

(No Model.)

2 Sheets—Sheet 1.

W. J. WALKER & A. L. BEDFORD.

ELECTRIC ALARM MONEY DRAWER.

No. 499,864.

Patented June 20, 1893.

Fig. 1.

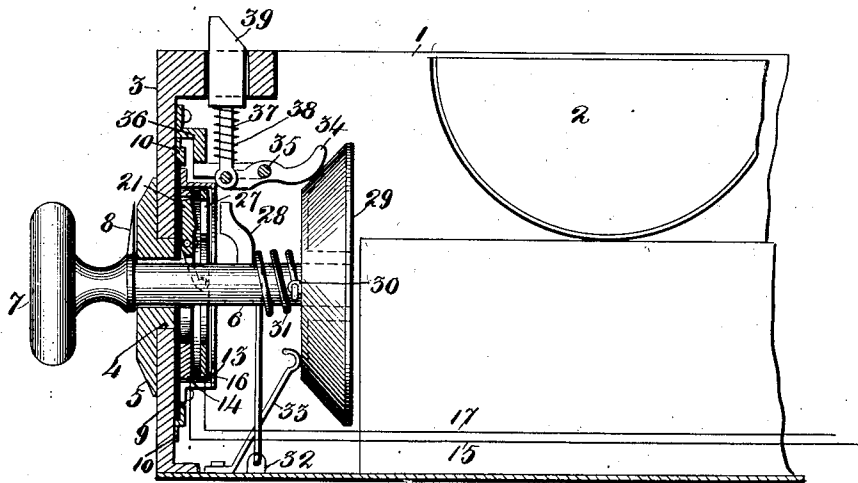


Fig. 2.

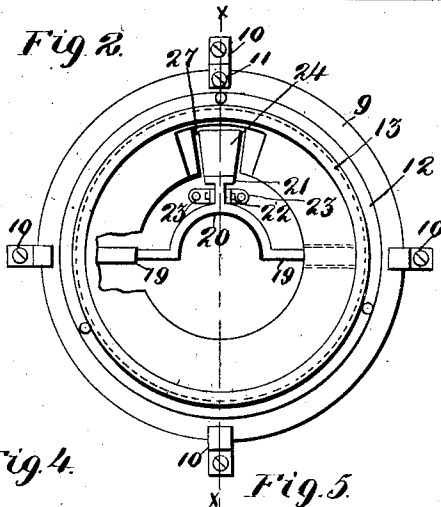


Fig. 3.

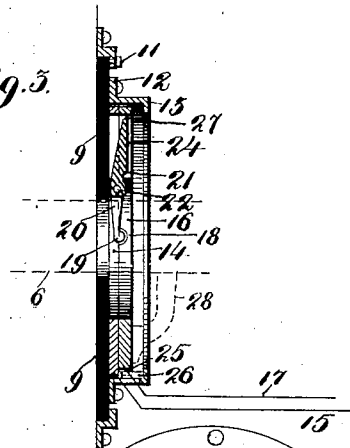


Fig. 4.

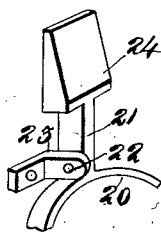


Fig. 5.

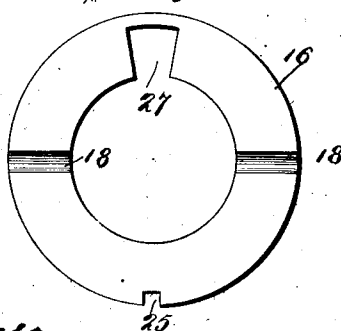
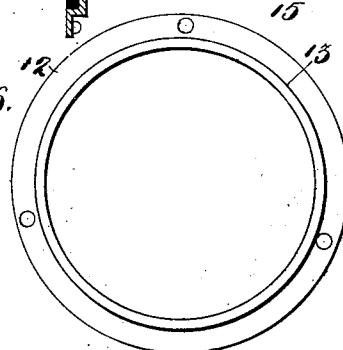


Fig. 6.



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(No Model.)

2 Sheets—Sheet 2.

W. J. WALKER & A. L. BEDFORD.
ELECTRIC ALARM MONEY DRAWER.

No. 499,864.

Patented June 20, 1893.

Fig. 1.

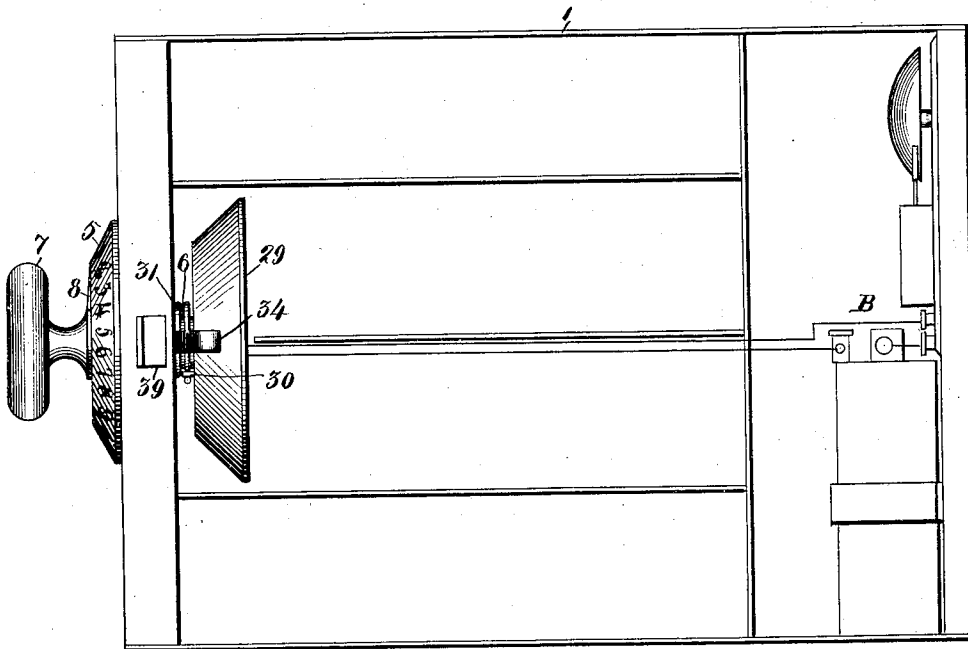


Fig. 8.

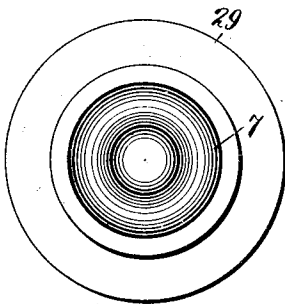
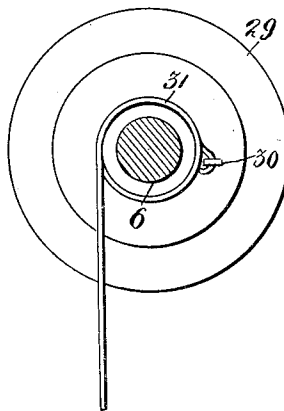


Fig. 9.



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UNITED STATES PATENT OFFICE.

WILLIAM J. WALKER AND ALEXANDER L. BEDFORD, OF ST. LOUIS, MISSOURI.

ELECTRIC-ALARM MONEY-DRAWER.

SPECIFICATION forming part of Letters Patent No. 499,864, dated June 20, 1893.

Application filed February 17, 1893. Serial No. 462,790. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. WALKER and ALEXANDER L. BEDFORD, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Electric-Alarm Money-Drawers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention has relation to improvements in electric alarm money drawers and consists in the novel arrangement and combination of parts more particularly set out in the specification and pointed out in the claims.

In the drawings Figure 1 is a vertical sectional view of a drawer and my invention applied thereto. Fig. 2 is a front view of the switch and the casing surrounding the same. Fig. 3 is a section taken on the line $x-x$ Fig. 2. Fig. 4 is a perspective enlarged view of the switch lever. Fig. 5 is a rear view of the reciprocating contacting disk forming a part of the switch. Fig. 6 is a front view of the casing. Fig. 7 is a plan view of my invention. Fig. 8 is a front view of the operating handle; and Fig. 9 is a cross section of the shaft of the operating knob, and the spring encircling the same showing the attachment of one end of the spring to the cone piece.

The present invention has for its object primarily to provide means for automatically restoring the operating knob and the parts attached thereto to their normal position after the drawer has been closed by the operator; and by "normal position" we mean that position of the knob and its co-operating parts, which, in the event the knob is attempted to be pulled or the parts are tampered with, an alarm is immediately sounded by the completion of an electric circuit of which a bell forms a part.

The invention has also for its object the simplification of the parts of the switch by which the circuit is made or broken.

In detail the invention can be described as follows:

Referring to the drawings, 1 represents the ordinary money drawer with the usual money receptacles 2 located therein.

3 is the front wall of the drawer to which the several parts of our invention are se-

cured. The front wall has a central opening within which fits the annular flange 4 of a casting 5 which constitutes a suitable number plate the numbers being marked on the outside of the same and running circularly from 1 to any convenient number as best shown in Fig. 7 of the drawings. Through an opening of the number plate passes loosely the shaft 6 of an operating knob 7; and secured to the end of the shaft adjacent to the exterior surface of the number plate is a suitable index or pointer 8 co-operating with the numbers on the number plate.

Movably and adjustably secured to the inner surface of the front wall of the drawer and surrounding the shaft of the operating knob, is an insulating disk 9; the manner of securing the same to the wall of the drawer is by a suitable number of angle pieces or irons best shown in Figs. 2 and 3, designated by the numeral 10. Within these angle pieces the disk can be rotated to proper adjustment and when once adjusted can be firmly secured by the binding screw 11 passing through one of said angle pieces. Secured to said insulating disk by means of a flange 12 or any mechanical manner is an annular casing 13 which guides, and within which are confined the parts constituting the switch proper.

The switch may be described as follows: Secured to the insulating disk, and confined within the casing 13 is a conducting disk 14, preferably annular, which is connected with one of the wires 15 passing to the battery B. Confined also within the casing, and surrounding the shaft 6 is a second annular disk 16, distinguished in the present case as the reciprocating contacting disk. This disk is connected with the other wire 17 passing to the battery B. Formed on the interior surface of the contacting disk, that is on the surface adjacent to the conducting disk 14, are two diametrically located, semi-cylindrical depressions 18. Into these depressions pass the arms 19 of a yoke 20 which spans the shaft 6. The yoke 20 forms one end of a switch lever 21 pivoted at 22 to lugs 23 which are secured directly to the insulating plate 9. The lever terminates in a striking surface 24 the purpose of which will be presently explained. That the reciprocating contacting plate may be better guided in its movements a notch 25

is cut at some convenient point said notch passing over a guide pin 26 or a ridge forming a part of the casing 13, the pin or ridge of course being of insufficient length to come
 5 in contact with the conducting disk 14. The said pin or ridge also prevents any tendency to rotation on the part of the reciprocating contacting plate. Both the conducting disk and the reciprocating contacting plate have
 10 segments or segmental openings 27 cut at a suitable point, the two openings being always superposed as shown in Figs. 2 and 3. In the contacting disk the metal is beveled toward the opening as seen in Fig. 2 for a
 15 purpose to be hereinafter explained. The object of the openings 27 is to allow the striking surface 24 of the lever 21 to play freely within the casing. It will be observed that with the lever 21 pivoted at 22, and with
 20 the arms 19 of the yoke 20 passing through the depressions 18, as the contacting disk 16 to which said arms 19 are secured, is moved toward the conducting plate 14 the striking surface 24 of the lever 21 will be moved from
 25 the insulating plate 9, that is to say, away from the front wall of the drawer; and the segmental openings 27 permit this inward movement.

We will now describe the construction of
 30 the operating shaft and the parts secured thereto as they co-operate with the switch. To the shaft 6 of the operating knob is secured a lug 28 whose normal position is opposite the contacting plate 16 but never directly
 35 opposite the opening 27 of said plate. To the inner end of the shaft 6 is secured a cone piece 29; and at some convenient point on the surface of said cone piece adjacent to the shaft is attached an eye 30 (best shown
 40 in Fig. 9) which serves as a means of securing one end of a coiled spring 31 encircling the shaft 6 and having its other end secured to a lug 32 at the bottom of the drawer. The object of this spring is to restore by its resilient
 45 action the shaft with its lug to their normal position when they have been turned therefrom by the operator in turning the operating knob 7. As before stated the shaft 6 is movable back and forth in a horizontal direction within the opening of the front wall
 50 of the drawer, and when once the shaft is drawn outward by the operator the shaft, after the operator has released the knob, is restored to its original position by the elastic strip or spring 33 which braces against the reduced or smaller surface of the cone piece
 55 29. The cone piece 29 co-operates with one end of a lever 34 pivoted at 35 to one end of a forked arm 36 secured to the front wall of the drawer. The other end of the lever 34 has movably secured thereto a vertically operating stem 37 encircled by a spring 38 one
 60 end of which spring rests against the forks of the arm 36 and the other end rests against the bottom of a bevel latch 39 attached to the outer end of the stem. It will readily be seen that if the operating shaft with its cone

piece be moved outwardly a sufficient distance, the cone piece will depress the latch 39 sufficiently to allow the drawer being
 70 opened.

From the above description the operation of the device will be readily understood. It is to be borne in mind that the superposed
 75 segmental openings 27 of the contacting and conducting plates respectively are normally relatively opposite some particular number on the number plate; and that the lug 28 on the shaft 6 is normally opposite some other
 80 number on said number plate, and at the same time always opposite the index 8 of the handle (the contact never being normally opposite the openings 27 as above stated). Now, if while the shaft with its lug 28 are in their
 85 normal position, the operating knob be drawn outwardly without turning the same, the first thing that would happen would be that the cone piece would slightly depress the latch 39, but not sufficiently to enable the drawer
 90 to open; and at the same time the lug 28 would strike or come in contact with the reciprocating conducting plate 16 and move the said plate within the casing 13 sufficiently forward so as to cause the same to come in contact with the conducting plate 14. The said
 95 plate being once in contact, and being respectively connected with the two wires leading to the battery B, the electric circuit will be made complete and the alarm will be sounded by the bell constituting a part of said circuit;
 100 and the alarm will keep on sounding until the two plates thus brought in contact are again separated. The operator of course knows opposite which number on the number plate the normal position of the opening 27 is and
 105 knowing this, he can separate the two plates thus brought in contact in the following way: It is to be noted that as the plate 16 is moved toward the plate 14 the striking surface 24
 110 of the lever 21 to which the spanning yoke 20 and its arms 19 are attached, will be moved away from the front wall of the drawer, that is to say, toward the cone piece 29, the said striking surface 24 operating through the
 115 openings 27 of the two plates. The position of the parts when the two plates are in contact and the circuit is complete are best shown in Fig. 3. To release the plates and thus break the circuit and open the drawer, the operator now turns the knob until the lug 28 comes
 120 opposite the openings 27. Then he pulls the same forward, the openings of course permitting a further advance outward of the lug 28 and consequently of the shaft 6; and this further movement outward causes the cone
 125 piece to further depress the latch 39 and allow the drawer to open. At the same time as the lug 28 comes in contact with the striking surface 24 which is now about flush with the outside surface of the contacting plate, the
 130 lug 28 pushes said striking surface in toward the front wall of the drawer, and this action by virtue of the pivotal arrangement at 22 throws the yoke 20 and arms 19 in the oppo-

site direction, and as the contacting plate is carried by the arms 19 extending through the depressions 18 of said plate, the said contacting plate will be moved from the conducting plate and the circuit broken. The alarm thus accordingly ceases and the drawer is permitted to be opened. In closing the drawer the operator releases the knob, the elastic member 33 will restore the shaft and cone piece to their original position, and the resilient action of the coiled spring 31 will turn the shaft 6 to its normal position, or that position where the lug 28 will not come opposite the openings 27; that of course being the position for opening. It will thus be seen that no unauthorized person can open the drawer unless he knows the particular number on the number plate opposite which the normal position of the opening 27 is; and as the insulating disk with its attached casing and switch can be turned or shifted at pleasure, the combination can be changed at pleasure, and the greater will be the difficulty of ascertaining opposite which number the opening 27 lies.

It is to be remembered that we do not limit ourselves to the exact mechanical details of securing the several parts.

In Fig. 2 we have shown the plate 16 beveled at the opening 27 so that the lug 28 will better slip off from said plate as it is rotated by the action of the coiled spring 31.

Having fully described our invention, what we claim is—

1. An electric money drawer having a rotatable handle, a switch actuated by the same, a number plate secured to the wall of the drawer, an index on the handle co-operating with the number plate, a lock on said drawer, means on said handle for permitting the same to operate the lock when the index is turned from its normal position in its relation to a particular number on the number plate, and a spring for restoring the handle to its normal position after the same is released, substantially as set forth.

2. In an electric money drawer, a lock, a handle adapted to operate the lock, a switch adjustably secured to the drawer, a reciprocating contacting disk forming a part of said switch, and a lug carried by the handle co-operating with the reciprocating disk for completing the circuit and prevent the handle from operating the lock, substantially as set forth.

3. An electric money drawer having a rotatable handle, a lug carried by the same, a switch adapted to be operated by said lug, a spring for rotating said handle to its normal position, a lock for said drawer and means carried by said handle for actuating said lock when the handle is turned in its proper position and operated in a longitudinal direction, substantially as set forth.

4. In an electric money drawer, a switch comprising a stationary conducting plate, a

contacting plate co-operating therewith, a space formed in said contacting plate, a lever forming a part of the switch the striking surface of which is opposite said space, said lever adapted to operate the contacting plate, a rotatable handle having a suitable lug co-operating with said contacting plate and lever, and means for rotating the said handle to its normal position after the same has been turned therefrom and released, substantially as set forth.

5. An electric money drawer having an insulating plate secured to the wall thereof and capable of adjustment upon the same, a stationary conducting plate attached to said insulating plate, a contacting plate co-operating with the conducting plate, the said plates having suitable openings superposed one over the other, a lever pivoted to the insulating plate and having a striking surface working through the openings of the plates, a yoke extending from the opposite end of the lever, arms attached to said yoke, depressions in the contacting plate for receiving said arms, a handle comprising a knob and a suitable shaft passing through the wall of the drawer and rotatable within the same, the said yoke spanning said shaft, a lug on said shaft co-operating with the striking surface of the lever and with the contacting plate, a lock for said drawer, and means attached to the handle for actuating said lock, substantially as set forth.

6. In an electric money drawer, a suitable number plate, a rotatable handle having a suitable index, said index being normally opposite a certain number on said plate, a lug on said handle, a switch having suitable openings co-operating with said lug, said openings being normally opposite a different number on said number plate, substantially as set forth.

7. In an electric drawer a rotatable handle having a cone piece, an eye on said cone piece adjacent to the handle, a spring encircling the handle and having one end secured to the eye, and the other to some stationary part of the drawer, and an elastic strip co-operating with the cone piece for moving the handle longitudinally, substantially as set forth.

8. In an electric money drawer a conducting plate having a battery wire secured thereto, a contacting plate co-operating with the same and also having a battery wire secured thereto, a casing surrounding said plates, means on said casing for preventing the rotation of the contacting plate, and a rotatable handle co-operating with said contacting plate, substantially as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

WILLIAM J. WALKER.

ALEXANDER L. BEDFORD.

Witnesses:

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