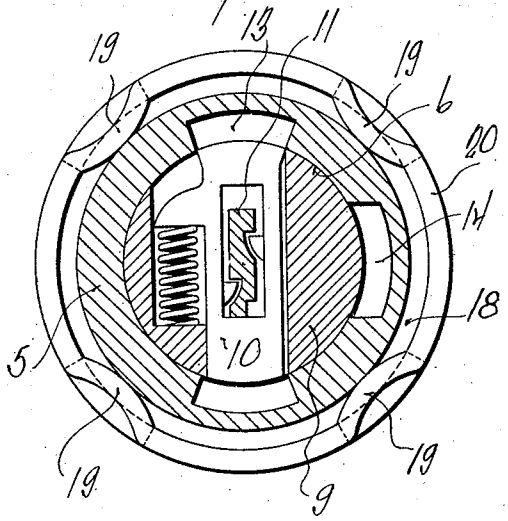


Fig. 3

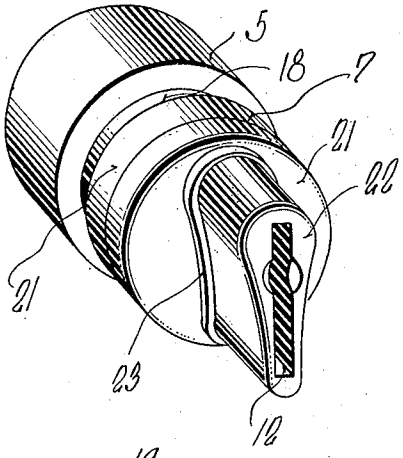
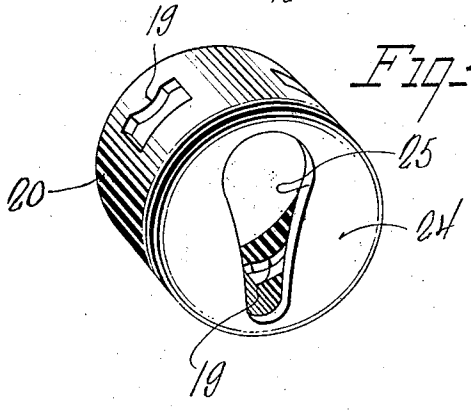


Fig. 4



Inventor

Edward N. Jacobi

By Ira Milton Jones.

Attorney

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UNITED STATES PATENT OFFICE

EDWARD N. JACOBI, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO BRIGGS & STRATTON CORPORATION, OF MILWAUKEE, WISCONSIN, A CORPORATION OF DELAWARE

LOCK

Application filed July 29, 1929. Serial No. 381,948.

This invention relates to certain new and useful improvements in locks, and has as an object to provide novel means for protecting the cylinder against destruction and for maintaining the cylinder assembled with its mounting member, and is a modification of the structure illustrated in Letters Patent No. 1,714,424, issued May 21, 1929.

Another object of this invention is to simplify and improve the structure of the lock and provide a unique and novel means for facilitating the turning of its cylinder from unlocked to locked position independently of a key.

And a more specific object of this invention resides in the provision of an improved lock structure of the character described in which the cylinder has an extension or grip portion through which the key receiving opening extends and which projects through a complementary opening in a cylinder assembling and protecting hood or cap.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claims.

In the accompanying drawing, I have illustrated one complete example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a view, partly in side elevation and partly in section, illustrating a lock structure embodying my invention;

Figure 2 is a cross sectional view taken through Figure 1 on the plane of the line 2—2;

Figure 3 is a perspective view of the lock structure with the assembling and protecting hood removed, and

Figure 4 is a perspective view of the protecting and assembling hood.

Referring now more particularly to the accompanying drawing, in which like numerals designate like parts throughout the several views, 5 represents a mounting member whose outer end 7 is of a reduced diameter and from which a two-diameter longitudinal bore 6 extends, the juncture of the two diameters forming a shoulder at the inner end of the mounting member.

A lock cylinder 9 having a plurality of conventional tumblers 10 is mounted in the longitudinal bore of the mounting member and is movable from a locked position by the retraction of the tumblers 10 within the periphery of the cylinder upon the insertion of a proper key 11 into the key receiving opening 12 of the lock cylinder.

When the cylinder is in locked position, the plungers are spring urged into a longitudinal groove 13 in the wall of the bore 6, and when moved to its unlocked position with the assistance of the key 11, which position in the present instance is approximately 90 degrees from the locked position, the lower ends of the plungers align with a second longitudinal groove 14 to permit movement of the plungers thereinto as the key is withdrawn. The ends of the plungers, which are uppermost with reference to Figure 2, bear against the cylindrical wall of the bore 6 and are thus held within the periphery of the cylinder so that it is free to be moved toward locked position independently of the key.

The innermost end 15 of the cylinder 9 is of reduced diameter to fit within the reduced portion of the bore 6 with its extreme end face preferably flush with the end of the mounting member, the shoulder formed at the inner end of the reduced portion 15 abutting the shoulder 8 of the mounting member in the manner illustrated in Figure 1. A stop 16 is carried by the reduced portion 15 of the cylinder and travels in a reduced or cut away portion 17 in the shoulder 8 to limit the rotation of the cylinder.

As stated, the outer end portion of the mounting member is of reduced diameter and has an annular channel or groove 18 formed therein at its base to receive clinched or pressed-in portions 19 of a retaining and

protecting hood 20 which fits over the enlarged outer end or head 21 of the cylinder and the reduced portion of the mounting member.

The lock cylinder has an extension 22 projecting from its enlarged outer end 21 which forms a grip or hand engaging portion through which the key slot 12 extends, the extension being preferably artistically shaped and having a slight enlargement 23 at its base of a depth approximately equal to the thickness of the metal of the hood 20 which has its end wall 24 provided with an opening 25 of a shape complementary to the shape of the enlarged portion 23. The extension thus projects through the hood to provide a convenient means for rotating the cylinder from its unlocked position to its locked position, the hood turning with the cylinder.

From the foregoing description, taken in connection with the accompanying drawing, it will be readily apparent to those skilled in the art to which an invention of the character described appertains, that I provide a novel means for protecting a lock cylinder against destruction and securing the same assembled, which presents a neat and attractive appearance and which materially facilitates the manipulation of the lock from unlocked to locked position independently of its key, and which may be manufactured at a relatively low cost.

What I claim as my invention is:

1. In a lock device, a mounting member, a lock cylinder rotatable therein, an approximately rectangular projection extended from the outer end of the lock cylinder and at all times projecting beyond the mounting member, and a cap rotatably fitted over the outer end of the lock cylinder and the mounting member to retain the lock cylinder assembled in the mounting member and having an aperture therein complementary and corresponding in shape to the enlargement of the lock cylinder through which said enlargement passes to provide a grip by which the cylinder may be rotated in the mounting member.

2. In a lock device, a mounting member, a lock cylinder having a fixed axial position and rotatable in said mounting member, a hood enclosing a portion of the lock cylinder, means rotatably connecting the hood with the mounting member to maintain the lock cylinder and the hood assembled with the mounting member, and means carried by the lock cylinder and projecting through an aperture in the hood and extending at all times beyond the mounting member to provide a grip by which the lock cylinder may be actuated.

3. In a lock device, a mounting member, a lock cylinder movable therein and having an enlargement substantially the same size as the adjacent portion of the mounting member, a cup shaped hood enclosing the enlargement and the adjacent portion of the mounting member, means connecting the cup shaped hood with the mounting member to maintain the lock cylinder and the cup shaped hood assembled with the mounting member, and a projection extended from the enlargement and passing through an aperture in the closed end of the cup shaped hood to provide a grip by which the lock cylinder may be actuated.

4. In a lock device, a mounting member, a lock cylinder rotatable therein, an enlarged head carried by the lock cylinder, a grip portion having substantially flat sides projected from the enlarged head and through which the key receiving aperture of the lock cylinder extends, and a cup shaped hood having an aperture in its closed end of a size complementary to the grip portion enclosing the enlargement of the lock cylinder and the adjacent portion of the mounting member, and means connecting the hood with the mounting member to maintain the parts assembled.

5. In a lock device, a mounting member, a lock cylinder movable therein, means at one end of the lock cylinder forming a grip by which the cylinder may be actuated, a hood member enclosing said end of the lock cylinder and a portion of the mounting member and having an aperture through which the grip means projects, and means connecting the hood member with the mounting member to maintain the parts assembled, the hood member being movable with the lock cylinder.

6. In a lock device including a mounting member and a lock cylinder movable in the mounting member, a projecting enlargement extended from the lock cylinder to provide a grip by which the cylinder may be moved in the mounting member in the performance of its locking functions, there being a key receiving opening in the lock cylinder extending through said enlargement, and a protecting cap fitted over the outer end of the lock cylinder and the mounting member and having an aperture therein complementary to the enlargement of the lock cylinder through which said enlargement passes, the engagement of said enlargement in the aperture holding the protecting cap against movement with respect to the lock cylinder.

In testimony whereof I have hereunto affixed my signature.

EDWARD N. JACOBI.