Jan. 29, 1924.

1,482,189

F. K. HEYER

LOCK

Filed May 29, 1923

Fig. 1.

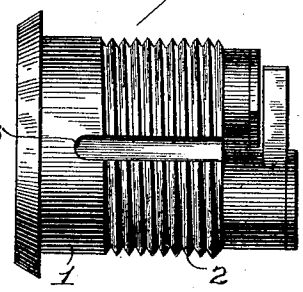



Fig. 2.

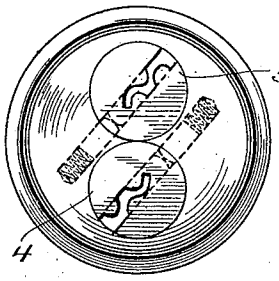



Fig. 3.

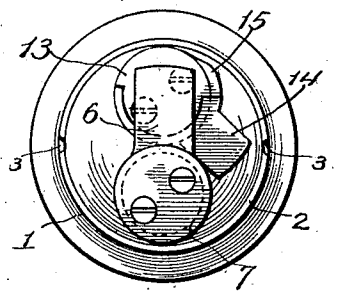



Fig. 4.

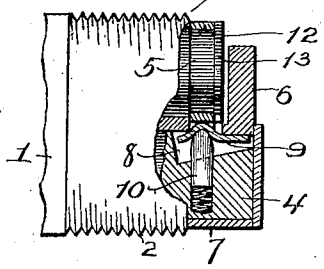



Fig. 5.

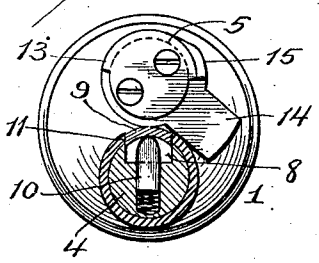



Fig. 6.

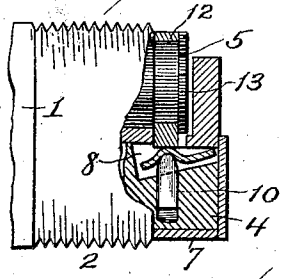



Fig. 7.

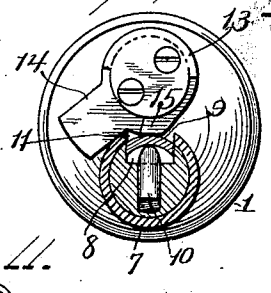



Fig. 8.

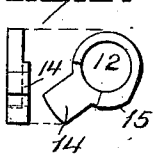



Fig. 9.

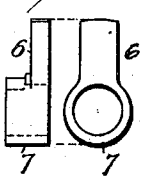



Fig. 10.

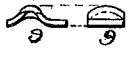



Fig. 11.




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# UNITED STATES PATENT OFFICE.

FREDERIC K. HEYER, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF STAMFORD, CONNECTICUT.

## LOCK.

Application filed May 29, 1923. Serial No. 642,253.

*To all whom it may concern:*

Be it known that I, FREDERIC K. HEYER, a citizen of the United States, and a resident of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in locks and more particularly to such as are adapted for use in hotel lock work and to be operated by a plurality of keys,—one object of the invention being to so construct the lock that simple and efficient means shall be provided whereby one key is used to render the bolt work operable or inoperable and another key to effect the operation of the bolt work.

A further object is to provide simple "shut-out" means between the plug and its cam of that portion of the lock to be operated by a "pass" or "change" key, said shut-out means being operable with the use of a special key.

A further object is to provide a cylinder lock having two key-actuated plugs, with coupling means for connecting the bolt controlling cam to one of said plugs and to provide means carried by the other plug and cooperable with said coupling means to disconnect said cam from actual cooperation with the first-mentioned plug,—said plugs being operable by different keys.

With these and other objects in view, the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings,—

Figure 1 is a side elevation of a cylinder lock in which my improvements are embodied.

Figure 2 is a front view of the same.

Figure 3 is a rear view showing positions which parts will assume to permit operation of the lock with a pass key.

Figure 4 is a view partly in elevation and partly in section with the parts in positions to effect coupling of the pass-key-operated cam with its plug.

Figure 5 is a view partly in rear elevation and partly in section with the parts positioned as in Figure 4.

Figure 6 is a view partly in elevation and partly in section showing the pass-key operated cam uncoupled from its plug.

Figure 7 is a view partly in rear elevation and partly in section showing the parts positioned as in Figure 6.

Figure 8 is a view illustrating the shut-out cam.

Figure 9 is a view of the pass-key-operated cam.

Figure 10 is a view showing the coupler, and

Figure 11 is a separate view of the disk 13.

The cylinder 1 of the lock may be externally threaded as at 2 and provided with longitudinal grooves 3 whereby the security of the lock in the door may be effected in any suitable manner. The cylinder 1 is constructed to receive two key-actuated plugs 4 and 5, the former being somewhat longer than the latter. A cam 6 adapted for cooperation with bolt work (not shown) is provided with a sleeve or hub portion 7 loosely mounted on the rear end portion of the plug 4,—the latter being operable by a pass key. The plug 4 is made with a recess 8 in which a coupler 9 for connecting the cam 6 with the plug, is disposed. The coupler 9 is formed to receive a spring pressed plunger 10 mounted in the plug 4 and is operable by said plunger to become disposed in a slot or opening 11 in the sleeve portion 7 of the cam 6, thus coupling the cam to the plug.

The plug 5 is intended to be operable by means of a special key and to its rear end portion a cam member 12 is secured by means of a disk 13 secured to the rear end of the plug. The cam member 12 is provided with an arm 14 which may engage the sleeve portion of the cam 6 in either of the positions to which it may be moved. The cam member 12 is also provided near one side of the arm 14 with a cam 15,—the latter being operable, when the parts are moved to the positions shown in Figure 7, to depress the coupler member 9 and thus disconnect the cam 6 from its plug 4.

When the parts are in the position shown in Figures 6 and 7, the cam 6 is disconnected from the pass-key-operated plug 4 so that should a pass key be inserted into said plug and turned, the plug would turn freely

without operating the cam 6 and hence without operating the bolt work. Should a special key be inserted into the plug 5 and turned clockwise, the cam portion 15 of the cam 12 will move out of line with the coupler 9, permitting the spring actuated plunger 10 to press the coupler into the slot 11 in the sleeve portion of the cam 6 and thus connect said cam with its plug. A pass key may now be employed to turn the plug 4 and with it the cam 6 to operate the bolt work.

With my improvements the plug 4 may be rendered inoperable by a pass key to manipulate the bolt work and may be left normally in such condition so that in order to permit operation of the lock to move the bolt work it is necessary to effect an active connection of the cam with said plug with the use of a special key operable in another plug of the lock.

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

1. In a cylinder lock, the combination with a cylinder and two key operated plugs mounted therein and adapted for operation by different keys, of a cam loosely mounted on one of said plugs, and means controlled by the other plug for connecting said cam with and disconnecting it from the first mentioned plug.

2. In a cylinder lock, the combination with a cylinder and two key operated plugs mounted therein and adapted for operation by different keys, of a cam loosely mounted on one of said plugs, a spring pressed coupler operable to connect said cam and plug, and means carried by the other plug for moving said coupler to disconnect said cam from its plug.

3. In a cylinder lock, the combination with a cylinder and two key operated plugs mounted therein, one of said plugs being operable by a pass key and the other of said plugs being operable by a special key, of a cam loosely mounted on said pass key plug, a coupler, spring actuated means for causing said coupler to connect the pass key plug and its cam, and a cam member carried by the special-key plug and operable to move said coupler to disconnect said first mentioned cam from the pass key plug.

4. In a cylinder lock, the combination with a cylinder, and two key actuated plugs mounted therein, one of said plugs being operable by a pass key and the other by a special-key, the pass key plug having a recess therein, of a cam for the pass key plug, said cam having a sleeve portion mounted loosely on the pass key plug and having a slot to communicate with the recess in the plug, a spring pressed plunger mounted in the pass key plug and operable to force the coupler into the slot of the cam sleeve to couple the cam and plug together, a cam member secured to the special-key plug and having a cam portion to depress the coupler for disconnecting the first mentioned cam from active cooperation with the pass key plug, and an arm on said cam member to engage the sleeve portion of the first mentioned cam and limit the movement of the special-key plug and cam member thereon in either position to which said special-key plug and cam member may be moved.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

FREDERIC K. HEYER.

Witnesses:
CHARLES A. BERRY,
FRANK D. SLOAT.