

No. 853,485.

PATENTED MAY 14, 1907.

H. P. TOWNSEND.

LOCK.

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Fig. 1.

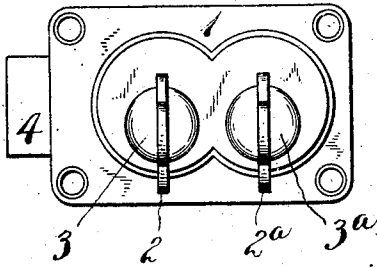


Fig. 2.

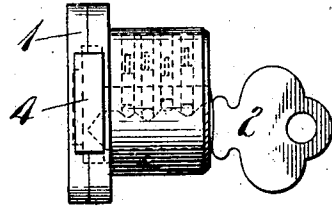


Fig. 3.

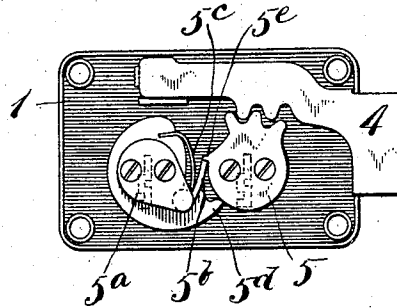
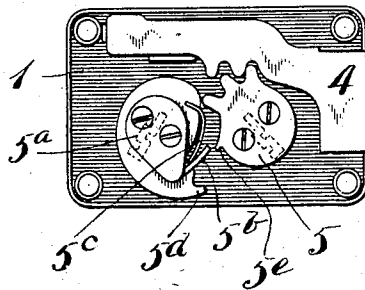


Fig. 4.



Witnesses  
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Inventor  
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 By his Attorneys  
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# UNITED STATES PATENT OFFICE.

HARRY P. TOWNSEND, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO CORBIN CABINET LOCK COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

## LOCK.

No. 853,485.

Specification of Letters Patent.

Patented May 14, 1907.

Application filed December 21, 1906. Serial No. 348,844.

*To all whom it may concern:*

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

My invention relates to improvements in locks, of particular utility for safe deposit vaults and the like, although the use of said lock is not limited to this particular field.

The object of the invention is to provide a key-controlled lock in which the bolt operating key cannot be used to operate the bolt unless another key has been inserted in the lock to free the mechanism operated by the bolt operating key. In other words, it requires the use of two separate keys to retract the bolt.

Figure 1 is a front elevation. Fig. 2 is an end elevation. Fig. 3 is a view of the interior of the lock case showing the parts in one position. Fig. 4 is a similar view showing the same parts in a different position.

1 is a lock case, of any suitable form, in the face of which are two separate key-ways arranged to carry keys 2—2<sup>a</sup>. These locks are cylinder locks, and in the particular form shown these cylinder locks are of the pin tumbler variety. The construction of a pin tumbler lock is too well known to require detailed description. Suffice it to say that the parts 3—3<sup>a</sup> conventionally represent the hubs of two independent cylinder locks.

4 is the bolt.

5 is a plate or arm carried by the hub 3 at its inner end, said plate or arm making an operative connection with the bolt 4, as by means of gear teeth shown in Figs. 3 and 4. If the hub 3 is free to turn in one direction or the other, the bolt 4 will be advanced or retracted.

At the inner end of the hub 3<sup>a</sup> is a locking device arranged to cooperate with the key-controlled plate 5. This locking device on the hub 3<sup>a</sup> comprises a plate 5<sup>a</sup> having a pivoted pawl 5<sup>b</sup> pressed by spring 5<sup>c</sup>.

5<sup>d</sup> is an eccentric nose or stop shoulder arranged to limit the rotation of the plate 5<sup>a</sup> in one direction.

In the side of the plate 5 is a notch or shoulder formed, for example, by a projection 5<sup>e</sup>.

The operation is as follows: In Fig. 3 the bolt 4 is shown as extended and in the locking position. Neither of the key hubs 3—3<sup>a</sup> can be turned unless proper keys are inserted therein, because in this form the pin tumblers prevent said hubs from turning excepting when they are properly alined by proper keys. If a proper key is inserted into each of the hubs 3—3<sup>a</sup>, the bolt may be withdrawn by the key in hub 3 and the turning of this hub 3 will move the parts to the position shown in Fig. 4. This includes not only retracting bolt 4, but swinging back the plate 5<sup>a</sup> until it stands as shown in said figure. In this position the hub 3 is free to be operated in either direction to advance or retract the bolt, but in said position a key will be found in the hub 3<sup>a</sup>. If the owner of the key in the hub 3<sup>a</sup> desires to withdraw the same when the parts are in the position shown in Fig. 4, he must first turn the hub 3<sup>a</sup> to the position indicated in Figs. 1 and 3, whereupon he may freely withdraw said key. As soon as this key 2<sup>a</sup> is withdrawn, the pin tumblers lock the hub 3<sup>a</sup> against rotation. The hub 3 may, however, be turned from the position shown in Fig. 4 to that shown in Fig. 3 to extend the bolt. When this is done, the shoulder 5<sup>e</sup> will push back pawl 5<sup>b</sup> until said shoulder clears the end of the pawl, whereupon the latter will snap out and engage in the recess in the plate 5, preventing the rotation of said hub 3 in a direction to retract bolt 4.

The advantage of this construction will be very clearly understood in describing the same as though it were applied to a safe deposit drawer. A safe deposit attendant would hold one key adapted to hub 3<sup>a</sup>, for example. The owner of the drawer or box would hold the other key adapted to hub 3. Before the owner of the box can gain access thereto, he must call the attendant, who must first insert his key in hub 3<sup>a</sup> before the bolt 4 can be retracted. It is customary for such attendants to know the various customers, and hence this type of a lock acts as a safeguard against the tampering with various safe deposit boxes by strangers. When the box is open the attendant is free to withdraw his key by simply returning the hub or key to its original position shown in Fig. 1. As soon as the owner of the box has com-

pleted his business and desires to relock the same, he must close the door, freely project the bolt and withdraw his key. In such an application of a lock it is customary for the attendant to have a single key adapted to a number of such boxes, whereas the bitting of the keys distributed among the various box owners may be varied as desired. The function of the shoulder 5<sup>d</sup> is merely to check the hub 3<sup>a</sup> when it is returned to the locking position, so that the pawl 5<sup>e</sup> will not accidentally turn hub 3 by engaging with one of the gear teeth thereon when the attendant moves the key. This stop is not necessary, however, although it is preferred.

What I claim is:

1. In a lock of the character described, a bolt, a key-controlled rotatable hub for operating the same, and a second key-controlled rotatable locking hub to lock and unlock the first hub, said locking hub being operable independently of the bolt operating hub and operable from the locked position, when its key is inserted, by the bolt operating hub.
2. In a device of the character described, a bolt actuating device, a cylinder lock for operating the same, a stop for said cylinder lock, and a key-controlled means to operate said stop independently of said cylinder lock to check or free the latter, said stop being operable in one direction by the cylinder lock when the key is inserted in said key controlled means.
3. In a device of the character described, a bolt, means for advancing and retracting the same, two key-controlled devices, both of which must be operated to operate said bolt, and means of connection to permit one of said devices to be moved in advance of the other if desired and means carried by the bolt operating device to operate the other device.
4. In a device of the character described, a bolt operating device, a cylinder lock for operating the same, and a second cylinder lock operable independently of the first for locking or freeing the first mentioned cylinder lock and operable in one direction by the first cylinder lock to free the same when the key is inserted in the second cylinder lock.
5. In a device of the character described, a case having two key-ways and two key-controlled devices arranged to be operated by

two separate keys, one of said key-controlled devices cooperating with said bolt, the other of said key-controlled devices cooperating with the first mentioned key-controlled device to lock or release the same, said second key controlled device, upon the insertion of its key in its locked position, being operated by the second key controlled device.

6. In a device of the character described, a bolt, two independent key-controlled hubs arranged to be operated by two separate keys, means carried by one of said hubs for engaging said bolt, and means carried by the other hub for engaging the first mentioned hub, said latter means including a pawl.

7. In a lock, two independent tumbler locked hubs arranged to be released and operated by two differently bitted keys, means carried by one of said hubs for engaging a locking bolt, and means carried by the other hub for locking the first mentioned hub against operation in one direction only.

8. In a device of the character described, a bolt, two independent key-controlled hubs arranged to be operated by two separate keys, means carried by one of said hubs for engaging said bolt, and means carried by the other hub for engaging the first mentioned hub, said latter means including a pawl and a stop shoulder.

9. In a lock, two independent pin-tumbler locked hubs, a bolt operable by one hub, a locking device carried by the second hub and adapted to lock the first in its locked position when the second is in its normal position and the key therefor is withdrawn, said second hub being operable independently of the first and by the first when the second is in normal position and its key inserted.

10. In a lock, two key-controlled hubs, a bolt operable by one hub, a locking device between the hubs to interlock the bolt-operating hub against rotation in a direction to retract the bolt unless the other hub is released, said locking device permitting free movement of the bolt-operating hub in a direction to project the bolt irrespective of whether the second hub is released.

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Witnesses:

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