May 1, 1923. 1,454,020

E. L. TEICH

LOCK

Filed Jan. 25, 1922

Fig. 1.

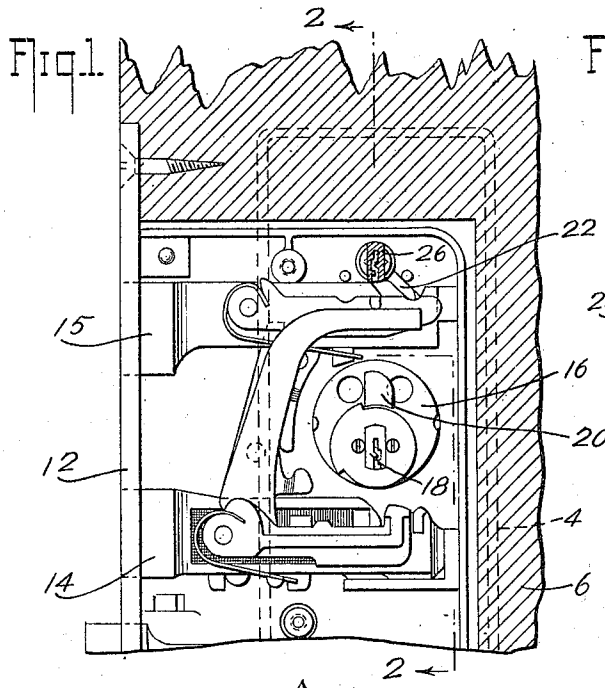


Fig. 2.

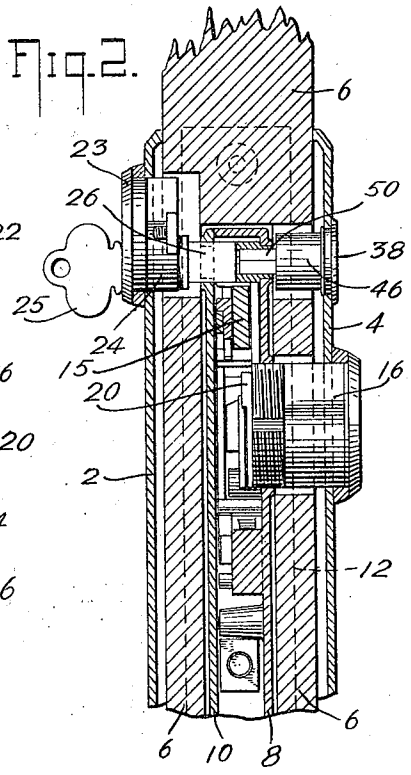
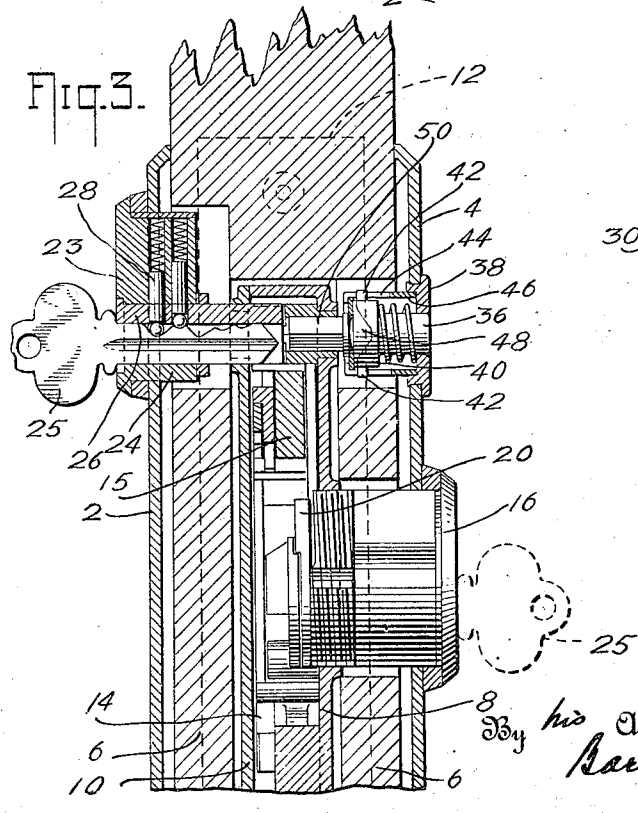


Fig. 3.



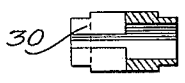


Fig. 4.

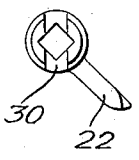


Fig. 5.

Inventor
E. L. TEICH.
By his Attorneys
Bartlett & Brownell

Patented May 1, 1923. 1,454,020

UNITED STATES PATENT OFFICE.

ERNEST L. TEICH, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE AMERICAN HARDWARE CORPORATION, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

LOCK.

Application filed January 25, 1922. Serial No. 531,587.

To all whom it may concern:

Be it known that I, ERNEST L. TEICH, a citizen of the United States, residing at New Britain, county of Hartford, State of Connecticut, have invented a certain new and useful Improvement in Locks, of which the following is a full, clear, and exact description.

The present invention relates to locks and has special reference to so-called hotel corridor locks in which, in addition to a main lock bolt, an auxiliary lock bolt is employed that is operable from the inside of the door.

An object of the invention is to provide a novel and improved lock of this character.

A more specific object of the invention is to provide novel and improved means for operating the auxiliary bolt of locks of this character.

Another object of the invention is to provide means in a lock of this character for obviating any danger of the lock key being mislaid or lost when the door is locked from the inside.

A further object of the invention is to provide in a lock of this character, a key operable device for operating the auxiliary lock bolt from the inside of the door, which device may be operated by the same key as is employed to lock the door from the outside.

A still further object of the invention is to provide a novel and improved device for indicating the position of the lock bolt.

With these and other objects in view the features of the invention consist in certain constructions, arrangements and combinations of parts hereinafter described and claimed, the advantages of which will be obvious to those skilled in the art.

The several features of the invention will be clearly understood from the following description and accompanying drawings in which—

Figure 1 is a side elevation of a portion of a hotel corridor lock with the cover or cap plate removed, embodying the features of the invention in their preferred form, the lock being mounted in a door which is shown in section;

Fig. 2 is a sectional view, partly in elevation, taken on the line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 2 but on an enlarged scale and with certain parts shown in section that are shown in elevation in Fig. 2;

Fig. 4 is a detailed longitudinal section of a component part of the auxiliary locking bolt operating mechanism; and

Fig. 5 is an end elevation of the same.

The lock illustrated in the drawings is provided with escutcheon plates 2 and 4 which are secured on the inner and outer sides, respectively, of the door 6, and is further provided with a lock case 8 which is mounted in the door and has a cover or cap plate 10 and a face plate 12. The lock mechanism comprises a main lock bolt 14 and an auxiliary lock bolt 15. The main lock bolt is operable from the outside of the door by means of a locking device 16 of the tumbler cylinder type which is provided with a key plug 18 and a cam arm 20 mounted on the inner end of the key plug. The auxiliary lock bolt is operable from the inside of the door by means of a cam arm 22. The main and auxiliary lock bolts are provided with suitable connections between them whereby when the door is locked from the inside by means of the auxiliary bolt it may be unlocked by means of the main locking device 16 and when the door is locked from the outside by means of the main locking device, the main lock bolt may be retracted and the auxiliary bolt projected from the inside of the door. Except as hereinafter described, the parts of the lock mechanism above referred to may be and preferably are the same as the corresponding parts of the lock mechanism illustrated and described in Letters Patent to Arens and Teich No. 1,009,624 dated Nov. 21, 1911, to which reference may be had for a full and complete description of the same.

In the present construction instead of the cam arm 22 for the auxiliary bolt being operated by means of a thumb piece as has been customary heretofore, a locking device 23 is provided for this purpose which may be operated by the same key 25 that is employed for operating the main locking device 16 and this auxiliary locking device is so constructed that when the auxiliary bolt is projected thereby to lock the door from the inside the key cannot be removed from the lock without first being operated to retract the bolt and returned to normal position. One

advantage of using the key in this manner, instead of a thumb piece to lock the door from the inside of the room, is that when the key is not thus employed the guest is liable to misplace the key and be caused considerable inconvenience if he should desire to leave his room, but with the auxiliary bolt thrown so as to lock the door from the inside he must first retract the auxiliary bolt before he can remove his key to lock the door from the outside. As shown, the auxiliary locking device 23 is of the tumbler cylinder type and is mounted in the inner escutcheon plate 2. This locking device comprises a locking cylinder 24 in which is mounted a key plug 26 and downwardly spring pressed pin tumblers 28. The inner end of the key plug 26 extends into a slot 30 formed in the inner end of the hub of the cam arm 22, the outer end of the hub of the cam arm being reduced in diameter and mounted to turn in an aperture in the lock case. As shown only two pin tumblers 28 are employed in this auxiliary locking device and these tumblers correspond to the first two of the main locking device 16 so that the same key may be employed for operating both devices. It will be apparent with this construction that the key can only be removed from the auxiliary locking device when the auxiliary bolt is in retracted position as the pin tumblers 28 serve to hold the key in the key plug when the key plug is turned to project the auxiliary bolt.

The illustrated construction is as usual provided with an indicating device visible from the outside of the door for indicating the position of the lock bolt. The indicating device is provided with the usual inwardly spring pressed indicating pin 36, the forward end of which extends through a nipple 38 mounted in the outer escutcheon plate 4. The inner end of the indicating pin 36 is provided with a collar or flange 40 having laterally extending pins 42 that engage elongated slots 44 in a casing 46 that surrounds the indicating pin, the pin and slot connection holding the pin from rotary movement. The flange 40 of the indicating pin is provided with a cam surface that engages a cam surface on a collar or flange 48 on the outer end of an actuating pin 50. The actuating pin 50 extends through an aperture in the inner wall of the casing 46 and is held from axial movement by the flange 48 and a collar 52 engaging opposite sides of said inner wall. The inwardly projecting portion of the actuating pin 50 is square in cross section and extends into a squared axial aperture in the hub of the cam arm 22 so as to cause the actuating pin 50 to turn with the cam arm and key plug of the auxiliary locking device. The cam surfaces on the flanges of the pins 36 and 50 are so constructed that upon the actuating pin 50 being turned by the key plug in projecting the auxiliary bolt the indicating pin 36 is projected outwardly, and upon the actuating pin 50 being turned by the key plug in the opposite direction in retracting the auxiliary bolt the indicating pin 36 is retracted.

While it is preferred to employ the specific construction and arrangement of parts illustrated and described, it is to be understood that this construction and arrangement is not essential except so far as specified in the claims and may be changed or modified without departing from the broader features of the invention.

What I claim is:—

1. A lock of the class described having, in combination, a main bolt and an auxiliary bolt having connections between them, and separate operating devices for the bolts capable of being actuated by a common key from the outside and inside of the door, respectively.

2. A lock of the class described having, in combination, a main bolt and an auxiliary bolt having connections between them, a device operable from the outside of the door for projecting and retracting the main bolt, and a device operable from the inside of the door for projecting and retracting the auxiliary bolt, both of said devices being operable by a common key and the second mentioned device being constructed to prevent removal of the key when the auxiliary bolt has been projected thereby.

3. A lock of the class described having, in combination, a main bolt and an auxiliary bolt having connections between them, a key controllable device operable from the outside of the door for operating the main bolt, and a key controllable device operable from the inside of the door for projecting and retracting the auxiliary bolt and constructed to prevent removal of the key while the auxiliary bolt is in projected position.

4. A lock of the class described having, in combination, a main bolt and an auxiliary bolt having connections between them, a pin tumbler locking device on the outside of the door having a cam arm for operating the main bolt, a pin tumbler locking device on the inside of the door having an arm for operating the auxiliary bolt, and a single key for operating both of said locking devices.

5. A lock of the class described having, in combination, a lock bolt, a locking cylinder having a key actuated plug operable from one side of the door and suitable connections for projecting and retracting the lock bolt, and an indicating device and suitable connections with said plug visible from the other side of the door for indicating the position of the lock bolt.

6. A lock of the class described having, in combination, a lock bolt a locking cylinder having a key actuated plug and suitable

connections for projecting and retracting the lock bolt, an indicating device comprising a pin visible from the other side of the door movable longitudinally in one direction when turned in one direction and movable longitudinally in the opposite direction when turned in the opposite direction, and connections between said plug and pin to cause the pin to turn with the plug to indicate the position of the lock bolt.

7. A lock of the class described having, in combination, a lock bolt, a locking cylinder having a key actuated plug and suitable connections for projecting and retracting the lock bolt, comprising a cam arm having a hub mounted to turn with said plug, and a device comprising an indicating pin visible from the other side of the door movable longitudinally in one direction when turned in one direction and movable longitudinally in the opposite direction when turned in the opposite direction, and connections between the indicating pin and plug comprising an actuating pin extending into the hub of said cam arm to cause the actuating pin to turn with the plug to actuate the indicating pin to indicate the position of the lock bolt.

ERNEST L. TEICH.