

Oct. 6, 1925.

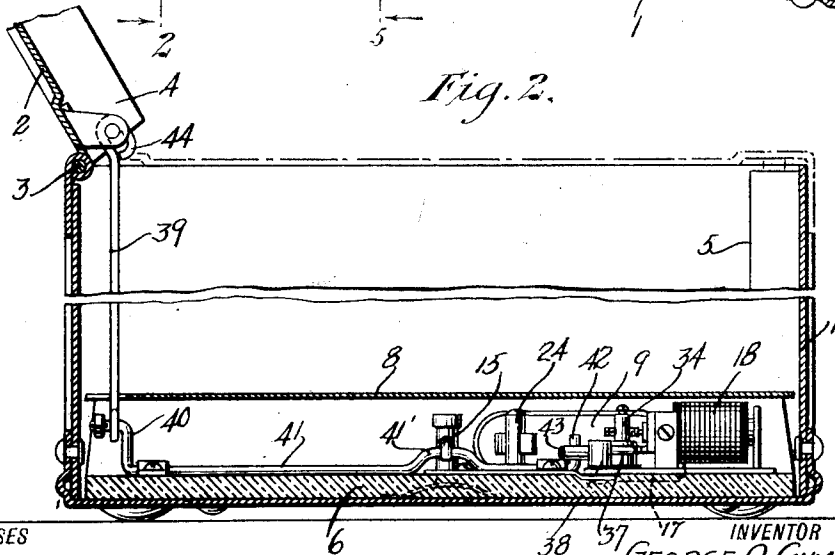
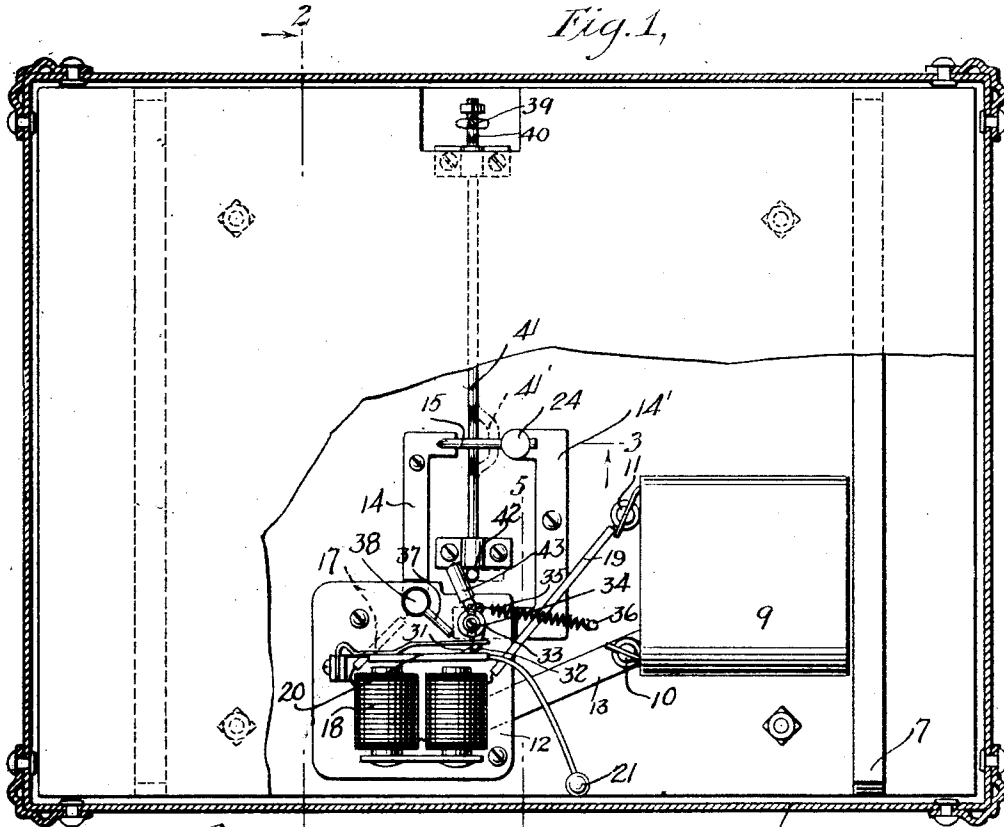
1,556,519

G. O. GUMBS

SAFETY CHEST

Filed Dec. 28, 1921

2 Sheets-Sheet 1



WITNESSES

Edw. Thorpe
A. L. Kitchin.

INVENTOR
GEORGE O. GUMBS
BY *Mumler*
ATTORNEYS

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Fig. 3.

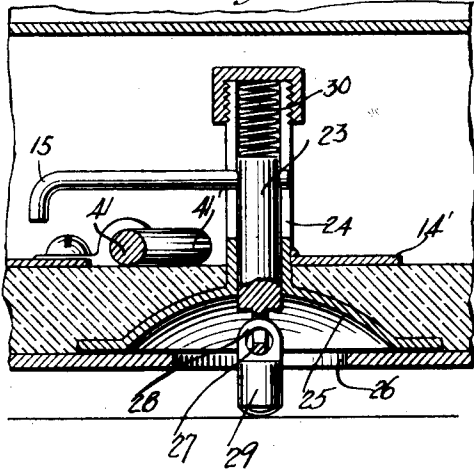


Fig. 4.

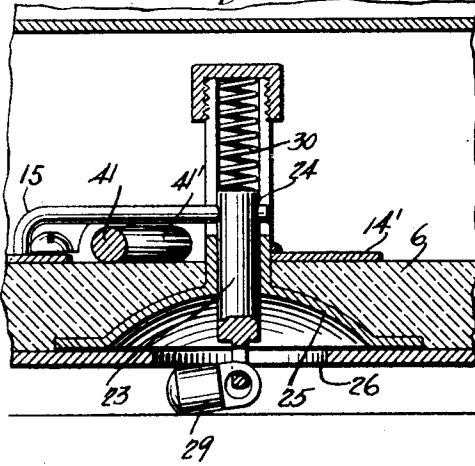
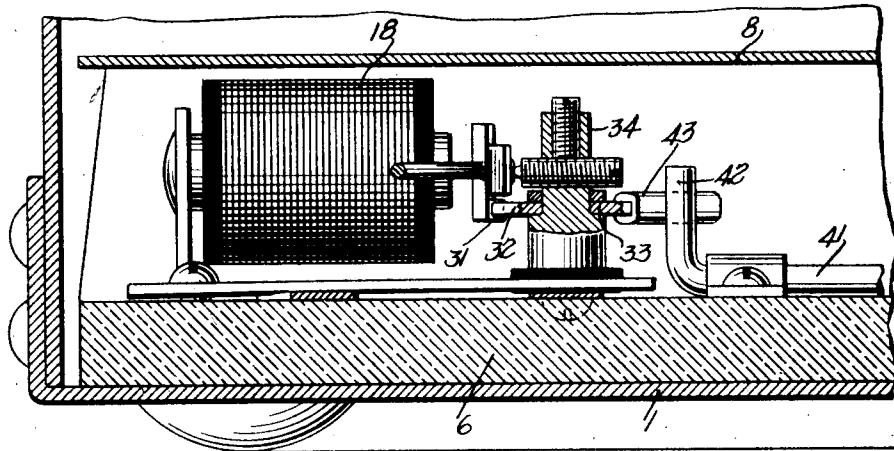


Fig. 5.



WITNESSES

Edw. Thorpe
A. L. Kitchin

INVENTOR

GEORGE O. GUMBS

BY *Mumford*
ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE O. GUMBS, OF ROCKVILLE CENTER, NEW YORK.

SAFETY CHEST.

Application filed December 28, 1921. Serial No. 525,306.

To all whom it may concern:

Be it known that I, GEORGE O. GUMBS, a citizen of the United States, and a resident of Rockville Center, in the county of Nassau and State of New York, have invented a new and Improved Safety Chest, of which the following is a full, clear, and exact description.

This invention relates to safety boxes or chests wherein the contents is not only protected by a lock but by an alarm structure which may be easily set into operation and which will operate for a long time or until reset.

The object in view is to provide a safety box or chest which is provided with a lock and with an alarm mechanism which will begin to operate when the box is moved vertically off a support or moved in a horizontal plane along a support.

Another object is to provide a construction wherein an electrically operated sound producing structure is set in motion when the chest to which it is secured is shifted from a given position.

A further object is to provide an alarm device for chests or boxes which will be set into operation when shifted and which cannot be stopped until the lid has been opened.

In the accompanying drawings—

Figure 1 is a horizontal sectional view through a safety box or chest disclosing an embodiment of the invention.

Figure 2 is a sectional view through Figure 1 approximately on line 2—2.

Figure 3 is an enlarged fragmentary sectional view through Figure 1 on line 3—3.

Figure 4 is a sectional view similar to Figure 3 disclosing the parts in a different position.

Figure 5 is an enlarged sectional view through Figure 1 approximately on line 5—5.

Referring to the accompanying drawings by numeral, 1 indicates a box of any kind, preferably of metal, said box being provided with a lid 2 hinged in place by a suitable form of hinge 3. The lid 2 is preferably formed with a flange 4 adapted to overlap the body of the box when closed as indicated in dotted lines in Figure 2. Any suitable lock 5 is used for locking the lid closed. Some good lock is desirable so that it cannot be picked or at least that it will

be very difficult to pick and will cause an unauthorized person picking the same to shift the box. The shifting of the box or chest, even to a very small extent, will cause the alarm mechanism to operate.

Arranged in the chest 1 is a baseboard or support 6 which may be of any material, as for instance wood, and which is provided with upstanding runners 7 on which a false bottom 8 is placed, said false bottom being metal or any other material. As indicated in Figures 1 and 2, the alarm mechanism is arranged between the false bottom 8 and the baseboard 6 so that the chest may be freely used for any desired purpose without interfering with the alarm mechanism. This mechanism is provided with a battery 9 which is preferably a dry cell and which is connected to contact posts 10 and 11 of any desired kind. In the accompanying drawings, these posts are shown slitted so that the terminals of the battery 9 may be forced therein and a proper electric connection secured. The post 10 is grounded on plate 12 through a suitable connector 13. A contact plate 14 is also electrically connected with the post 38 in any desired manner and extends to a desired point beneath the movable contact 15. The contact 15 is connected with a plate 14' which is electrically connected with the shaft 34 though insulated from plate 12. It will be noted that the plate 14 is electrically connected with the post 38 and with a wire 17, which wire is also connected with the windings 18 of the magnets. The opposite ends of the windings of the magnets are connected through an insulated conductor 19 to post 11. It will, therefore, be seen that when the contact 15 is engaging the contact plate 14, current will be supplied to the windings of magnet 18 and when this is the case a make-and-break mechanism 20, which is of an ordinary construction, will vibrate the hammer 21 and cause the same to intermittently strike the side of the box or chest 1 and produce a sound. It will be evident that a bell or other device could be struck by the hammer 21 though striking the side of the box when the same is of metal answers the purpose.

As shown in Figures 3 and 4, the contact 15 is carried by a reciprocating rod 23 guided in the tubular guide 24 which guide

merges into an inverted cup-shaped structure 25 secured in any suitable manner to the base 6. The cup-shaped member 25 sets over an aperture 26 in the bottom of the box. The reciprocating rod 23 is provided with a reduced apertured extension 27 at the lower end for receiving a reduced apertured extension 28 of the member 29. This member is shown as a short round shaft having a rounded bottom, though if desired it could be practically in the shape of a ball or a number of other shapes.

When the parts are in operative position and the box is resting on its support, the contact 15 will be elevated and member 29 will be in a vertical position as shown in Figure 3. When the box is raised or shifted slightly to one side, member 29 will be moved over or released so that the spring 30 may quickly force the parts downwardly and cause the contact 15 to engage plate 14. Immediately current will flow through the windings of magnets 18 and the first movement of the armature of mechanism 20 will cause the catch 31 on said armature to move away from the latch 32, which latch is secured to a rotatable sleeve 33, loosely mounted on a vertical shaft 34. When the contact 15 engages plate 14, a temporary circuit is closed which may be opened at any time by moving contact 15 upwardly. In tracing this temporary circuit, it may be assumed that the current starts from binding post 10 and passes through member 13, plate 12, armature 20, latch 32, sleeve 33, post 34, plate 14', guide 24, contact 15, plate 14, post 38, wire 17, windings 18 and conductor 19 back to the post 11. As this circuit is through the contact 15, it may be opened at any time by someone pressing on member 29 (Fig. 3) and moving the contact upwardly. If this was the only circuit, an unauthorized person could lift up the box quickly and raise the contact before any appreciable signal was given. However, as soon as this circuit has been closed, a permanent circuit will be established through latch 32 and the pin 37. A retractile spring 35 is connected with the sleeve 33 and with a suitable stationary pin 36 so that when the latch 32 is released, the sleeve 33 of the latch will be quickly swung around until the latch engages the pin 37 secured to the post 38, which post is insulated from plate 12 but is electrically connected with the plate 14 and wire 17. It will thus be seen that as soon as the circuit is temporarily closed through the contact 15, a permanent circuit will be closed through the pin 37. Current flowing in this permanent circuit will flow from battery 9, post 11, wire 19, windings of armature 18, wire 17, post 38, pin 37, latch 32, sleeve 33, plate 12, connecting member 13 and post 10 back to the battery. As this circuit has

no outside connections, it cannot be opened by manually moving member 29 or the rod 23.

If an authorized person or an unauthorized person should lift the chest, the circuit would be closed as just stated and if said person should press the shaft 23 against the spring 30 for disengaging the contact 15, the temporary circuit would be opened but the permanent circuit would remain closed and, consequently, the vibrating mechanism 20 and the hammer 21 would continue to vibrate. In order to open this permanent circuit, it will be necessary to open the lid and when the lid is swung back to the position shown in Figure 2, the link 39 will be pulled, which link will act on the crank member 40 and rotate the shaft 41 so as to swing the bent section 41' from the dotted position shown in Figure 1 to the full line position. This movement will also swing the bent end 42 from the dotted position shown in Figure 1 to the full line position shown in Figures 1 and 2. As end 42 moves upwardly to a vertical position, it will strike the insulated pin 43 secured to the sleeve 33 and will move said pin and rotate said sleeve until the parts assume substantially the position shown in Figure 1. This will cause the latch 32 to snap back of the catch 31 and be locked against movement into engagement with the pin 37. It will thus be seen that the bent end 42 will act to re-set the permanent circuit and the bent portion 41 will engage the extending section 22 of the contact 15 and move the same upwardly and pull the lower end of member 29 to an upward position so that it will be in line with or slightly above the bottom of the chest or box. The box may then be placed on its support and the lid closed. As the lid is closed the spring 31 will force shaft 23 and member 29 and associated parts downwardly until they assume the position shown in Figure 3.

The link 39 is provided with a looped portion 44 whereby the lid may be completely closed and locked. When in the position shown in Figure 2 and the lid locked, the parts will remain in that position until the box has been lifted and moved to one side. As soon as this occurs, spring 30 will force the rod 23 and associated parts downwardly and cause the contact 15 to engage the plate 14 whereby the circuit of the magnets is temporarily closed. When the lid is closed, the shaft 41 is rocked sufficiently to cause the bent portion 41' to move downwardly to substantially the position shown in Figure 3 whereby the downward movement of the contact 15 will finish turning the parts if the same are not already as shown in Figure 3.

As soon as the temporary circuit has been closed, the latch 32 will be released and the permanent circuit will be closed. It will

be noted that no one, not even an authorized person, can re-set the device without opening the lid and when the lid is opened the parts are automatically re-set.

5 What I claim is:—

1. In an alarm mechanism for safety chests, an electric magnet having windings, a vibrator adapted to be moved by said magnet, said vibrator being formed with a knob, a source of current, means for connecting one terminal of said source of current with said windings, an insulated post connected to the opposite end of said windings, a contact plate extending from said insulated post, a contact arm extending from said insulated post, means for grounding the second terminal of said source of current on said vibrator, a stop carried by said vibrator, a rotatable latch adapted to engage said stop when in one position and engage said contact arm when in the other position, said latch being grounded on said vibrator, a spring acting to cause said latch to move toward said contact arm, an arm extending from said latch, a contact arm grounded on said vibrator and adapted to be normally arranged above said contact plate and a lid operated rod formed with a pair of raised portions, one of said raised portions acting to raise said contact arm while the other raised portion engages said arm and swings the same against the action of said spring for causing said latch to engage said stop, and means extending to the exterior of said chest for holding said contact arm out of engagement with said contact plate.

2. The combination with a chest having a lid, of a pin connected with said lid, a link having an elongated eye fitting over said pin whereby the lid may move said link but is provided with a certain amount of loose motion, for permitting a limited independent movement of the lid, a controlling member operated by said link, an alarm mechanism provided with a temporary circuit, and a permanent circuit, means operated by said controlling member for opening said permanent circuit when the controlling member is moved to a certain position resulting from movement caused by opening said lid, and a switch for said

temporary circuit moved to an open position by said controlling means simultaneously with the opening of the permanent circuit.

3. The combination with a chest having a hinged lid, of electrically operated mechanism for producing a sound, a permanent circuit for said mechanism, a switch interposed in said permanent circuit, means for resetting said switch, said means including a coil spring, a catch for normally holding said switch out of operation, a temporary circuit for said mechanism, a second switch interposed in said temporary circuit, means extending to the exterior of the chest for holding said second switch out of operation, a controlling member having a pair of offset portions for resetting both of said switches, and means connecting said controlling member with said lid whereby when the lid is opened the controlling member will be moved for causing the resetting of said switches.

4. In a safety chest, an electrically operated alarm mechanism therefor, said alarm mechanism including a temporary circuit and a permanent circuit, a switch for each of said circuits, a controlling member having a pair of projections positioned to open both of said switches when moved to a certain position, a link for moving said controlling member, said link having an eye at one end, and a pin extending from the lid of said chest projecting through said eye whereby when the lid is open the link will be moved for shifting the controlling member to such a position as to open both of said switches.

5. A chest having a hinged cover, a spring-pressed plunger, a shoe connected with said plunger and normally holding it in an inactive position, but releasing said plunger when the chest is moved, an alarm controlled by said plunger, and a setting mechanism, actuated by the opening of the cover, for bringing the shoe and plunger to the normal or inactive position, said mechanism including a link which has a lost-motion pivotal connection with the cover and limits the opening movement thereof.

GEORGE O. GUMBS.