July 24, 1934. J. P. PACA 1,967,779

CLOSURE MEMBER

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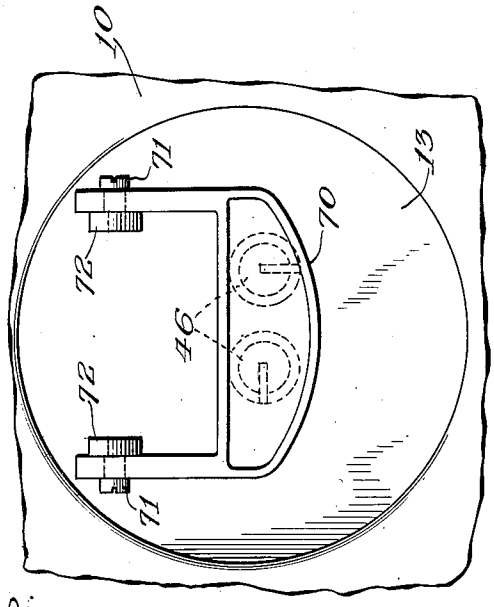


Fig. 2.

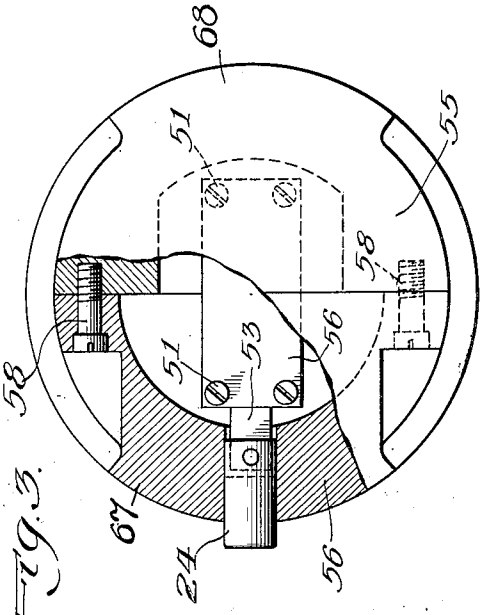


Fig. 3.

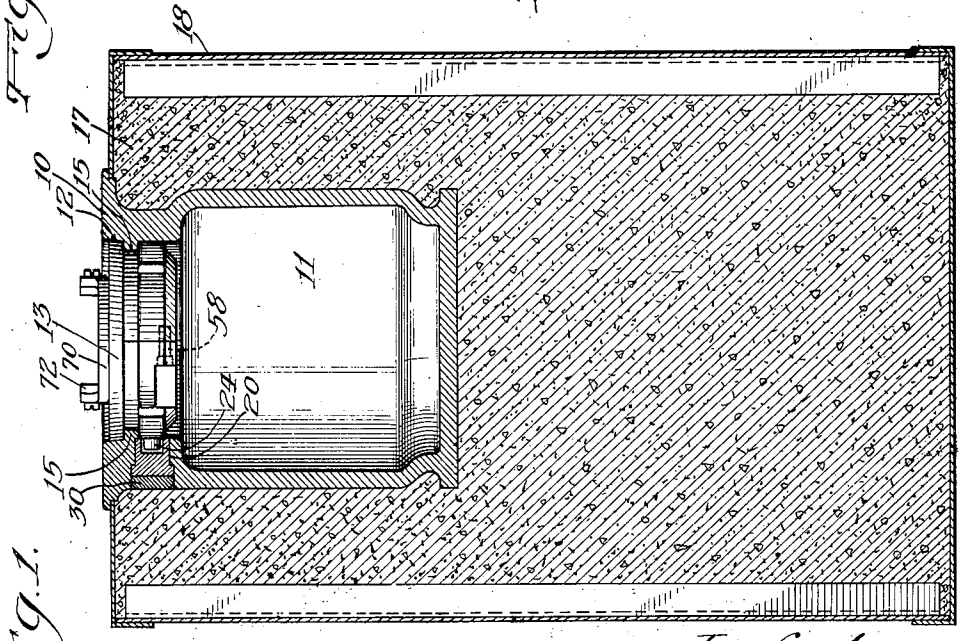


Fig. 1.

Inventor:
John P. Paca,
By Dyrenforth, Lee, Chritton & Wiles,
Attorneys.

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Fig. 4.

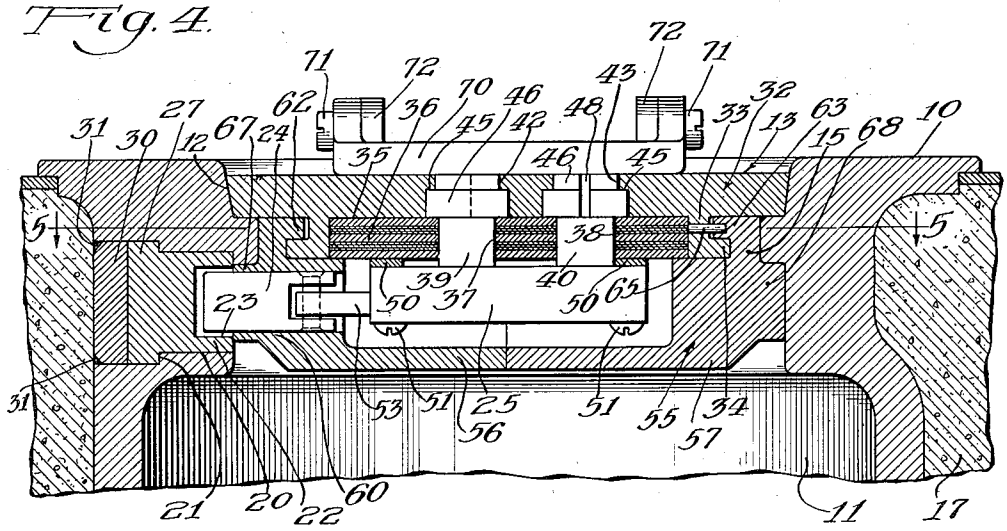
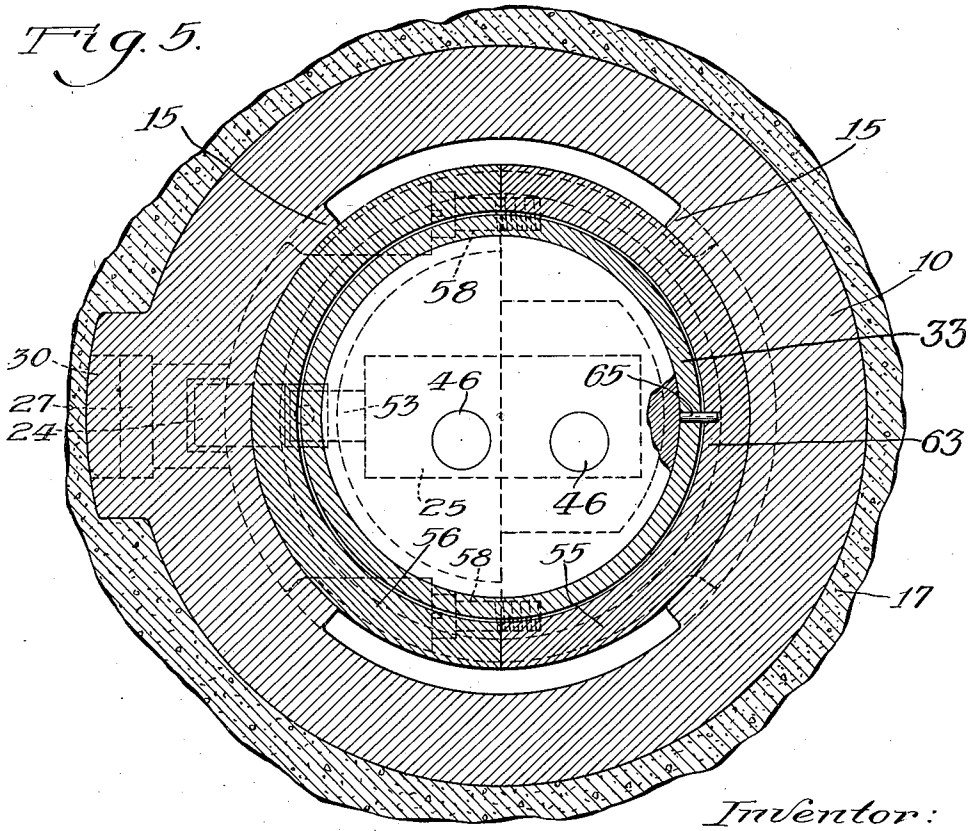


Fig. 5.



Inventor:
John P. Paca,
By Dyer, Jorth, Dyer, Chutton & Wilson,
Attorneys.

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UNITED STATES PATENT OFFICE

1,967,779

CLOSURE MEMBER

John P. Paca, Canton, Ohio, assignor to Diebold Safe & Lock Company, a corporation of Ohio

Application December 16, 1932, Serial No. 647,638

7 Claims. (Cl. 109—4)

The invention relates broadly to closure-members and is particularly adapted to be embodied in a closure-member for a safe or money chest in which the daily receipts of stores, gasoline stations, etc., may be placed temporarily for safe keeping. One form of invention is embodied in a closure-member for a safe or money chest of the character described. The closure-member comprises outer and inner walls or members which are secured to each other by frangible means. The inner member is provided with means whereby it may be locked in its closed position. If an attempt is made to open the closure-member by exerting force upon the outer wall or member thereof, the frangible means will be broken so that the outer member will be free to be displaced in such manner that it cannot exert any force on the locking means to destroy the same.

The improved closure-member is fabricated preferably from metals having dissimilar characteristics, the construction being such that any attempt to drill through the closure-member or otherwise force an opening therein, will be unsuccessful in the time an unauthorized person can devote to the attempt. The parts from which the improved closure-member is fabricated are constructed so that it may be assembled with little effort.

Other objects and advantages will become apparent as the following detailed description progresses, reference being had to the accompanying drawings, wherein—

Fig. 1 is a vertical central section through a safe or money chest which is provided with a closure-member embodying the invention.

Fig. 2 is a fragmentary plan view of a safe or money chest shown in Fig. 1.

Fig. 3 is a bottom plan view, partly broken away, of the improved closure-member.

Fig. 4 is a fragmentary section taken on the same line as Fig. 1, but showing the closure-member in section, and

Fig. 5 is a section taken on line 5—5 of Fig. 4.

Referring to the drawings wherein a preferred embodiment of the invention is illustrated, the reference character 10 designates generally a heavy walled container which is preferably a steel casting. The container 10 provides a chamber or compartment 11 in which currency, etc., may be placed for safe keeping. At its upper end, the container 10 is provided with a door opening 12 adapted to receive the improved closure-member 13 which, when it is unlocked, may be lifted bodily from the door opening 12. It will be noted that the container 10 is provided with spaced integral lugs 15 which project into the door opening 12, the lugs 15 being diametrically disposed in the door opening. (See Fig. 5).

In this instance, the container 10 is embedded in a block 17 of concrete which is enclosed in a suitable sheet metal housing 18, the block being adapted to be placed upon the floor of a store, or the equivalent, and being sufficiently heavy so that it cannot be readily removed therefrom.

As illustrated in Figs. 1 and 4, the container 10 is provided with a bore 20 extending through its wall. The inner end of the bore 20 reduced in diameter so that an annular shoulder 21 is provided in the bore intermediate its ends. Seated in the bore 20 is a hardened steel plug 22 provided with a recess 23 which is engageable by a bolt 24, the bolt 24 being controlled by a lock 25 which is carried by the closure-member 13. The plug 22 has a head portion 27 which abuts against the annular shoulder 21 and prevents the plug 22 from being driven inwardly by unauthorized persons during attempts to gain access to the chamber 11. Seated in the outer end of the bore 20 and abutting against the outer end of the plug 22, is a steel disc 30 which is welded to the container 10 as indicated at 31.

The closure-member 13 preferably comprises an outer wall or member 32 of case-hardened steel and provided with an integral downwardly extending annular flange 33, which, at its lower end, is provided with an outwardly extending annular flange 34. The annular flange 33 forms a recess 35 in the bottom surface of the outer wall or member 32. Seated in the recess 35 is a laminated plate 36 of an alloy steel which will prevent unauthorized persons from drilling through it to gain access to the lock 25. The laminated plate 36 is provided with apertures 37 and 38 through which lock noses 39 and 40 of the lock 25 extend. The apertures 37 and 38 register with apertures 42 and 43, respectively, in the outer wall or member 32. The outer ends of the apertures 42 and 43 are reduced in diameter to provide annular shoulders 45 which retain hardened steel plugs 46 in the apertures 42 and 43, the hardened steel plugs 46 being provided with key slots 48 which may be alined with corresponding key slots (not shown) in the lock noses 39 and 40. In other words, the hardened steel plugs 46 are rotatable in the apertuers 42 and 43.

The lock 25 is spaced from the bottom surface of the laminated plate 36 by shims 50. Screws 51 secure the lock 25 and the shims 50 to the laminated plate. The lock 25 comprises a bolt 53 to which the bolt 24 is riveted.

The closure-member 13 preferably comprises a fabricated inner wall or member 55 which, in turn, preferably comprises two members 56 and 57 secured to each other by screws 58. (See Figs. 3 and 5.) The inner wall members 56 and 57 are preferably malleable iron castings. The member 56 is provided with a bore 60 in which the bolt 24 is slidably journaled. The members 56 and 57 are provided with inwardly extending arcuate flanges 62 and 63, respectively, which engage the upper surface of the annular flange 34 and the bottom surface of the outer wall or member 32, the construction being such that when the parts are assembled as illustrated in the drawings, the members 56 and 57 are secured to the outer wall or member 32.

A frangible pin 65, preferably formed of steel, extends through the annular flange 33 and into the arcuate flange 63. (See Figs. 4 and 5.) The pin 65 normally prevents the outer wall or member 32 from being displaced angularly relative to the inner wall or member 55.

The inner wall members 56 and 57 are provided with radially extending lugs 67 and 68, respectively, which are diametrically disposed on the inner wall member 55. A U-shaped handle 70 is pivoted by pins 71 to lugs 72 projecting upwardly from the outer wall or member 13.

When the closure-member 13 is to be removed from the door opening 12, the lock 25 is manipulated to withdraw the bolt 24 from the recess 23. The lock 25 is preferably of the type which must be manipulated by two keys. One of these keys is generally retained on the premises and the other is generally in the possession of agency which collects the contents of the chamber 11 at predetermined intervals. When the bolt 24 has been withdrawn from the recess 23, the closure member 13 is rotated by turning it with the handle 70 into a position wherein the lugs 67 and 68 are disposed between the lugs 15, whereupon the closure-member 15 may be lifted bodily from the door opening. After the contents of the chamber have been removed therefrom, the closure-member 13 is inserted in the door opening 12 in such manner that the lugs 67 and 68 pass between the lugs 15 and the bottom surface of the outer wall or member 32 rests upon the upper surfaces of the lugs 15. The closure member 13 is then rotated until the lugs 67 and 68 are disposed beneath the lugs 15 and the bolt 24 registers with the recess 23. The lock 25 is then manipulated so that the bolt 24 enters the recess 23, whereupon the closure-member 13 is locked to the container 10 as illustrated in Figs. 4 and 5.

In the event an unauthorized person attempts to gain access to the chamber 11 by exerting force on the outer wall or member 32 to rotate it so that the bolt 24 will be broken or driven back out of the recess 23, the pin 65 will be sheared between the annular flange 33 and the arcuate flange 63 so that the outer wall or member 32 will rotate freely relative to the inner wall or member 55 and the laminated plate. Obviously, an unauthorized person cannot then employ the outer wall or member 32 to exert force upon the bolt 24. When the pin 65 is sheared in the manner described above, the arcuate flanges 62 and 63 continue to secure the outer wall or member 32 to the inner wall or member 55 so that the outer wall 32 cannot be withdrawn bodily from the door opening.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is my intention to claim all novelty inherent in my invention as broadly as possible, in view of the prior art.

I claim:

1. The combination with an enclosure having a door opening therein, of a closure member for said door opening, said closure-member comprising a plurality of inner closure-members having inwardly extending arcuate flanges, an outer member adapted to close said opening and having an outwardly extending flange interlocking with said arcuate flanges whereby said outer member may be rotated relative to said inner closure-members, means carried by said inner closure-members for locking them to said enclosure, and frangible means securing said outer member against displacement relative to said inner closure-members.

2. The combination with an enclosure having a door opening therein, of a closure-member for said door opening, said closure-member comprising an inner member, an outer member movably mounted with respect to said inner member, a laminated plate of drill resisting material disposed between said outer member and said inner member, a frangible pin securing said laminated plate, said outer member and said inner member against displacement relative to each other, and a lock secured to said laminated plate, said lock having a bolt for locking said inner member to said enclosure.

3. The combination with an enclosure having a door opening therein, of a closure-member for said door opening, said closure-member comprising an outer member, an inner member upon which said outer member is movably mounted, a plate of drill resisting material disposed between said outer member and said inner member, a lock secured to said plate and having a lock nose projecting through said plate, a bolt controlled by said lock for locking said inner member to said enclosure, and frangible means for preventing relative displacement between said outer member and said inner member.

4. The combination with an enclosure having a door opening therein, of a closure-member for said door opening, said closure-member comprising an outer member, an inner member upon which said outer member is movably mounted, a plate of drill resisting material disposed between said outer member and said inner member, a lock secured to said plate and having a lock nose projecting through said plate, a bolt controlled by said lock for locking said inner member to said enclosure, and frangible means for preventing relative displacement between said outer member, said inner member, and said plate.

5. The combination with an enclosure having a door opening therein, of a closure-member for said door opening, said closure-member comprising a plurality of inner closure-members equipped with locking flanges, an outer member adapted to close said opening and having a flange interlocking with the locking flanges of the inner closure-members, said interlocking members permitting relative rotary movement between the outer and inner closure-members, means carried by said inner closure-members for locking them to said enclosure, and frangible means securing said outer member against displacement relative to said inner closure-member.

6. The combination with an enclosure having a door opening therein, of a closure-member for said door opening, said closure-member comprising an outer member, an inner member upon which said outer member is rotatably mounted, a plate of protective material between the outer and inner members, a lock secured to the plate and having a lock nose projecting through the plate, means controlled by said lock for locking said inner member to said enclosure, and frangible means for preventing relative displacement between said outer member and said inner member.

7. The combination with an enclosure having a door opening therein, of a closure-member for said door opening, said closure-member comprising an outer member, an inner member rotatably secured to said outer member, a plate of drill-resisting material disposed between said outer and inner members, a lock secured to said plate and accessible through said plate and said outer member, a bolt controlled by said lock for locking said inner member to said enclosure, and frangible means for preventing relative displacement between said outer member and said inner member.

JOHN P. PACA.