C. CENTONI.

AUTOMATIC ALARM.

APPLICATION FILED APR. 19, 1909.

1,012,812.

Patented Dec. 26, 1911.

3 SHEETS—SHEET 1.

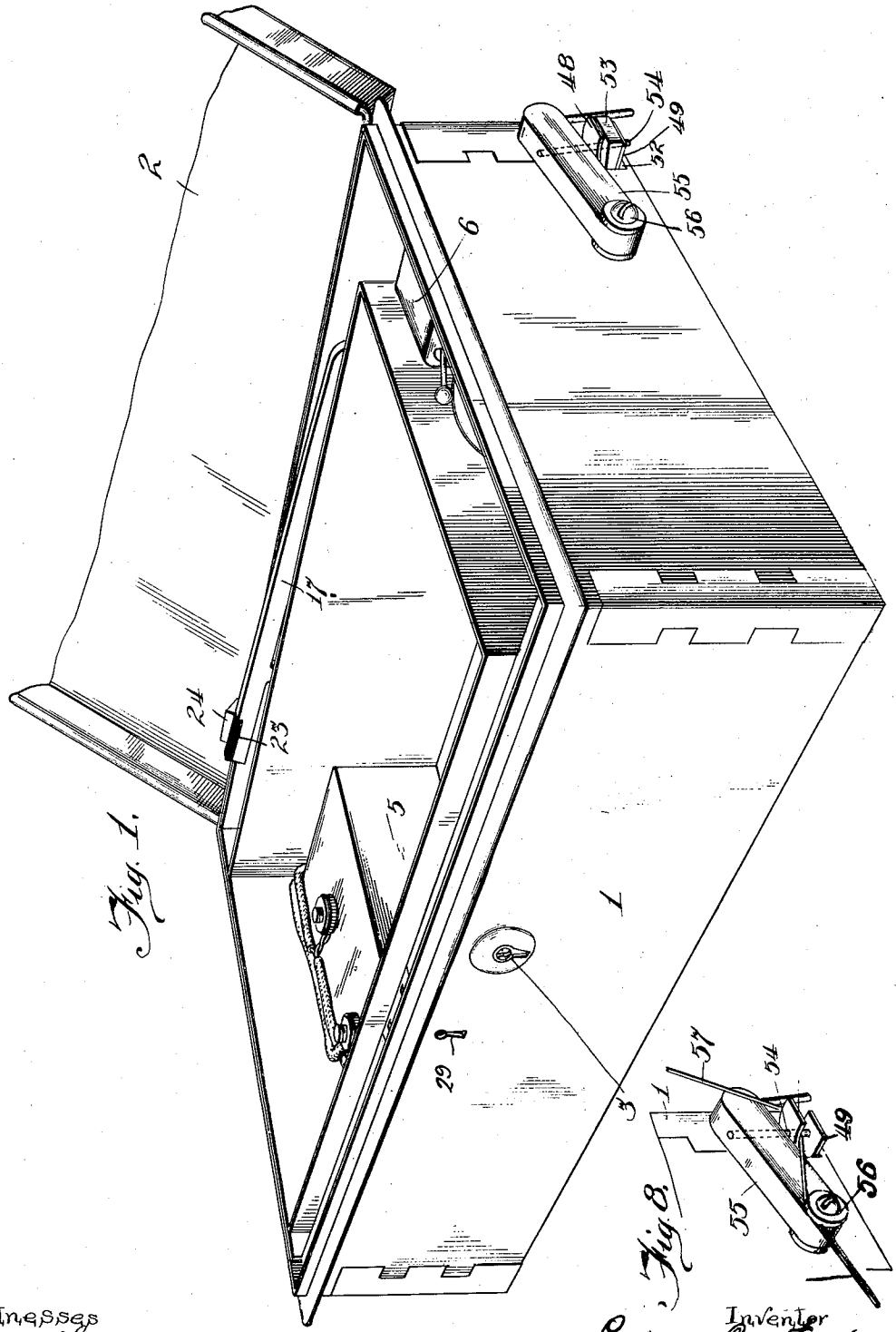

Fig. 1.

Fig. 8.

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3 SHEETS—SHEET 2.

Fig. 2.

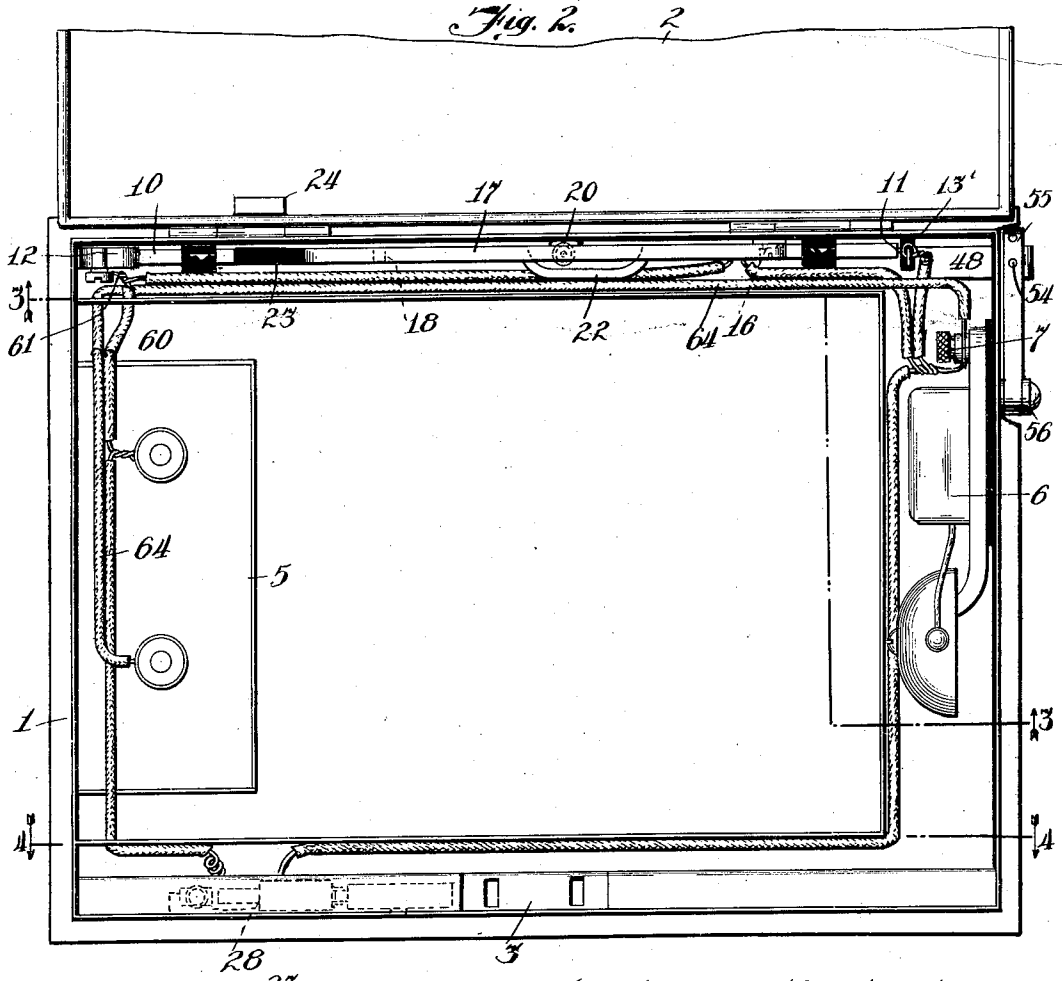
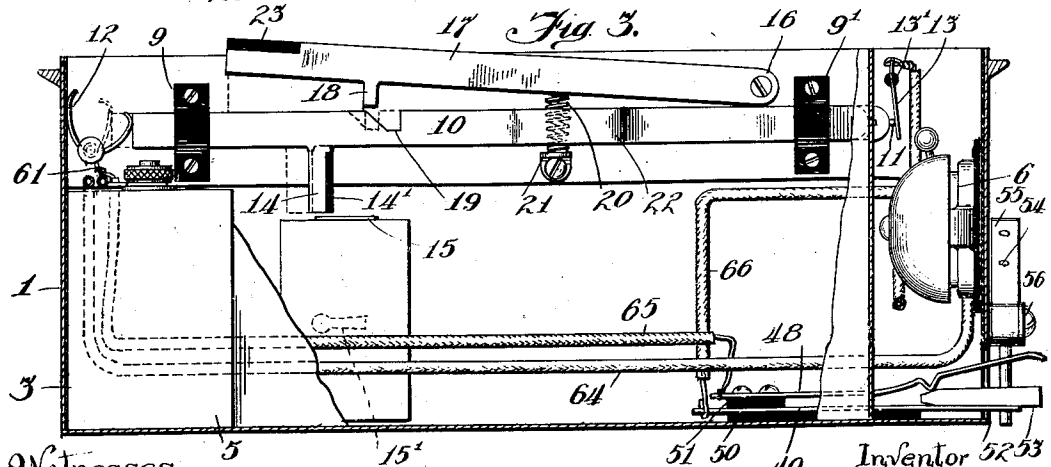


Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

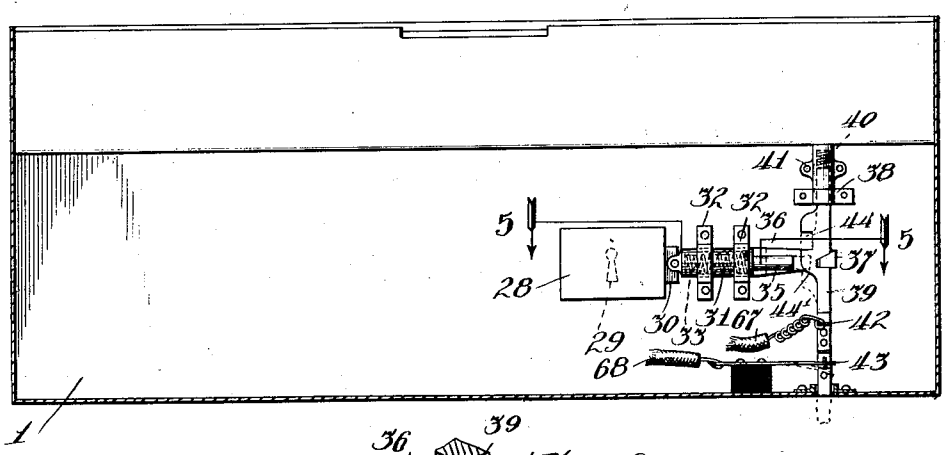


Fig. 6.

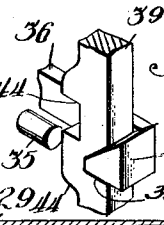


Fig. 5.

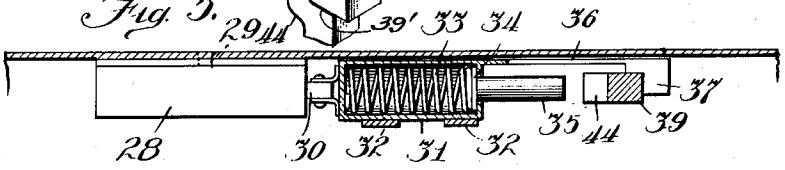
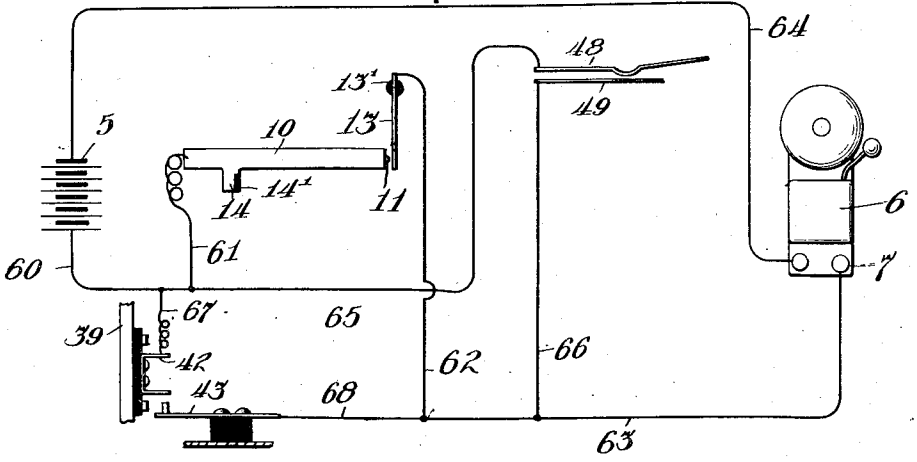


Fig. 7.



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UNITED STATES PATENT OFFICE.

CESARE CENTONI, OF CHICAGO, ILLINOIS.

AUTOMATIC ALARM.

1,012,812. Specification of Letters Patent. Patented Dec. 26, 1911.

Application filed April 19, 1909. Serial No. 490,686.

To all whom it may concern:

Be it known that I, CESARE CENTONI, a subject of the King of Italy, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automatic Alarms, of which the following is a specification.

This invention relates to improvements in automatic alarms and refers more particularly to a construction of that character adapted for use with portable money or lock boxes.

Among the objects of the invention are to provide a series of alarm controlling devices whereby the alarm will be set off in case any one of a given number of conditions arises; to provide a construction in which after certain controlling mechanism is placed in initial operative condition, the alarm will automatically ring and continue to do so if the box be surreptitiously moved from the place in which it was left; to provide a construction in which after certain other mechanism is placed in initial operative condition the alarm will be actuated if the box be opened and will not cease ringing if the cover be closed; to provide a construction in which the alarm is automatically actuated in case of fire; to provide a construction which is particularly adapted for use with portable boxes used in carrying valuables while traveling; to provide in a device of the character referred to simple circuit connections for controlling the alarm or bell; and in general to provide a simple, economical and efficient construction of the character referred to.

The invention consists in the matters hereinafter described and more particularly pointed out in the appended claims.

In the drawings:—Figure 1 is a perspective view of the box in open position a portion of the cover being broken away to reduce the size of the drawing; Fig. 2, is a similar top plan view of the same; Fig. 3 is a vertical sectional view taken through lines 3—3 of Fig. 2 and looking in the direction of the arrows; Fig. 4 is a vertical sectional view of the box and showing more particularly the mechanism for setting off the alarm when the box is lifted; Fig. 5 is an enlarged detail sectional view taken on lines 5—5 of Fig. 4; Fig. 6 is a detail perspective view of a portion of the mechanism shown in Fig. 5; Fig. 7 is a diagrammatic view of the circuit connections controlling the alarm; Fig. 8 is a somewhat modified construction of the contact controlling mechanism shown at the right hand side of Fig. 1.

Referring to the drawings, 1 designates as a whole a cash or lock box of ordinary construction, the cover 2 of which is locked in closed position by means of the usual lock 3. Within this box is seated a false wall or inner casing having three sides spaced away from the walls of the box. Within one end of the box within the casing is fixed a battery cell 5 of ordinary type. In the spaces between the inner casing and the walls of the box are seated the various mechanisms controlling the alarm, in order that they may be out of the way of the money or other valuables placed within the box.

At that end of the box remote from the battery 5 is secured an ordinary electric alarm bell 6; and inasmuch as the construction of this alarm forms no part of the present invention it need not be described in detail.

To the binding posts 7 of the alarm are secured a plurality of circuit connections which lead back to the opposite sides of the battery 5, and in these circuit connections are interposed series of normally open contacts pertaining to the various alarm controlling mechanisms.

Describing the mechanism which controls the contact devices which are closed when the mechanism in question is put in initial operative condition and the box opened; at the rear end of the box between insulated guides 9, 9′ is reciprocally mounted a contact bar 10. One end of this bar carries a contact stud 11 adapted to engage a contact spring 13 mounted upon the box and insulated therefrom as shown at 13′. The other end of the bar engages a spring of generally U shape construction designated 12 which is mounted on the box and tends to force the bar and contact 11 into engagement with the contact 13. This bar 10 is provided with a downwardly extending lug 14 which is engaged by an ordinary throw bolt 15 operated through the key hole 15′ from the outer rear side of the box. When the bar is retracted to the position shown in dotted lines in Fig. 3, the bolt (not shown) of

the lock 15 will engage the insulated portion 14′ of the lug 14 and positively hold the bar 10 in retracted position in an obvious manner. Above the bar 10 is pivoted to the rear wall of the box as shown at 16 a controlling lever 17 which is provided at its lower side with a finger 18 adapted to enter a cam recess 19 in the bar 10. The finger 18 is normally held out of the recess 19 by means of a coiled expansion spring 20 mounted upon bracket 21 secured to the box. This spring engages the lever 17 as shown. Preferably the bar 10 is offset as shown at 22 in order to permit the spring to more readily engage the lever 17. The free end of the latter is insulated at its upper edge as shown at 23 and when the box is closed this insulated portion will be depressed by a block 24 upon the cover 2. The finger 18 will accordingly be forced into the cam recess and the bar 10 held in retracted position. If the bolt of the lock 15 be withdrawn out of engagement with the lug 14 it will be seen that as soon as the cover is opened and the block passes out of engagement with the lever, the spring 20 will force the finger 18 out of the recess 19 whereupon the contact stud 11 will be forced into engagement with the contact 13 in the manner heretofore described.

Referring now to the mechanism which controls the setting off of the alarm when the box is surreptitiously lifted or removed from its position, upon the front side wall of the box is secured a lock 28 operated from the outside of the box through a key hole 29. This lock is or may be of usual construction, the bolt 30 thereof however being connected to a cylindrical socket member 31 mounted to slide in guides 32, 32 secured to the wall of the box. Within this socket member is seated a coiled spring 33 one end of which bears against the head 34 of a pin or bolt 35. The latter extends through a suitable opening in the end of the socket member and is adapted to engage a contact controlling arm hereinafter more particularly described. At one side of the socket member and rigidly secured thereto is a gripper arm 36 having a right angled extension 37 at its outer end. Within a guide bracket 38 is mounted to reciprocate a contact controlling arm 39 which is normally forced downwardly through a suitable opening in the bottom of the box by means of a spring 40 seated in a socket 41. To the lower end of the arm 39 is secured but insulated therefrom as shown in Fig. 7 a generally U shaped contact member 42 which is adapted to engage a stationary contact member 43 when the rod 39 is in the position shown in dotted lines in Fig. 4. The outer face of the contact controlling arm 39 is provided with a recess 39′ in which the extension 37 of the arm 36 is seated when the parts are in normal position, and the contact 42 thereby held positively out of engagement with the contact 43. The opposite face of the arm 39 is provided with a recess 44 to receive the bolt 35 in the manner hereinafter described.

The operation of the mechanism just described is as follows: The box is first placed on a table or other support and the lock 28 turned so that the head 37 passes out of engagement with the arm 39 while the bolt 35 abuts against the lower side 44′ of the recess 44. The bottom of the arm 39 inasmuch as it extends through the bottom of the box rests upon the support for the latter and prevents the spring 40 from forcing it downwardly. When the box is lifted the spring 40 of course forces the arm 39 downwardly through the aperture referred to whereupon the contacts 42 and 43 are closed. At the same time the bolt 35 enters the recess 44 and locks the arm 39 against upward movement. It will thus be seen that the alarm will ring continually until the lock 28 is turned and the bolt 35 withdrawn, even though the box be returned to the support upon which it formerly rested. The circuit connections for the contacts 42 and 43 will be hereinafter described.

Frequently boxes of this character are inadvertently left or forgotten by the owner as when leaving a train or vehicle. My device is so constructed as to automatically notify the owner in case he forgets to carry the box with him. Accordingly within one end of the box is seated a pair of contact springs 48, 49 insulated at one end from the box and also from each other as shown at 50 and 51 respectively; and having their other ends protruding through a suitable aperture 52 in the end of the box. The outer ends of these springs are normally held apart by means of a removable block 53 of wood or other non-conducting material. This block is adapted to be attached to one end of a chain or cord (not shown), the other end of which is adapted to be attached to the person of the owner of the box. The result is that when the former leaves the box the chain will pull the block 53 from between the contact springs 48 and 49 whereupon the latter will spring into engagement with each other, close a circuit and set off the alarm. When not in use the block may be locked between the contact springs by means of a pin 54 carried by an arm 55 pivoted to the outside of the box as shown at 56. The pin is adapted to pass through suitable apertures in the springs and block as shown in Fig. 1.

In a modified form of construction shown in Fig. 8, the block is dispensed with and the springs held out of engagement with each other by means of a combustible cord or fusible link 57. In case of fire the cord

burns and the contact springs 48 and 49 being released automatically close and set off the alarm.

Describing now the various circuit connections and referring more particularly to the diagram, the circuit for the contact members 11 and 13 is as follows: from the positive side of the battery by way of a common conductor 60 to branch conductor 61, thence over bar 10 to contacts 11 and 13. From the contacts by way of branch conductor 62 to another common conductor 63 to the bell. From the opposite side of the bell to the battery by way of a return conductor 64. The circuit connections for the contacts 48 and 49 are as follows: from battery by common conductor 60 and branch 65 to springs 48 and 49; thence by conductor 66 to common conductor 63 and bell. From bell to battery by return conductor 64 as before. The circuit connections for the springs 42 and 43 may be traced from battery 5 and conductor 60 to branch 67 and springs 42 and 43; thence by way of branch conductor 68 to common conductor 63 to bell, and return as before.

The operation of the various mechanisms will be apparent from the foregoing description and need not be described in detail.

It is apparent that the invention is not limited to the details of construction shown in its broader aspects.

I claim as my invention:

1. In an alarm box, the combination with a box having an alarm and battery therein, of circuit connections between the alarm and battery, a pair of contact devices interposed in said circuit connections, a contact closing member adapted to reciprocate through an aperture in the bottom of the box, a spring normally forcing said member downwardly, a locking bar adapted to engage a notch in said contact closing member for positively locking the latter in its downward position when the box is lifted, and a spring acting to force said locking bolt into said notch, and a key controlled bolt for placing said locking bar in operative or inoperative condition.

2. In an automatic alarm box, the combination with a box having an alarm and battery therein, circuit connections between the said alarm and battery, contact devices interposed in said circuit connections, a notched contact controlling member mounted to reciprocate through an aperture in the bottom of the box, and adapted to automatically drop downwardly, a spring actuated locking bar adapted to automatically engage said notch when the contact controlling member drops downwardly and a throw bolt controlled from the outside of the box which places said locking bar in its initial operative position.

3. In an automatic alarm box, the combination with a box having an alarm and battery therein, circuit connections between said alarm and battery, contact devices interposed in said circuit connections, a contact controlling member mounted to reciprocate through an aperture in the bottom of the box, and adapted to automatically drop downwardly, a spring pressed locking bar adapted to engage the contact controlling member and lock the latter in its downward position, and a key controlling locking bolt accessible from the exterior of the box for placing said locking bar in operative or inoperative position.

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