

(No Model.)

H. HORNE.
SAFE DEPOSIT LOCK.

No. 545,161.

Patented Aug. 27, 1895.

Fig. 1.

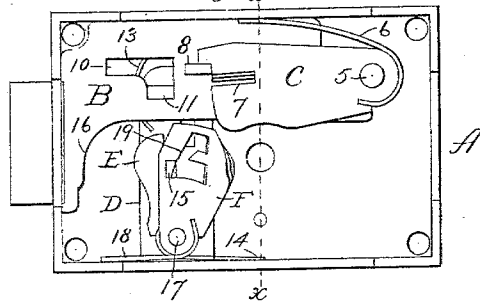


Fig. 2.

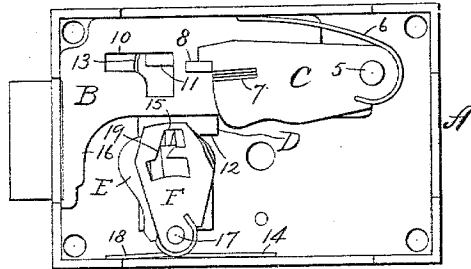


Fig. 3.

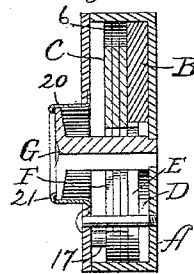


Fig. 5.

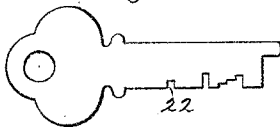


Fig. 6.

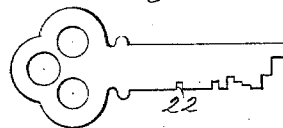
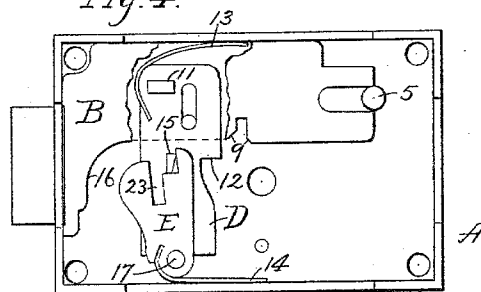


Fig. 4.



Witnesses

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SAFE-DEPOSIT LOCK.

SPECIFICATION forming part of Letters Patent No. 545,161, dated August 27, 1895.

Application filed September 15, 1894. Serial No. 523,103. (No model.)

To all whom it may concern:

Be it known that I, HENRY HORNE, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Safe-Deposit Locks, of which the following is a specification.

My invention relates to improvements in safe-deposit locks, and the objects of my improvement are to produce a lock that requires the use of two separate keys and to make such lock of a simple and inexpensive construction.

In the accompanying drawings, Figure 1 is a front elevation of my lock with the cap-plate removed, the parts being represented with the lock-bolt secured in place by means of the sliding dog. Fig. 2 is a like view of the same with the sliding dog moved by the application of the first key, so as to release the lock-bolt preparatory to the application of the second key. Fig. 3 is a transverse section of my lock on the line *xx* of Fig. 1. Fig. 4 is a front elevation of my lock with the cap-plate and all the tumblers removed and the middle portion of the lock-bolt broken away, in order to show the end of the sliding dog which works at the back of a portion of said bolt. Fig. 5 is a side elevation of the first key, and Fig. 6 is a side elevation of the second key.

A designates the case; B, the lock-bolt; D, the sliding dog or secondary lock-bolt; E, the swinging dog for holding and releasing the sliding dog; F, the tumblers for said sliding dog, and G the slotted rotatory hub or post for guiding and centering the flat keys.

The lock-bolt tumbler or tumblers C are of ordinary construction, pivoted on the post 5, and provided with springs 6 and slots 7 for the fence 8 of the lock-bolt B. The general construction of the lock-bolt B is the same as ordinary bolts, having the talons 9 for the application of a proper key for operating the tumblers and throwing the bolt in the usual manner. The back side of the bolt is recessed transversely to permit one end of the sliding dog D to work back of it. Said lock-bolt is also provided with an angular slot 10, within which the fence or stud 11 of the sliding dog D works. The sliding dog is arranged

in any suitable guides to move back and forth transversely to the movement of the lock-bolt B. It is provided with a talon 12 for being acted upon by a key to move it in one direction and a spring 13 for moving it in the opposite direction. When it is in the position to which it is thrown by the spring 13, as in Fig. 1, its fence 11 lies in the transverse portion of the angular slot 10 of the lock-bolt B and positively locks said bolt in place. When thrown in the opposite direction by the application of the key, this fence is in alignment with the longitudinal portion of the angular slot 10, as shown in Fig. 2, thereby permitting the lock-bolt B to be operated by the application of the proper key. Thus it will be seen that the sliding dog is in the nature of a secondary lock-bolt, but instead of projecting from the case for engaging a suitable keeper it acts upon the lock-bolt proper to secure it in place.

In order to hold the sliding dog in position after being thrown by its key until the lock-bolt B may be withdrawn, I provide the second or swinging dog E, which under the influence of its spring 14 engages the fence 15, as shown in Fig. 2. One edge of this dog (the left-hand edge, as shown in Fig. 4,) is arranged to be engaged by the shoulder 16 of the lock-bolt B when said bolt is fully withdrawn, so as to release the swinging dog from the fence 15 of the sliding dog, whereby said sliding dog is left to the influence of its spring 13. This swinging dog is pivoted to the post 17, and the tumbler or tumblers F for said sliding dog are also pivoted to said post. These tumblers are provided with springs 18 and are acted upon by a key in the ordinary manner, both sets of tumblers C and F being so related to the key post or guide G as to be operated therefrom. As in ordinary tumblers, they are provided with a slot within which the fence 15 of the sliding dog works; but instead of making this slot 19 parallel to the movement of the fence I make it inclined thereto, as shown, so that when the fence is thrown after it first enters the slot it acts on the inclined edge of the slot 19 and throws the tumblers farther from the bit of the key and holds them out of the path of the key-bit until the fence is moved back. Both keys work in the same guide or rotary

post G, and the first key, Fig. 5, acts on the tumblers F and sliding dog D, while the second key, Fig. 6, acts on the tumblers C and lock-bolt B. The rim of the tube or bearing 20 is slotted only at one point, as at 21, Fig. 3, and both keys are slotted, as at 22, on one edge to receive the rim of the tube 20, so that the key can be inserted and removed at one point only in its revolution, as in many ordinary locks. Whenever the lock-bolt has been unlocked or withdrawn by the first key and then forced out again, as it must be before said key can be withdrawn, the parts are left in the position shown in Fig. 1. The keys may be carried by two different persons. If the second key should now be inserted, the lock-bolt cannot be operated, because it is secured in place by the fence 11 of the sliding dog. By inserting the first key the tumblers F and sliding dog D are operated to carry the fence 11 into alignment with the longitudinal portion of the angular slot 10 and at the same time to throw the tumblers back out of the way of either key. The swinging dog E, under the influence of its spring 14, snaps into the position shown in Fig. 4 to engage the fence 15 and hold the sliding dog in the position shown in Fig. 2. The first key may now be withdrawn. The second key is next applied, and it has no direct action on the tumblers F and sliding dog, but acts upon the tumblers C and lock-bolt B in the ordinary manner to withdraw said bolt. As the bolt is withdrawn, the shoulder 16 engages one edge of the swinging dog E and releases it from engagement with the fence 15. The fence 11 of the sliding dog is a little thinner than the width of the longitudinal portion of the angular slot 10, so that the spring 13 immediately moves said sliding dog a little until its movement is arrested by the fence 11 striking the lower edge of the longitudinal portion of said angular slot. This movement of the sliding dog will be sufficient to make the fence 15 enter the slot 23, Fig. 4, of the swinging dog, so that said fence will not be again caught by the shoulder of said swinging dog until the sliding dog has been again moved in opposition to its spring. The lock may remain with the key in it and the lock-bolt drawn in as

long as may be desired. Upon turning the key to remove it, the lock-bolt will be thrown out again, and as soon as the fence 11 gets into the transverse portion of the angular slot 10 the sliding dog and its tumblers are moved again to the position shown in Fig. 1, so that the lock-bolt cannot be again operated without first inserting the first key, as before described.

I claim as my invention—

1. The combination of a lock bolt and transverse sliding dog with a set of tumblers for the lock bolt and a set of tumblers for said sliding dog, both sets of tumblers arranged for being acted upon by their respective keys when centered on one and the same axis, said dog, lock bolt and tumblers, all being relatively arranged for having both keys turn in the same direction for unlocking, and to permit the key for the sliding dog tumblers to make a complete revolution, substantially as described and for the purpose specified.

2. The combination of the lock bolt having the angular slot 10 at a point between its tailons and outer end, the sliding dog arranged transversely to said lock bolt and having a fence fitted to said angular slot, a spring for throwing said sliding dog in one direction, a second dog having the longitudinal slot 23 with a shoulder at its outer end on the side that is farthest from the outer end of the lock bolt for holding said sliding dog against said spring, and a shoulder on the lock bolt adapted to engage said second dog on that side of the slot 23 which is opposite the shoulder at the outer end of said slot, substantially as described and for the purpose specified.

3. In a lock the combination of a sliding fence as 15 adapted to be moved by a key, and a tumbler having a slot within which said fence may work and with said slot inclined substantially as described, whereby, as the fence is moved by the key, the tumbler is moved in a direction to carry it away from the key as set forth.

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Witnesses:

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