March 13, 1928. 1,662,487

S. F. BRIGGS

LOCK

Filed Dec. 23, 1925

FIG. 1 FIG. 3 FIG. 2

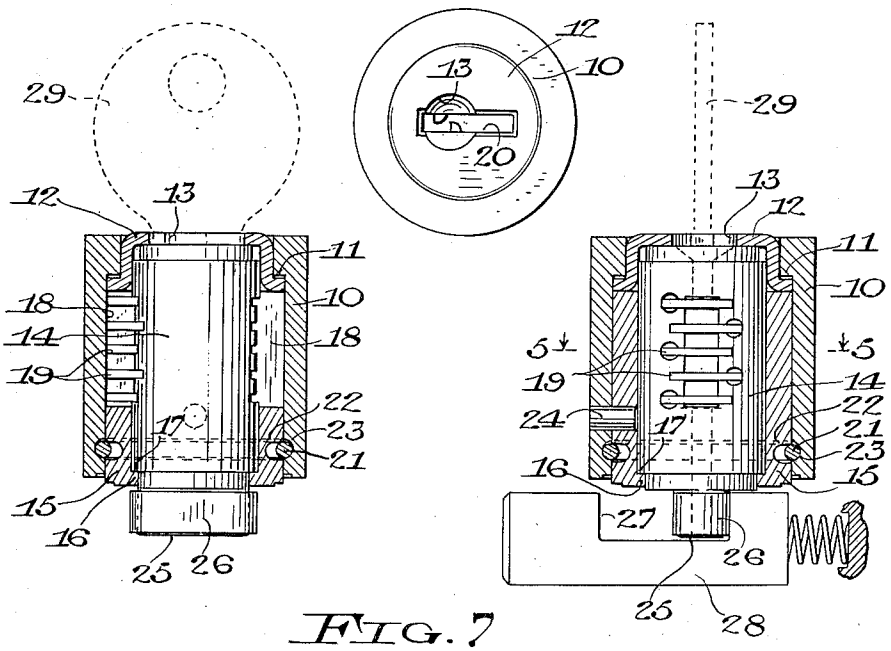


FIG. 7

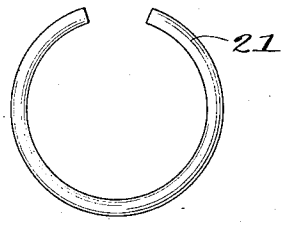


FIG. 4

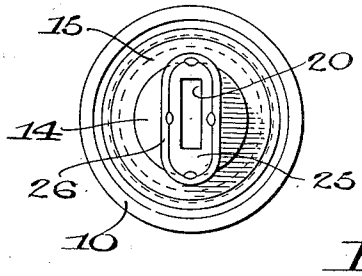


FIG. 5

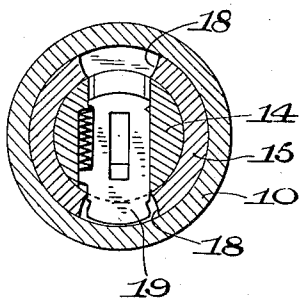
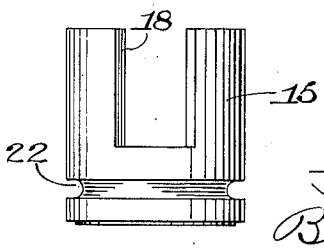


FIG. 6



WITNESSES

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UNITED STATES PATENT OFFICE.

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LOCK.

Application filed December 23, 1925. Serial No. 77,296.

This invention has for its object to provide a tumbler lock of inexpensive construction which may have incorporated therein a die cast lock barrel protected from intentional injury by a harder metal cap and admitted to the lock-case from the rear thereof.

Another object of the invention is to perfect details of construction of such locks.

With the above and other objects in view the invention consists in the lock as herein claimed, its parts and combinations of parts and all equivalents.

Referring to the accompanying drawings, in which like characters of reference indicate the same parts in different views,

Fig. 1 is a central sectional view of a lock constructed in accordance with this invention;

Fig. 2 is a similar sectional view on a plane at right angles to the plane of Fig. 1;

Fig. 3 is a plan view thereof;

Fig. 4 is a rear end view thereof;

Fig. 5 is a transverse sectional view on the plane of line 5—5 of Fig. 2;

Fig. 6 is a detail view of the bushing or cover for the rear end of the lock, and

Fig. 7 is a detail view of the retaining spring.

In these drawings, 10 indicates a lock-case having a shouldered bore therethrough with its reduced diameter at the front end forming an internal shoulder 11 at some distance from the front end. A metal cap 12, preferably of soft steel, having a key-hole 13, loosely fits in the reduced portion of the bore of the lock-case with an outwardly extending annular flange to engage with the shoulder 11.

A lock barrel 14, preferably a die casting, is mounted to rotate within a sleeve or bushing 15, which fits within the bore of the lock-case and forms a cover for the rear end of the lock. This cover has an internal annular flange 16 at its lower end to engage a shoulder 17 near the end of the lock barrel to hold it in place and take the end thrust thereof. The cover 15 has opposite slots 18 to receive the slide tumblers 19 of the lock barrel.

The lock barrel 14 has a forced fit within the cap 12 so that the latter turns therewith, the key-hole 13 registering with the key slot 20 of the lock barrel at all times. The cap 12 is preferably fixed on the lock barrel, though it may be loose and capable of independent turning. The cover bushing 15 is held in the lock-case by a split spring ring 21, which is contracted within an annular groove 22 of the cover 15 while the latter is being inserted in the lock-case and which springs into engagement with an internal annular groove 23 of the lock-case when the parts are assembled. In this latter position the spring ring lies part way within the lock-case and part way within the cover so as to effectively resist any force tending to drive the cover out of the lock-case. The cover is prevented from turning within the lock-case by a radial pin 24 driven into registering openings thereof when the lock is assembled.

The die cast lock barrel is provided with suitable means for engaging the controlled part, as shown such means consisting of a cam projection 25 formed on its lower end surrounded by a hard metal sheathing band 26 to resist wear and this cam lies within a slot 27 of a spring-pressed locking bolt 28 and causes it to be withdrawn from locking engagement with parts not shown when the lock barrel is turned by means of a key 29 inserted therein.

In operation the projection of the spring-pressed tumblers 19 of the lock barrel into one of the slots of the cover 15 prevents the lock barrel from being turned to withdraw the locking bolt 28 and the soft steel cap 12 prevents the lock barrel from being tampered with. Any attempt to mutilate the lock will be effectively resisted by the soft steel cap, which may be turned on the lock barrel without accomplishing the release of the locking bolt and, if sufficient force is applied in an effort to turn the lock barrel, its frangible nature due to its being a die casting will cause it to fracture along the plane of the uppermost slide tumbler and so render the attempt ineffective. Any attempt to drive the lock barrel out of the lock-case will be ineffective by reason of the resistance offered by the flange of the cover and by the shoulder formed by the spring ring 21 as well as the locking pin 24.

The insertion of the key, however, causes the withdrawal of the tumbler slides as usual to a position flush with the surface of the lock barrel and permits the lock barrel to be turned by the key and cause the cam to withdraw the locking bolt.

While the lock of the present invention is

designed particularly as a transmission lock for automobiles, it is not limited thereto but may be used for any purpose.

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

1. In a lock, a lock-case having a shouldered bore, a cap fitting in the bore and engaging the shoulder, a lock barrel mounted in the cap, and a cover fitting between the lock barrel and the lock-case and fixed to the lock-case and engaging the end of the lock barrel and having slots to receive the tumblers of the lock barrel.

2. In a lock, a lock-case having a bore, a cap member engaged within the bore, a lock barrel fitting in the cap member, and a cover bushing fitting between the lock barrel and the lock-case and having a flange engaging the end of the lock barrel, said cover bushing being provided with openings to receive the tumblers of the lock barrel.

3. In a lock, a lock-case provided with a shouldered bore, a soft steel cap fitting in the bore and engaging the shoulder, a die cast lock barrel having one end fitting in the cap, and a cover bushing fitting between the lock barrel and the lock-case and provided with openings to receive the tumblers of the lock barrel and having a flange engaging the other end of the lock barrel.

4. In a lock, a lock-case having a shouldered bore with its portion of larger diameter opening to the rear end of the lock-case, a cap member fitting within the bore and against the shoulder and extending to the front end of the lock-case, a lock barrel fitting within the cap member to turn therewith, a cover bushing fitting between the lock barrel and the lock-case and having openings to receive the tumblers of the lock barrel and provided with a flange engaging a shoulder on the lock barrel, and means for preventing rotation of the cover bushing within the lock-case.

5. In a lock, a lock-case having a shouldered bore, a cap member fitting within the bore and engaging the shoulder, a lock barrel engaging the cap member, a cover bushing fitting between the lock barrel and the lock-case and having a flange engaging a shoulder of the lock barrel, there being registering grooves in the lock-case and the cover bushing, and a spring ring confined in said registering grooves for holding the cover bushing in place.

6. In a lock, a lock-case having a shouldered bore, a cap member fitting in the bore and engaging the shoulder, a lock barrel engaging the cap member, a cover bushing fitting between the lock-case and the lock barrel and having a flange to engage a shoulder of the lock barrel and provided with slots to receive the tumblers of the lock barrel, there being registering grooves in the lock-case and the cover bushing, and a spring ring confined in the registering grooves to hold the cover bushing in place.

7. In a lock, a lock-case having a shouldered bore, a sheet metal cap member fitting within the reduced portion of the bore and provided with an annular flange engaging the shoulder of the bore, a lock barrel fitting in the cap member to turn therewith, a cover bushing fitting within the bore of the lock-case and surrounding the lock barrel and provided with a flange engaging a shoulder of the lock barrel for holding the lock barrel in place, there being registering grooves in the cover bushing and the bore of the lock-case, a spring ring confined within the registering grooves to hold the cover bushing in place, a pin passing through the walls of the lock-case and the cover bushing to prevent relative rotation, a cam on the end of the lock barrel, and a spring-pressed lock bolt engaging the cam.

In testimony whereof, I affix my signature.

STEPHEN F. BRIGGS.