Sept. 10, 1929. J. A. KATZ 1,728,127

SAFE DEPOSIT BOX LOCK

Filed Nov. 25, 1927

FIG. 1.

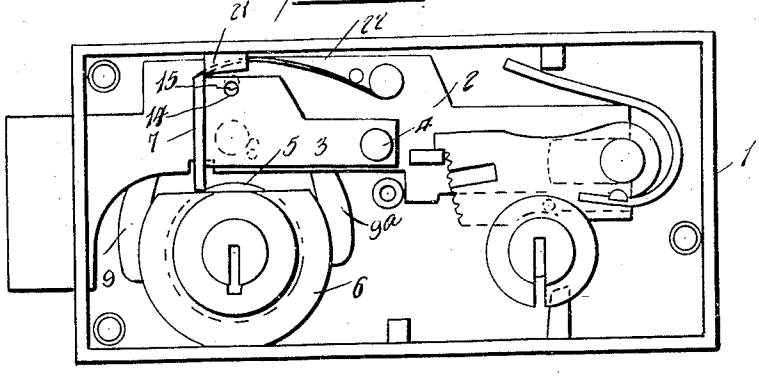


FIG. 2.

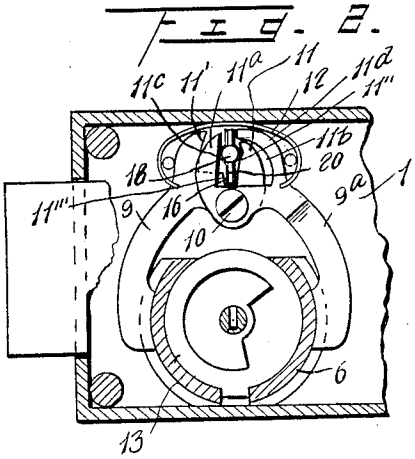


FIG. 3.

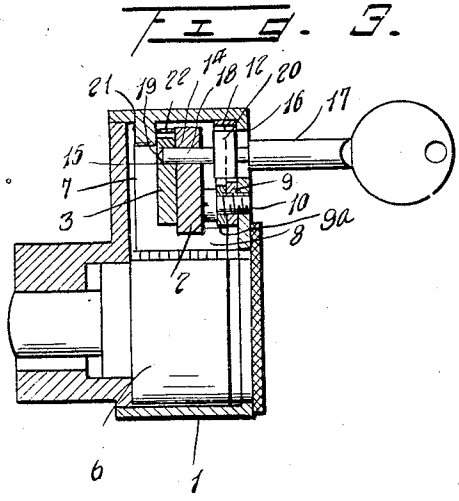
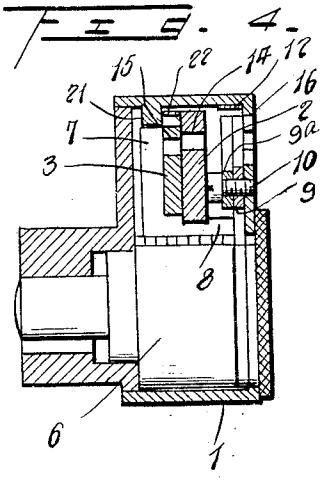


FIG. 4.



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UNITED STATES PATENT OFFICE.

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SAFE-DEPOSIT-BOX LOCK.

Application filed November 25, 1927. Serial No. 235,660.

The invention relates to a lock particularly adapted for use in connection with the safety deposit boxes of banking institutions and relates particularly to the type of lock such as is disclosed in application of the present applicant filed October 14, 1926, Serial No. 141,564, in which is provided a removable unit for actuation by the key of the customer who rents the box or other receptacle, the unit being removable to permit the banks to change the keys required to open the lock by the customer should the change be found necessary because of transfer of rental to some other customer, or the key should be lost by the customer.

In the application referred to, the key unit for actuating the lock bolt is adapted to actuate a latch or detent on the lock bolt to move the lock bolt, and pivotally mounted arms are provided that engage in grooves in the unit to hold the unit in engagement in the lock casing, a pin being provided on one of the arms that engages the latch or detent to raise it from engagement with the unit when the arms are moved into a non-holding position. This structure has been found to be unsatisfactory to some extent because of the possibility of the pin bending and thus making the lifting of the latch uncertain.

This invention has for its object the provision of improved means for actuating the latch into a non-engaging position and comprises providing the lock bolt and the latch with openings that are normally unalined, and a key for actuating the arms provided with an extended stem having a tapered end that engages in said openings, and by alining the opening in the latch with the openings in the bolt raises the latch from engagement with the unit to prevent interference with removal of the unit for the purpose above described.

The invention will be described in detail hereinafter and will be found illustrated in the accompanying drawing in which

Figure 1 is a front view of a lock with the front plate removed to disclose the interior of the lock and its mechanism,

Figure 2 is a longitudinal sectional view of a fragment of the lock, the lock bolt being shown broken away,

Figure 3 is a transverse sectional view showing the key inserted and holding the latch member or detent out of engagement with the unit, and

Figure 4 is a view on a similar plane as Figure 3, showing the key removed, and the parts in normal position.

In the drawings similar reference characters are used to indicate corresponding parts.

The lock illustrated is of the same type as that described in the hereinbefore referred to application for patent filed October 14, 1926, Serial No. 141,564, and the details of construction and operation of the lock will not be entered into except where the invention involved in this application is concerned.

The lock casing is designated 1 and has a slidable lock bolt 2 that is actuated by the engagement of the latch member 3 pivotally mounted on the bolt 2 as at 4, and engageable with notches in disks 5 in a removable unit 6, the free end of the latch 3 being provided with a lateral flange 7 and an extension 8 thereon that is engageable in notches in the disks 5 to move the locking bolt 2 to locking or retracted position. The unit 6 is held in casing 1 by means of arms 9 and 9^a that are pivotally secured together and engaged with casing 1 by means of a pivot pin 10. Arms 9 and 9^a have head portions 11 and 11^a, respectively, each provided with recesses 11′ and 11^b respectively to receive a key to be hereinafter described. Each of said recesses has an abrupt wall 11″ or 11^c respectively to engage wards on the key when it is turned in a direction to move the arms 9 and 9^a from engagement with unit 6. The recess 11′ in head portion 11 has an offset notch 11‴ having wall 11″ defining one of its sides that receives one of the wards of the key and head 11^a has a curved arm 11^d that is engaged by the other ward of the key. By this structure it will be apparent that when the key is turned in the other direction from that heretofore referred to the

wards by engaging in notch 11''' and against prong 11[d] moves arms 9 and 9[a] into engaging position, and that furthermore until the arms 9 and 9[a] are properly engaged with the unit 6 that the key can not be removed from the casing 1. 12 indicates a bow spring engaging arms 9 and 9[a] and normally tending to hold the free ends of the arms 9 with a groove 13 in the unit 6. Bolt 2 has an opening 14 and latch 3 an opening 15 that when the lock is in operative position are unalined, as shown in Figures 1 and 4. When it is desired to change the unit 6, it is necessary that the bolt 2 be in its locking position as shown in Figure 1 so that the opening 14 is alined with a keyhole 16 in the lock casing 1 so as to receive a key 17 having an extended stem 18 with a tapered end 19, the tapered end 19 by engaging the walls of the opening 15 serves to lift the latch 3 so that the extension 8 of the flange 7 is out of engagement with the disks 5. Key 17 is also provided with wards 20 that engage in the notches 11' and 11[b] hereinbefore referred to to move arms 9 and 9[a] into and out of engagement with the groove 13 in the unit 6 when the key is actuated as hereinbefore described and permit the removal of the unit 6 and to secure a replacement unit in position. It will also be understood that when the latch 3 is lifted by engagement of the stem 18 therewith the flange 7 will be engaged by stop 21 and retraction of the bolt 2 will be prevented. 22 indicates a spring carried by the bolt 2 and engaging the latch 3 to depress it into engagement with the disks 5, normally.

What is claimed is:—

1. A lock of the class described, including a casing, a lock bolt movable in said casing, a latch member pivoted on said bolt, a unit insertable in said casing and having means for engaging said latch to retract the bolt, arms pivotally engaging said casing and engageable with said unit to hold it in the casing, extensions on said arms, the bolt and latch having openings normally unalined axially and adapted to receive the stem of a key insertable in the casing and lift said latch relatively to the bolt, and the extensions on said arms engageable by wards on the key to move them into and out of engagement with the unit.

2. A lock of the class described, including a lock bolt, a latch member pivotally engaging the bolt, said bolt and latch having openings therethrough normally unalined axially and adapted to receive the stem of a key to lift the latch relatively to the bolt.

3. A lock of the class described including a lock bolt, a latch member pivoted on said bolt and adapted to be engaged by key actuated means to move the bolt, said key actuated means being removable from the lock, means to hold said key actuated means in the lock, said means being adapted for actuation by a key into and out of holding position, the lock bolt and latch member having normally unalined openings adapted to receive the stem of the key to aline them and move the latch member from engagement with the key actuated means.

4. In a lock of the class described, a casing, a lock bolt in said casing, key actuated means for operating the lock bolt contained within a unitary structure and removably engaged in said casing, arms pivotally engaging the casing and engageable with the said unitary structure, said arms being provided with recessed extensions adapted to be actuated by a key to move the arms into and out of engagement with said unitary structure.

In testimony whereof I affix my signature.

JOHN A. KATZ.