No. 857,126. PATENTED JUNE 18, 1907.

H. G. VOIGHT.

CORRIDOR DOOR LOCK.

APPLICATION FILED MAR. 4, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

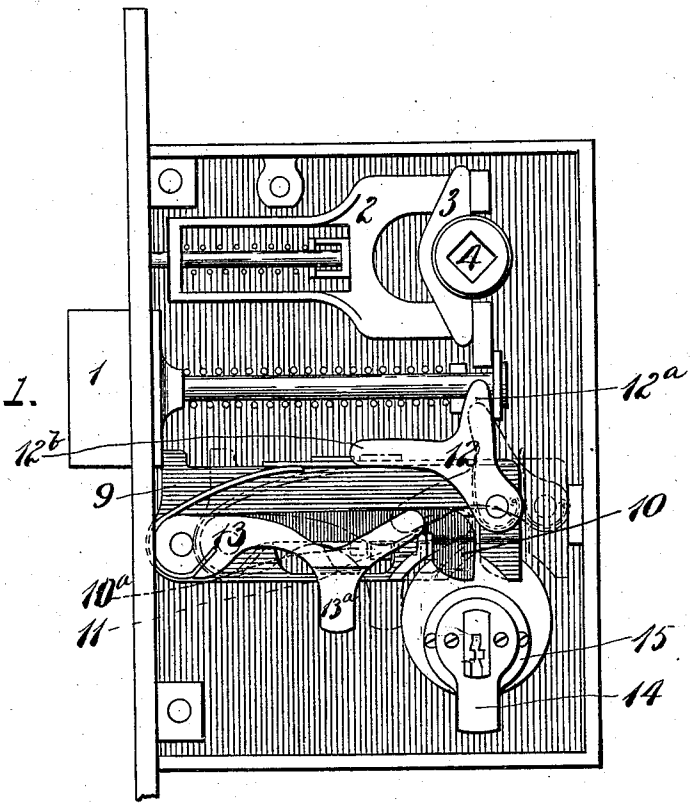
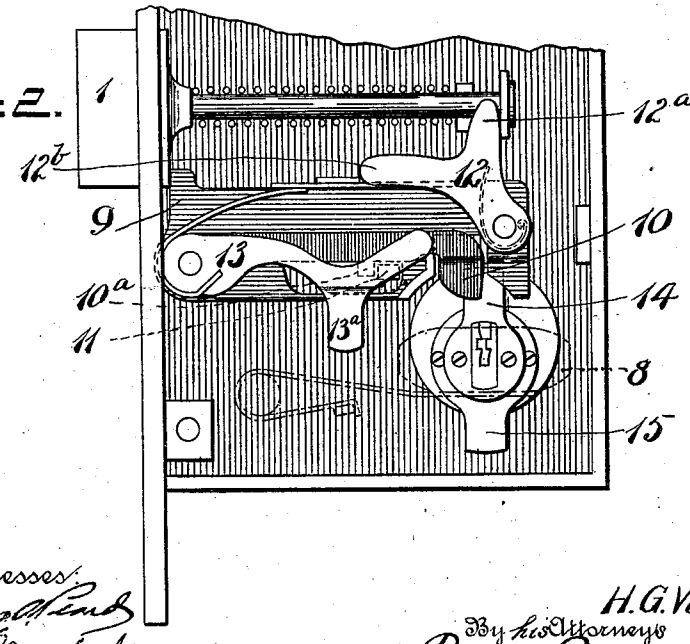


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

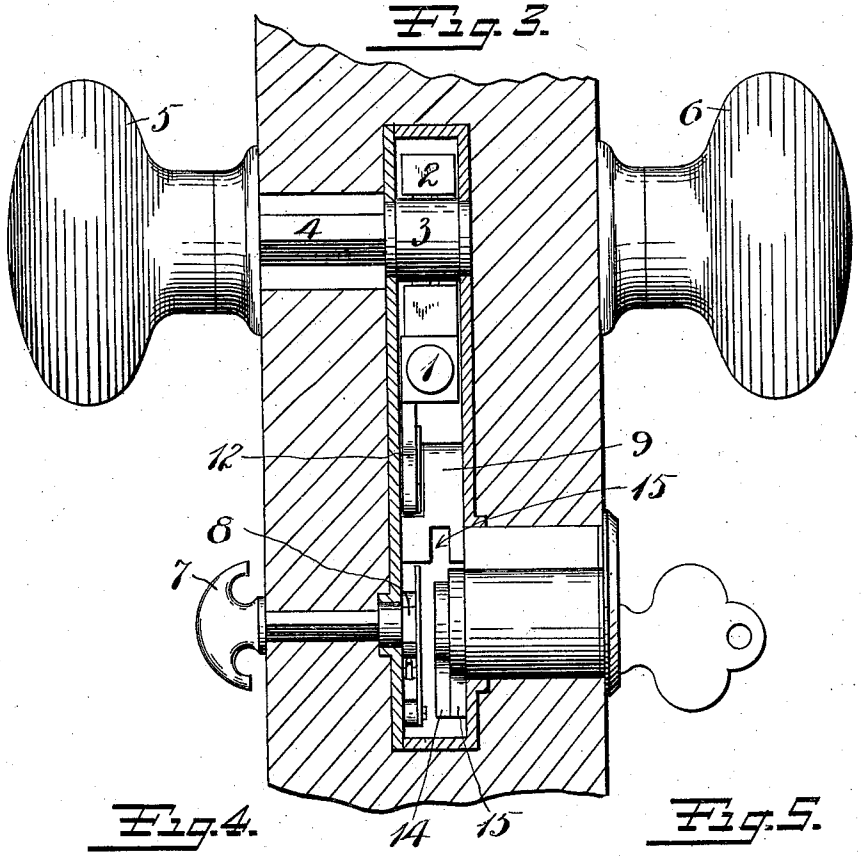


Fig. 4.

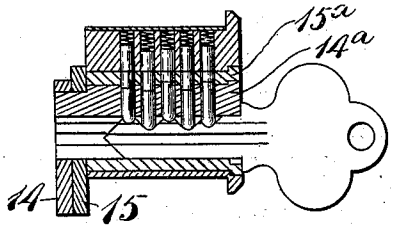


Fig. 5.

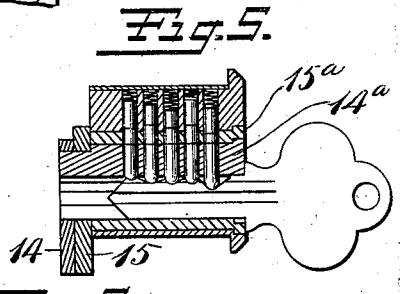


Fig. 6.

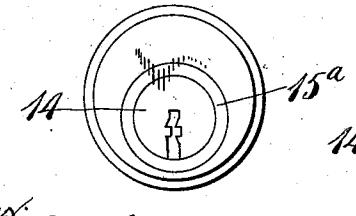
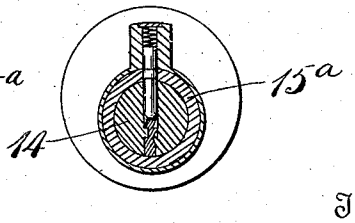


Fig. 7.



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UNITED STATES PATENT OFFICE.

HENRY G. VOIGHT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO RUSSELL & ERWIN MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

CORRIDOR-DOOR LOCK.

No. 857,126. Specification of Letters Patent. Patented June 18, 1907.

Application filed March 4, 1907. Serial No. 360,359.

To all whom it may concern:

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing at New Britain, county of Hartford, Connecticut, have invented certain new and useful Improvements in Corridor-Door Locks, of which the following is a full, clear, and exact description.

My invention relates to improvements in lock mechanism, the same being particularly useful as applied to hotel corridor door locks.

This invention is in the nature of an improvement upon the construction set forth in United States Letters Patent No. 844,763, dated February 19th, 1907, the main objects of the invention in this case being similar to those attained in the aforesaid patented invention, to-wit, the provision of means whereby when a door is locked from the inside, a key, otherwise adapted to the lock, inserted from the outside will at such time have no effect upon the lock work but will revolve loosely, thereby avoiding the danger of breakage, as well as avoiding annoyance to the occupant of the room. These objects I now attain by a somewhat modified construction and arrangement of parts.

In the drawings: Figure 1 is an elevation of a lock embodying my invention, the cover plate of the lock case being removed and showing the parts in the position in which the latch-bolt is dogged. In this view the key operated controlling devices are both in the normal or idle position, when no key is in the lock. Fig. 2 is a similar view, one of the key-operated controlling devices being shown in a different position from that indicated in Fig. 1. Fig. 3 is a vertical section of the lock case showing the internal mechanism. In this view the parts are assembled as in use on a door. Figs. 4 and 5 are respectively sectional views of the cylinder lock construction employed. Fig. 6 is a front elevation of the cylinder lock. Fig. 7 is a cross-section of the parts shown in Figs. 4 and 5, said section being taken in the plane of one of the pin tumblers.

1 is the spring projected latch-bolt.

2 is a knob actuated slide engaging in the usual manner with the tail of the latch-bolt 1 and operated in the usual manner by a roll-back 3, mounted on the knob-spindle 4 at the outer end of which may be carried the usual knob. 5. In the form shown, the knob 5 is the only one by which the latch-bolt 1 may be retracted.

6 is a fixed knob for the outer side of the door.

7 is a thumb turn at the inner side of the door, the spindle of said thumb turn carrying at its inner end the roll-back 8.

9 is a dogging slide mounted in suitable guide-ways within the case of the lock and arranged, when in one position, to dog the latch-bolt 1, and when in another position (for example that shown in dotted lines, Fig. 1,) to leave said lock free.

10 is a tumbler on the slide 9, said tumbler having a shoulder 10^a arranged to engage with the usual fence 11, fixedly mounted on the lock case to hold the dogging device in the advanced or retracted position by the aid of tumbler 10.

12 is a lever, one end of which 12^a is arranged to engage with the tail of the latch-bolt 1, the other end 12^b stands in the path of the end of the lever 13, pivotally carried by the slide 9. In Figs. 1 and 2, it will be seen that the arm 12^b stands well above the free end of the lever 13, hence even if the latter could be lifted, it would not tilt the lever 12. However, when the dogging slide 9 is retracted and its forward end is free of the latch-bolt 1, this retraction will cause the lever 12 to swing down, so that its end 12^b will lie closely adjacent the free end of the lever 13. 14 and 15 are key-controlled roll-back hubs arranged in line and carried respectively by the key-controlled plug 14^a and the key-controlled shell 15^a of the pin cylinder lock, which form of lock is preferable for use here, although other forms might be substituted. In the form herein, I have shown a well-known type of cylinder lock, so far as the plug 14^a and the shell 15^a are concerned, the same being of the master-key type, one key being designed to set the pins so that the plug 14^a only will turn, the other being arranged to set the pins, so that both plug 14^a and the shell 15^a will turn. Since the roll back hubs 14 and 15 are carried by these different parts, it follows that for the use of one key, which I will term the "change key" or guest key, the plug 14^a, and hub 14 only will be revolved, whereas by the use of the other key, which I will term the "emergency key"

or owners key, the shell 15ª, plug 14ª and both the roll-backs 14 and 15 will be turned.

The "change" key is designed to operate only roll-back hub 14, and this hub is arranged, when the dead-lock 9 is retracted, to engage with the lower end 13ª of the lever 13. When the dead-lock is retracted, the said end 13ª will stand in a position shown in dotted lines in Fig. 1 and will be within the range of action of roll-back hub 14. When, however, the dead-lock is advanced, so as to dog the bolt 1, the said end 13ª will be out of range of the roll back 14.

In order to prevent the operation of the dead-lock by means of the hub 14, a slot or clearance space is formed in the free end of tumbler 10, as well as the adjacent part of the dead-locking slide. Were it not for this clearance space, the plane of which is best seen in Fig. 3, and indicated by the reference numeral 15, the hub arm 14 would, upon being rotated, lift the tumbler 10 and then engage the slide 9 and retract it. This, however, now is impossible. In Fig. 2 the roll-back arm 14 is shown in a position passing through the clearance space 15.

It follows from the foregoing description that when the door is dead-locked from the inside as by means of the thumb turn 7, the holder of a "change" key adapted only to free the pins so that the plug 14ª may be rotated, can not enter the room, because the roll-back 14 will then perform no function. If, however, it becomes necessary to enter the room, an "emergency" key may be employed, in which event, both the roll-backs 14 and 15 will be turned bodily by the simultaneous rotation of the hub 14ª and shell 15ª. The hub 15 will now first engage the tumbler 10 freeing the same. It will then engage the adjacent shoulder on the dead-lock 9, whereby the latter will be retracted. Under such condition, the continued rotation of said emergency key would bring said arms, or one of them at least, into engagement with the end 13ª on the lever 13, lifting the same, thereby swinging the lever 12 so as to retract the latch-bolt 1.

From the foregoing, it is apparent that there is a dead-locking device for the latch-bolt, also that there is a latch-retracting means carried by the dead-locking device; also that there is means for actuating this latch-retracting mechanism from the outer side of the lock when said dead-locking device is out of action, said latter means, however, being out of the range of operation of said externally controlled means when the dead-locking device is in action.

My present invention differs from my previously patented invention, in that it provides a second-roll back arm carried by the cylinder lock itself, rather than by a bracket within the lock case. By reason of this fact also I am enabled to make use of a known type of cylinder lock and by modifying the same slightly provide two roll-back arms upon movable parts thereof, one of which performs one function, the other of which performs another function.

What I claim is:

1. In a lock, a latch bolt, a dogging device therefor, latch retracting mechanism carried thereby, a casing, a rotatable shell therein, a key plug rotatable in said shell, a plurality of roll-backs, one of said roll-backs being operable independently of the other, said hubs being carried respectively by said shell and plug, means for locking said plug and shell against rotation, said means being operable by different keys to release the plug from the shell and to release both the plug and shell from the case, one of said roll-backs coöperating with the dead-lock at all times, the other roll-back being independent of the dead-lock at all times.

2. In a lock, a latch-bolt, a dead-locking device therefor, latch-retracting means carried by said dead-locking device, means for actuating said latch-retracting mechanism from the outer side of the lock when the said dead-locking device is out of action, said means being out of the range of operation of said externally controlled means when said dead-locking device is in action, and a clearance passage through said dead-locking device to permit the means for actuating said latch-retracting mechanism to turn freely when said dead-locking device is in the dead-locking position.

3. In a lock, a latch bolt, a dogging device therefor, latch retracting mechanism therefor, a pin cylinder lock including two concentric movable members, pin tumblers for locking the same, a roll-back arm carried by each of said concentric movable members, locking devices for said concentric movable members, means for operating said locking devices to release one of said concentric movable members whereby the same may be rotated with its respective roll-back arm, and another device for releasing both of said concentric movable members whereby both may be rotated simultaneously together with their roll-back arms, and means whereby when said dead-lock is in action one of said roll-backs will have no effect upon the latch retracting mechanism or the dogging device.

4. In a lock of the character described, a pair of concentric roll-back hubs, means for independently operating one of said roll-backs including a normally locked plug, means for operating both of said roll-backs including said normally locked plug and a surrounding shell, a latch, latch operating and latch dogging mechanism, and means whereby one of said roll-backs will have no effect on the latch retracting mechanism when the dogging device is in action, and means to operate the other roll-back to release the dogging de-

vice to restore the parts to their position whereby the first roll-back may be utilized to release the latch.

5. In a lock of the character described, a latch bolt, a dead lock, means for operating both the latch bolt and the dead lock from the inner side of the door at all times; two roll-back hubs operable from the opposite side of the door by suitable key mechanism, one of said hubs being arranged to operate said dead lock at all times, the other hub being arranged to operate the latch bolt only and that only when the dead lock is out of action, said dead lock having a clearance space through which the last-mentioned hub may travel freely when the dead lock is in action.

6. In a lock, a latch bolt, a dead lock, means for operating both latch bolt and dead lock from the inner side of the door at all times, means for operating the latch bolt from the outer side of the door through the medium of key-controlled mechanism and including two tumbler controlled rotatable members, a roll-back hub on each of said members, a key for rotating one of said members and its roll-back to actuate both the dead lock and the latch bolt, and a key for actuating the other rotatable member and its roll-back to actuate the latch bolt only, and that only when the dead lock is out of action.

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Witnesses:
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