Aug. 22, 1939. H. E. SOREF ET AL 2,170,097

SAVINGS BANK

Filed Jan. 9, 1937

FIG. 4

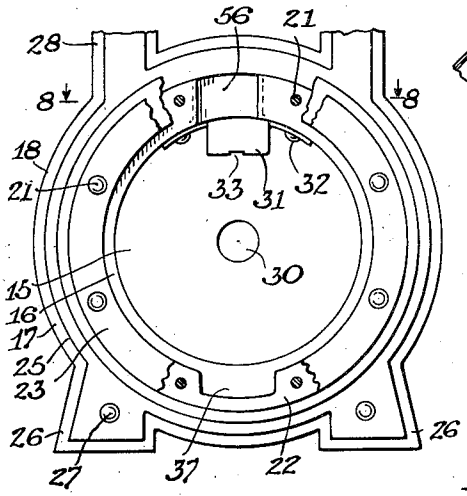


FIG. 9

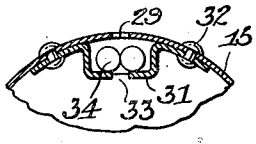


FIG. 10

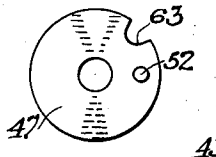


FIG. 11



FIG. 1

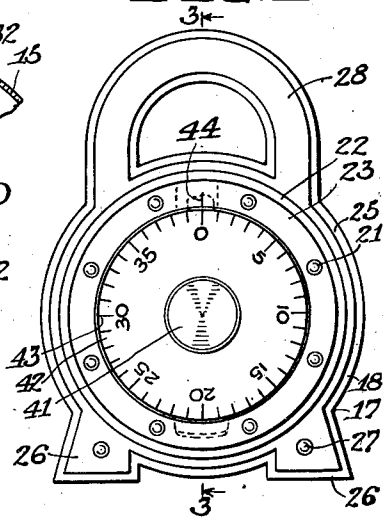


FIG. 3

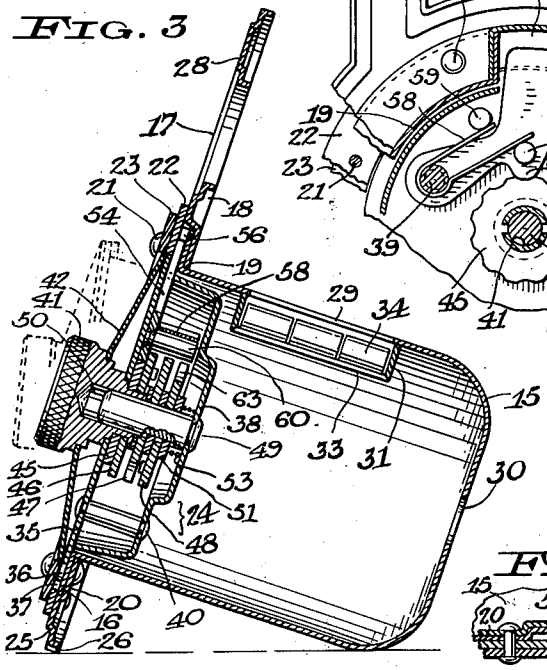


FIG. 5

FIG. 2

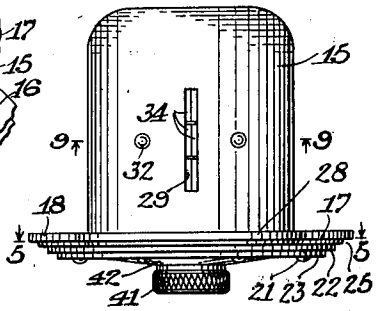


FIG. 8

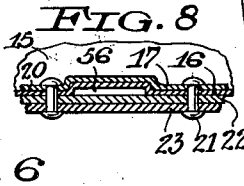


FIG. 7

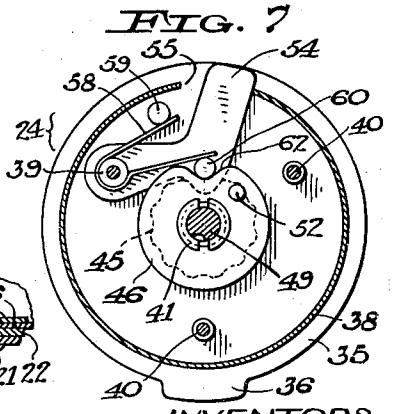
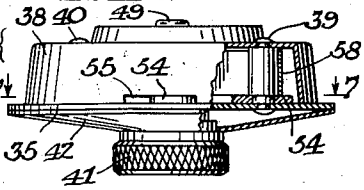


FIG. 6



WITNESSES

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SAVINGS BANK

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Application January 9, 1937, Serial No. 119,739

8 Claims. (Cl. 232—4)

The invention relates to small portable safes and more particularly to savings banks.

An object of the invention is to provide an improved safe in the form of a savings bank simulating certain features of a bank vault.

Another object of the invention is to provide a safe which is of inexpensive and durable construction, and which will securely preserve the contents.

A further object of the invention is to provide an improved locking closure for safes which is simple in construction and reliable in operation.

The invention further consists in the several features hereinafter described and claimed.

In the accompanying drawing, illustrating an embodiment of the invention,

Fig. 1 is a front view of a savings bank constructed in accordance with the invention;

Fig. 2 is a top view of the bank;

Fig. 3 is a sectional elevation of the bank taken generally along the line 3—3 of Fig. 1, a passing position of a closure thereof being indicated in dotted lines;

Fig. 4 is a front view of the bank with the closure removed, parts being broken away and parts being shown in section;

Fig. 5 is a detail sectional view taken generally along the line 5—5 of Fig. 2;

Fig. 6 is a top view of the closure, parts being broken away and parts being shown in section;

Fig. 7 is a sectional view of the closure taken generally along the line 7—7 of Fig. 6;

Fig. 8 is a detail sectional view taken along the line 8—8 of Fig. 4;

Fig. 9 is a detail sectional view taken generally along the line 9—9 of Fig. 2;

Fig. 10 is a detail view of a permutation tumbler, and

Fig. 11 is a detail view of a tumbler-spacing washer.

In the drawing, 15 designates a cup-shaped, sheet metal container of circular cross-section having about its rim an out-turned flat front flange 16 of annular shape. An embossed sheet metal front plate or frame 17 has an annular body portion 18 with a circular opening 19 in which the container fits, the flange 16 being secured to the front face of a rearwardly offset circular ledge 20 of the body portion by round-head rivets 21 arranged in a circular series. The front plate forms, in effect, an extension of the container flange 16. The rivets 21 also secure in place a pair of flat front rings 22 and 23 concentric with the container and annular body portion of the front plate, the equal inner diameters of the rings being larger than the container opening but smaller than the outer diameter of the container flange 16, so that the ring 22 will cover the outer edge or rim portion of the flange and confine the flange in place and so that the flange will present a countersunk seat for a closure designated generally by 24 and hereinafter more fully described. The outer diameter of the ring 22 is larger than the outer diameter of the outer ring 23, but smaller than the body portion 18 of the front plate, and the latter is embossed to form a circular shoulder 25 concentric with the rings. The front plate and the attached rings thus present a massive appearance simulating the frame of a bank vault. The body portion 18 has a pair of spaced marginally shouldered leg-forming projections 26 with decorative rivet-heads 27, either embossed or as parts of rivets. A marginally shouldered loop 28 is formed on the upper part of the body portion and constitutes a carrying handle. The container and its legged front plate rest on a horizontal supporting surface with a three-point bearing, the front plate assuming an inclined position, as seen in Fig. 3.

The upper wall of the container 15 has a coin slot 29 therein, and the rear end wall of the container has a small central circular opening 30 through which rolled bills or paper currency may be inserted into the container. A flanged housing 31 is secured by rivets 32 to the underside of the top wall of the container and is provided with a coin slot 33 in its bottom wall in alignment with the coin slot 29. A number of rollers 34 are disposed in the housing and are arranged in two laterally adjacent rows parallel to the coin slots. The laterally adjacent rollers are urged apart by coins entered into the container, but will effectively prevent removal of coins through the slots, as by shaking the container.

While the closure 24 could, if desired, be hinged to swing out from the container for access to the chamber or compartment in the container, the construction illustrated is one in which the closure is bodily removable from the container. The closure 24 includes a flat sheet metal disk or plate 35 which fits within the rings 22 and 23 and bears against the seat-forming front flange 16 of the container. A wide lug 36 extends from the edge of the disk, preferably at the lower portion of the disk, and detachably fits within a pocket or recess 37 formed by a notch in the inner periphery of the ring 22. A cup-shaped casing 38 is secured to the rear face of the disk

35 by rivets 39 and 40 and forms a chamber with the disk, the casing loosely fitting within the front part of the container 15 and having a peripheral wall the front edge of which is adjacent the disk.

The disk 35 is centrally apertured and has journalled therein a knob 41 carrying thereon against relative rotation a calibrated sheet metal dial 42 of shallow conical shape. The dial has the same diameter as the disk 35 and slidably bears at its periphery on the front face of the disk. The knob carries a circular scale 43 which cooperates with an index mark 44 on the ring 23. The rear portion of the knob projects through the disk and has rigidly secured thereon against relative rotation a pair of flat contiguous tumbler disks 45 and 46, the former being of smaller diameter than the latter and bearing on the rear face of the disk 35 to prevent relative axial movement of the knob and disk. Additional tumbler disks 47 and 48 are rotatably carried on a stud 49 coaxial with the knob 41 and rigidly secured to the rear wall of the casing 38, the front portion of the stud movably fitting in a central bore 50 formed in the knob. The tumbler disks 46, 47 and 48 are separated and flanked by friction washers 51 keyed on the stud 49, and carry transfer lugs 52, the tumblers being frictionally urged against the washers by a coiled compression spring 53 surrounding the rear portion of the stud.

A locking bolt is provided in the form of a flat, plate-like, angle shaped locking lever 54 of sheet metal pivotally carried near one end on a shouldered portion of the rivet 39 and having its other end projecting upwardly through a shallow notch 55 cut in the upper front edge of the peripheral wall of the casing 38 to enter a pocket or recess 56 formed between the rear face of the ring 22 and a rearwardly offset portion of the container flange 16. The pockets 37 and 56 are about diametrically opposite and provide locking abutments or shoulders. The locking lever 54 slidably bears at its front face against the flat rear face of the closure plate 35, and slidably bears at its rear face against the edge of the notch 55 in the casing 38. The locking lever is also slidably confined between the closure plate and the tumbler 46. The locking lever has an intermediate rounded heel 57 which bears on the periphery of the tumbler disk 45 and is urged thereagainst in unlocking direction by a looped leaf spring 58. An intermediate bight or loop of the spring fits more than 180° about the rivet 39, thus retaining the spring in position. One end of the spring bears against a stop pin 59 riveted to the disk 35 and the other end bears against a pin 60 riveted to the locking lever and extending over the tumbler disks in parallel relation to the axis of the disks. The heel 57 of the locking bolt is adapted to enter a notch 61 in the tumbler disk 45, Fig. 5, and the pin 60 on the lever is adapted to enter a notch 62 on the tumbler disk 46 and notches 63 in the respective tumbler disks 46 and 47, so that when the several notches are aligned by adjusting the knob the bolt will be spring-pressed inwardly out of locking engagement with the container, thereby permitting removal of the closure. The notches 61 and 62 in the tumbler disks 45 and 46, respectively, have rounded edges so as to form cams by which the bolt may be forced out of the notches to locking position by manual rotation of the knob. The periphery of the tumbler disk 45 is preferably provided with shallow false notches 64, Fig. 5, engageable by the locking lever heel 57, making it difficult or impossible for unauthorized persons to learn the permutation by the sense of touch or sound. The closure plate casing 38 and permutation mechanism form a lock body.

The rings 22 and 23 define the outer edge of the closure seat and guard the edges of the closure plate 35 and dial 42, so as to prevent access of a prying tool to the plate and dial.

When the bank is locked, the closure 24 forms a closed compartment with the container. Coins are inserted into the bank through the coin slot 29 and rolled bills are inserted into the bank through the opening 30. The casing 38 of the closure prevents coins or other articles from entering the permutation lock mechanism. The rollers 34 guard the coin slot and prevent removal of the coins through the slot by shaking the bank.

When the bank is to be opened, the user manually operates the knob to adjust the permutation tumblers to predetermined position, wherein the tumbler notches are aligned, allowing the locking lever to be moved by its spring 58 out of the pocket 56 to unlocked position. The closure is then swung forward by its knob a short distance about the lower edge of the disk 35 as a pivot to the dotted line position indicated in Fig. 3, and is then lifted out of the front plate by the knob, the lug 36 on the closure being then free to leave the pocket 37. The contents of the bank may now be removed through the open front of the bank. The removed closure can be safely handled by its knob without disarranging the permutation, as the knob is held in its adjusted position by the spring-retracted locking lever.

To return the closure to closing position, it is held by its knob 41 to enter the closure lug 36 into the pocket 37 and to seat the closure disk against the container flange 16, whereupon a partial turn of the knob will force the locking lever 54 out of the tumbler notches and into the locking pocket 56 by the cam action of one or both of the tumbler notches 61 and 62 on the lever heel 57 and pin 60, the rotation of the knob also disarranging the tumblers from their adjusted position.

What we claim as new and desire to secure by Letters Patent is:

1. In a savings bank, the combination of a hollow body having an opening, and a removable closure for said opening having permutation lock mechanism including a rotatable handle-forming adjusting member and a spring-rectracted locking member movable into locking engagement with said body, said locking member being carried on said closure and when retracted permitting removal of the closure and having a detent engagement with said handle-forming adjusting member to permit the closure to be removed and carried by said adjusting member without disarranging the adjusted permutation, and said adjusting member having an actuating connection with said locking member for moving said locking member to locking position.

2. In a savings bank, the combination of a container having an opening and an outturned flange about said opening forming a closure seat, a plate having an opening receiving said container therethrough and having a countersunk portion about said plate opening to receive said flange in substantially flush relation with the front face of the plate, an annular member secured to said plate and defining the outer edge

of said seat, said annular member covering the outer edge of said flange, a closure removably engageable with said seat, and locking mechanism carried by said closure and including an extensible locking member, said container having a recess to receive said locking member.

3. In a savings bank, the combination of a container having an opening with a closure seat thereabout, a ring secured to said container and defining the outer edge of said seat, said ring having a notch in its inner periphery, a second ring secured to the outer face of said first ring and closing the outer side of said notch to form a pocket, a closure engageable with said seat and having a retaining projection engageable in said pocket, and locking mechanism carried by said closure member and including an extensible locking member, said container having a recess at a distance from said pocket to receive said locking member.

4. In a safe closure, the combination of a closure plate, a casing secured thereto and having an opening, a locking lever pivoted on said plate and extensible through said opening, permutation lock mechanism including a plurality of coaxial permutation tumblers and an adjusting member therefor, said tumblers having alignable notches, a projection carried by said lever to enter said notches in the unlocking movement of said lever, and means for retracting said lever to unlocking position, said lever having a part slidably confined between said closure plate and one of said tumblers.

5. In a savings bank, the combination of a hollow body having an opening with a countersunk closure seat thereabout and having a wall defining the outer edge of said seat, said wall having a locking abutment adjacent said seat, a closure plate removably engageable with said seat and having a marginal lug projecting from the seat-engaging portion of said plate to enter behind said locking abutment, said lug being integral with said plate and extending substantially in the plane thereof, and locking mechanism carried by said closure plate and including a locking member engageable with said hollow body at a distance from said locking abutment.

6. In a savings bank, the combination of a container having an opening and an outturned annular flange about said opening forming a closure seat, a frame having an opening receiving said container therein and having a portion about said frame opening bearing on the rear face of said flange, an apertured member secured to said frame and defining the outer periphery of said seat, said apertured member covering the rim portion of said flange, and a closure removably engageable with said seat.

7. In a safe closure, the combination of a closure plate, a casing secured at the rear of said plate and having a peripheral forwardly projecting flange the front edge of which is adjacent the rear face of said plate, and permutation lock mechanism for the closure including an extensible locking bolt movably bearing on the rear face of said plate and slidably confined between said face and the front edge of said peripheral casing flange.

8. In a safe closure, the combination of a closure plate, a casing secured at the rear of said plate and having a front edge adjacent the rear face of said plate, an extensible locking bolt movably bearing on the rear face of said plate and normally urged to unlocking position, and permutation lock mechanism including a plurality of coaxial rotatable permutation tumblers and a common adjusting member therefor, said tumblers having alignable notches, said bolt having a projection to enter said tumbler notches in the unlocking movement of said bolt, and said bolt being slidably confined between the rear face of said closure plate and the adjacent front edge of said casing, said adjusting member having an actuating connection with said locking member for moving said locking member to locking position.

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JAMES KEITH MARSHALL.