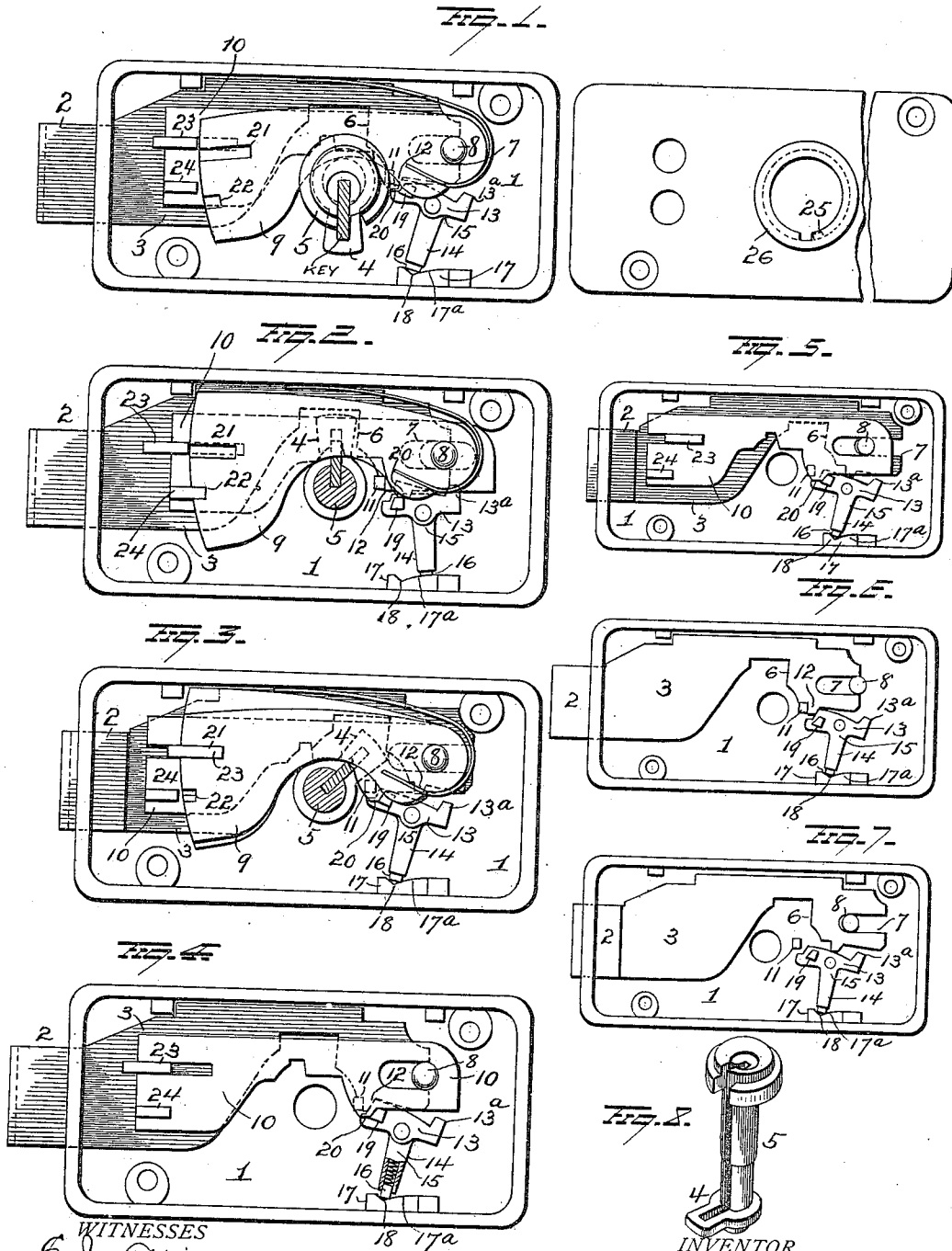


W. H. TAYLOR.
SAFE DEPOSIT LOCK.
APPLICATION FILED JUNE 7, 1910.

993,908.

Patented May 30, 1911.



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To all whom it may concern:

Be it known that I, WARREN H. TAYLOR, of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Safe-Deposit 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.

My invention relates to safe deposit locks, or that type of locks adapted to be operated in part by one key usually held by a custodian, who, by inserting it in the lock and turning it, prepares the lock for a second key, and in part by such second key held by the owner of the box, drawer or other locked receptacle, who cannot actuate the bolt of the lock with such key, until the lock has been prepared by the custodian with the first key, the object of the invention being to provide means whereby in the event the custodian should inadvertently set or prepare the wrong lock, it may be thrown off, or restored to its normally or fully locked condition, by a third key held by the custodian.

With this and other objects in view my invention consists in the parts and combinations of parts as will be more fully described and pointed out in the claims.

In the accompanying drawings Figure 1 is a view in plan of the lock with the bolt projected and the cover removed and at one side. Fig. 2 is a similar view of the lock showing the position of the parts with the guard key in place and turned to release the bolt dogging mechanism. Fig. 3 is a similar view showing the change key in place and the bolt retracted. Fig. 4 is a view showing the bolt slide and deadlocking dog, the tumblers being removed and the bolt shown in its projected position. Fig. 5 is a view of the same parts with the bolt in its retracted position. Fig. 6 is a view of the bolt and dog the latter deadlocking the bolt. Fig. 7 is a view of the same parts with the bolt in its retracted position and Fig. 8 is a perspective view of the key plug and its cam.

1 represents the lock case provided with a removable cover plate held in place by screws, and 2 is the bolt, projecting through the front end of the lock case. The shank 3 of the bolt is wider and thinner than the

bolt head, and is cut away for the entrance of and engagement with, the cam 4 on the key plug 5, so that by the rotation of the key plug, the cam thereon moving in contact with the rear wall of the cut away portion 6 of the bolt shank operates, when the bolt is not dogged, to move the latter to its retracted position. The shank of the bolt is also slotted at its rear end, as at 7, for the reception of the post 8 which latter acts as a guide for the bolt and slide 10, and a pivot for the several tumblers 9. The forward or outward movement of the bolt 1 is limited by the stud 11 integral with the lock case, engaging the front face of the shoulder 12 on the shank of the bolt, at the rear of the key plug, and the bolt is deadlocked in its projected position by the engagement of one end of the head of the T-shaped dog 15, with the rear face of said shoulder 12. This dog comprises the head 13 and shank 14, the lower end of which carries the spring pressed shoe 16 adapted to move in contact with the friction bearing 17 cast integral with the lock case 1. This bearing 17, is provided with a recess 18, the rear side 17^a of which is inclined as shown and the head 13 of the dog, is provided on its side, with the lug 19, having an inclined face, adapted when the bolt is projected, to rest against the rear inclined face of shoulder 20 of the slide 10, hence when the slide is moved rearwardly, as it is, by the custodian's key, or the guard key as it is commonly known, the dog 15 will be turned on its pivot sufficiently to remove the front end of its head 13 out of the path of shoulder 12 on the bolt shank, and shift the rear upwardly projecting end 13^a of the head of the dog 15 into the path of movement of the rear end of the bolt shank, so that after the dog has been moved by the slide 10 to release the bolt, the rearward movement of the bolt by the second or change key, restores the dog 15 to its original position, or in a position to again guard the bolt after the latter has been projected, the spring pressed shoe 16 on the lower member or shank 14 of the dog operating by its frictional contact with the friction bearing 17, to hold the dog in the position to which it is moved by the slide and bolt. As the bolt is projected, the shoulder 12 on the bolt shank, bearing against the front end of the head 13 of the dog, de-

presses same slightly but does not turn the dog sufficiently to carry its spring pressed shoe 16 off the inclined face 17^a of the friction bearing hence as soon as the shoulder 5 passes the head, the said inclined surface 17^a of the friction bearing, causes the spring pressed end of the dog to slide thereon and thus bring the front end of the head of the dog back to its normal or deadlocking position. 10

The tumblers 9 are mounted on the post 8, and each is provided with a spring for yieldingly forcing the tumblers toward the key plug. Each tumbler is also provided 15 at its front end with two gates 21 and 22, one as usual for the fence 23 on the bolt 1, and the other for the fence 24 on the slide 6, which latter as before explained moves independently of the bolt.

In the operation of the lock the custodian's or guard key is first introduced and turned. This movement of the key first moves all the tumblers so that the gates for the fence 24 on the slide aline with the latter 20 and then shifts the slide rearwardly. This movement of the tumblers does not however cause an alinement of the second series of gates 21 with the fence on bolt hence the latter cannot be retracted by the 30 guard key. This rearward movement of the slide shifts the dog to disengage the bolt thus leaving the latter free to be retracted by the second or change key. By now turning the guard key back to its original position, 35 the slide will be returned to its normal position and all the tumblers be released. If the second or change key be inserted and turned, the tumblers will all be shifted until the gates 21 thereon aline with the fence on 40 the bolt, thus permitting the latter to be retracted by the cam 4 on the key plug 5. The rearward movement of the bolt shifts the dog to its deadlocking position, so that when the bolt is projected by the reverse move- 45 ment of the second or change key, it will shift the dog just sufficiently to ride over same, and be again deadlocked by the dog as previously explained.

The third or throw off key is used to throw 50 off or restore the dog to its deadlocking position in the event the guard key has inadvertently set the wrong lock. The first and second or guard and change keys, are rotated to the right and are prevented from 55 rotating to the left, by the lug 25 located at the inner end of the cylinder 26 carrying the key plug. The third or throw off key is so bitted to pass this lug, hence by turning it to the left, the cam on the key plug will 60 be moved up into contact with the head of the dog and shift the latter to its deadlocking position. By this construction, if the custodian should accidentally set the dog- ging mechanism of a lock that was not to be 65 unlocked, he can immediately throw off the

dog by the use of the throw off key and thus restore the bolt to its original deadlocked position.

It is evident that many slight changes might be resorted to in the relative arrange- 70 ment of parts shown and described without departing from the spirit and scope of my invention hence I would have it understood that I do not wish to confine myself to the exact construction and arrangement of parts 75 shown and described, but

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

1. In a lock, the combination with a bolt 80 and a slide each having a fence, of a series of tumblers each having two gates in its front end, one gate in each tumbler adapted to be moved by one key into aline- 85 ment with the fence on the slide, and the other gate in each tumbler adapted to be moved by a second key into alinement with the fence on the bolt the two sets of gates in the tumblers being so arranged that they can 90 never be in alinement with the fence on the bolt and the fence on the slide at the same time.

2. In a lock, the combination with a bolt and a slide each having a fence, and a dog 95 for deadlocking the bolt, of a series of tumblers each having two gates in its front end, the said tumblers adapted to be moved by one key to bring one gate in each tumbler in line with the fence on the slide whereby the 100 latter may be moved by the key in advance of the movement of the bolt, and engage the dog and shift the same to release the bolt, and the said tumblers adapted to be shifted 105 by another key to bring the second gate in each tumbler in line with the fence on the bolt whereby the latter may be retracted by the second key the two sets of gates in the 110 tumblers being so arranged that they can never be in alinement with both fences at the same time.

3. In a lock, the combination with a bolt and a slide each having a fence, of a pivoted 115 dog adapted to deadlock the bolt and be engaged and moved by the slide to release the bolt, friction means for holding the dog against accidental movement, and a series of tumblers each having two gates, the 120 two sets of gates being so arranged that they can never be in alinement with both fences at the same time, the said tumblers adapted to be moved by one key to bring one gate in each tumbler in line with the fence on 125 the slide thereby permitting the latter to be moved by said key rearwardly to shift the dog and release the bolt, and also adapted to be moved by a second key to bring the second gate in each in line with the fence on the bolt whereby the latter may be retracted by said second key.

4. In a lock, the combination with a bolt 130

and a slide each having a fence, of a series of pivoted tumblers each having two gates in its front end, the said tumblers adapted to be shifted by one key to bring one gate in each in line with the fence on the slide, whereby the latter may be moved rearwardly by said key, the said tumblers adapted to be shifted by another key to bring the other gates in line with the fence on the bolt, whereby the latter may be moved rearwardly by the second key, the two sets of gates in the tumblers being so arranged that both sets can never be in alinement with the two fences at the same time and a dog for deadlocking the bolt, the said dog adapted to be moved by said slide out of its dogging position thus permitting the bolt to be retracted by the second key.

5. In a lock, the combination with a bolt and a slide, each having a fence, of a series of pivoted tumblers each having two gates in its front end, the two sets of gates in said tumblers being so arranged that they cannot aline with both of said fences at the same time, the said tumblers adapted to be shifted by one key to bring one gate in each in line with the fence on the slide whereby the latter may be moved longitudinally by said key, and also adapted to be shifted by a second key to bring the other gates in line with

the fence on the bolt whereby the latter may be retracted by said second key, a pivoted dog for deadlocking the bolt, the said dog being in the path of movement of the slide and adapted to be shifted from its deadlocking position by the rearward movement of the slide and restored to its deadlocking position by the rearward movement of the bolt, and friction means for holding said dog in its several positions.

6. In a lock, the combination with a bolt and slide each having a fence, and a series of tumblers each provided at its front end with two gates one gate on each tumbler for the fence on the slide and one on each for the fence on the bolt, a key for actuating the tumblers and slide, and a key for actuating the tumblers and bolt, of a dog deadlocking the bolt and actuated to release the latter by the slide and a third key for restoring the dog to its original or deadlocking position.

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

WARREN H. TAYLOR.

Witnesses:

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STEPHEN A. SMITH.