

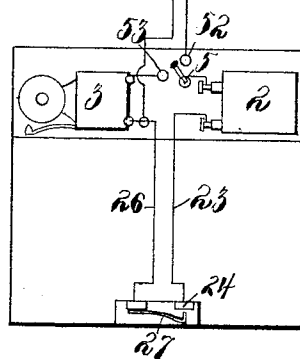
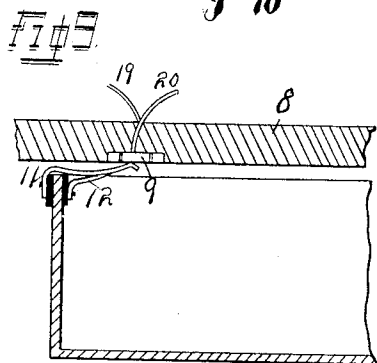
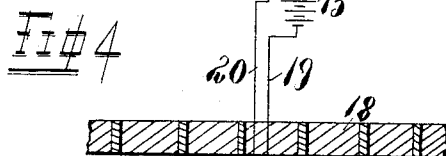
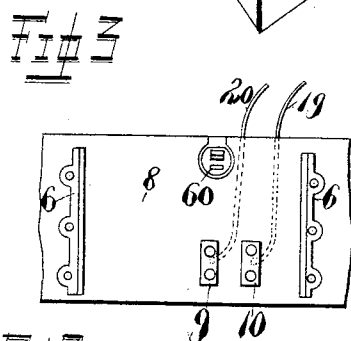
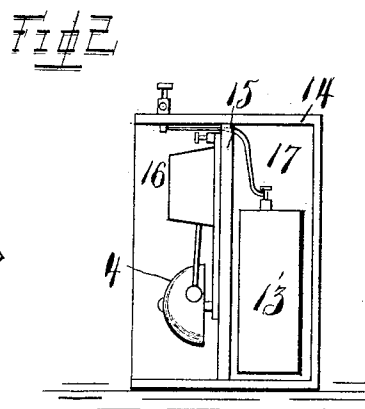
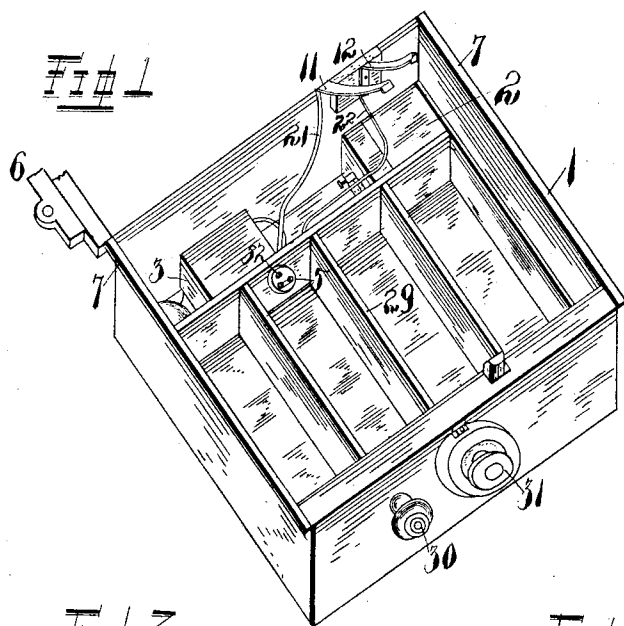
(No Model.)

2 Sheets—Sheet 1.

R. BAUMANN.
COMBINATION LOCK AND ALARM.

No. 484,577.

Patented Oct. 18, 1892.



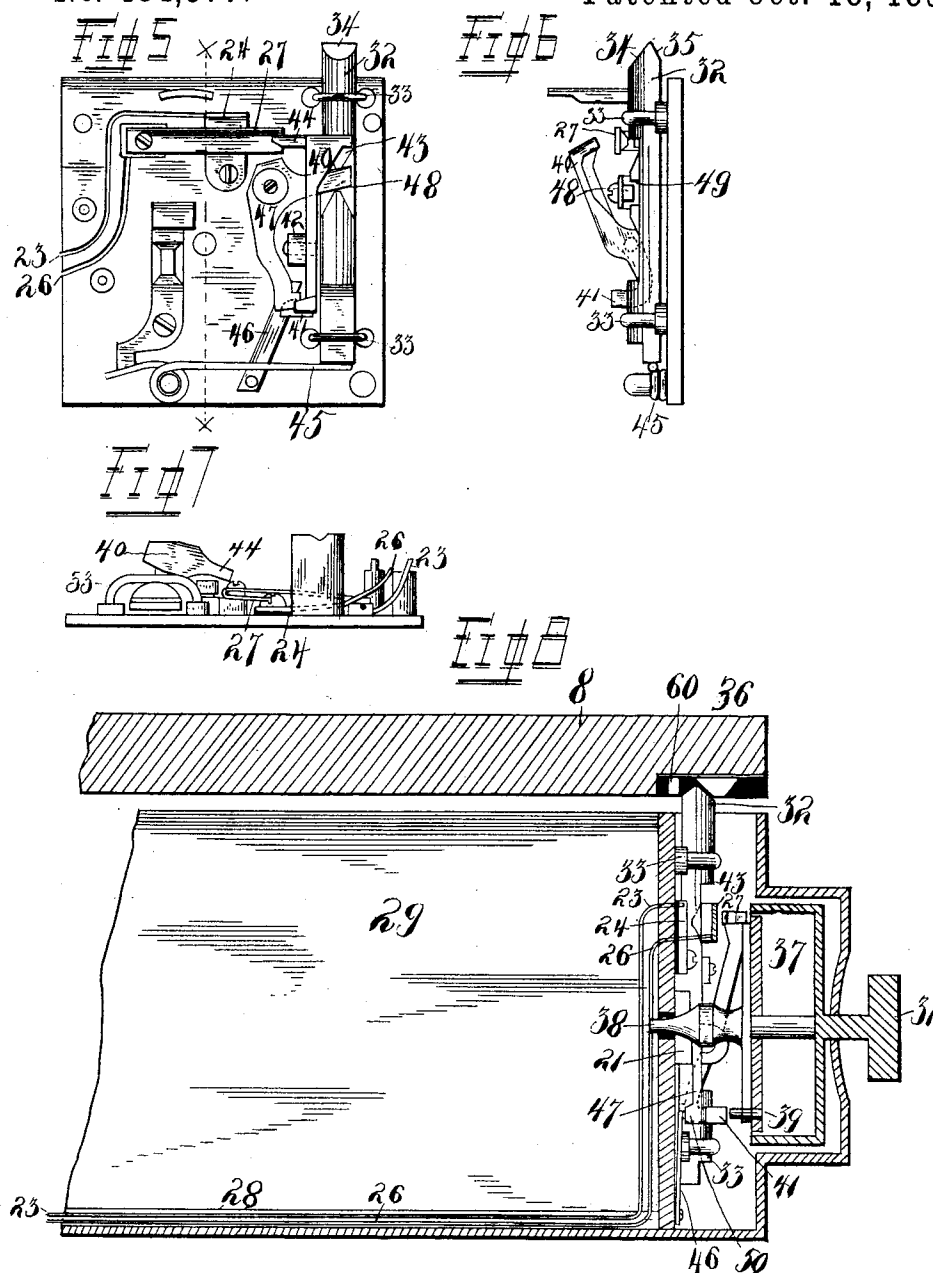
WITNESSES
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UNITED STATES PATENT OFFICE.

ROBERT BAUMANN, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE ELECTRIC
ALARM LOCK COMPANY, OF SAME PLACE.

COMBINATION LOCK AND ALARM.

SPECIFICATION forming part of Letters Patent No. 484,577, dated October 18, 1892.

Application filed August 20, 1891. Serial No. 403,189. (No model.)

To all whom it may concern:

Be it known that I, ROBERT BAUMANN, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Combination Locks and Alarms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to combination locks and alarms, such as shown and described in Letters Patent No. 378,568, granted to me February 28, 1888.

The object of the present invention is to provide a new and improved lock and alarm mechanism especially adapted to money-drawers, but which may be applied to bureau and other classes of furniture drawers, sideboards, jewelry-boxes, &c.

The invention consists of certain parts and novel combinations of the same, as will be described hereinafter, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a money-drawer having my invention applied thereto, but detached from the counter. Fig. 2 is a side view of a combined bell and battery-box having one side of the box removed and an open face. Fig. 3 is an inverted plan view showing the under side of the counter with slides or guides and electrical contacts. Fig. 4 is a diagrammatic view of my invention, showing the electrical connections thereof. Fig. 5 is a front elevation of the lock with the revoluble push-disk and knob removed to afford an unobstructed view, looking from the right hand of Fig. 8. Fig. 6 is a side elevation of the same, looking from the right hand of Fig. 5. Fig. 7 is a plan view of the devices shown in Figs. 5 and 6, looking from the upper end of the sheet. Fig. 8 is a sectional elevation showing a money-drawer applied to the under side of a counter, the section through the lock being taken on line *xx* of Fig. 5, with the push-disk and knob in position, however, and looking from the left hand of said Fig. 5. Fig. 9 is a sectional side elevation of the drawer with parts broken away, showing the sliding connections with the distant battery-wires.

Within an ordinary drawer 1 (shown as a

money-till) I have conceived the invention of locating a battery 2 and an electric bell 3 and so connecting them by suitable wiring and mechanism that an alarm will be sounded by said bell whenever the locking-bolt of the drawer-lock is tampered with or, in fact, whenever the drawer itself is opened by any person unfamiliar with the operation thereof. I have also conceived of the location of an additional bell 4 in circuit with said bell 3 in the drawer and the lock thereof and a suitable battery. The additional bell 4 can be placed in any part of the building or a considerable distance from the drawer, and by means of a suitable cut-out or switch 5, placed in the circuit and also located within the drawer, either the bell 3 or the bell 4 may be cut out of circuit, whereby if the drawer be tampered with either bell will be caused to sound an alarm, as the operator may predetermine and set the switch accordingly.

6 6 indicate the slides or guides, secured to the underside of the counter-top, which are engaged by the projecting longitudinal flanges 7 on the sides of the drawer, so that said drawer shall be held to slide closely adjacent to the under side of the counter-top or a small platform 8, affixed thereto.

9 and 10 indicate metallic contact-plates fixed at predetermined points upon the under surface of the platform 8, so as to be engaged by two metallic contact-springs 11 and 12, affixed to the rear end of the drawer, so that their free ends shall point toward the front end and normally project above the upper side of the drawer and be urged continually upward.

In some cases I may locate an additional battery 13 in circuit with the bell 4; but this is only necessary where the said bell is located at a considerable distance from the drawer 1.

I prefer to locate the additional bell and battery 4 and 13, respectively, in a portable box or casing 14, divided vertically by a partition-wall 15, thereby forming a chamber or recess 16 for the bell and a separate chamber or recess 17 for the battery, each chamber being closed upon all sides except the front side of the chamber in which the bell is located, which I prefer to leave open to

permit passage of the sound-waves. (See Fig. 2.)

18 indicates the floor of the building, through which the line-wires 19 and 20 pass in case the bell 4 and battery 13 are located upstairs in a room above that in which the drawer is located.

21 22 indicate the line-wires which connect the springs 11 12, (located within the drawer,) the spring 11 being connected to one terminal of the bell 3 and the spring 12 being connected by a wire 22 to one terminal of the switch 5, and suitable wiring within the drawer connects the other terminal of switch 5 with one terminal of the battery 2, and a wire 23 connects the other terminal of said battery 2 to the contact-plate 24, located upon the back plate 25 of the lock, but insulated therefrom. (See Figs. 4 and 8.)

26 indicates a wire, which connects with a contact-spring 27, also located upon the back plate of the lock, but insulated therefrom, and with the same terminal of the bell 3 to which the spring 11 is connected.

The wires 23 and 26 are located within and traverse a groove 28, made in the lower edge of the central partition 29 within the drawer, so that said wires are thereby concealed from view and out of the way of the fingers of the operator in removing from or placing within the central compartments money or other valuables. It will thus be seen that I locate an electric battery and alarm-bell in a local circuit all the elements of which, together with said battery and bell, are contained within a sliding drawer. It also may be observed that I place an additional alarm-bell 4 and an additional battery 13 in a main circuit, so that said last-named bell and battery may be located at a considerable distance from the drawer containing the local circuit, and that by means of the switch 5 I may cut out the bell 3 from the local circuit, or I may by a reverse movement of said switch cut out the bell 4 and battery 13 at the will of the operator.

I desire to state that other forms of locks than that which I here show may be made use of in carrying out my invention, it being essential only that proper electrical connections, such as I here show, may be applied to the bolt or the lock, whereby when the drawer is slid in or out the circuit through a battery and an alarm-bell located in said drawer or located at any distance therefrom shall be completed and an alarm sounded.

30 indicates a knob secured to the front of the drawer, by means of which said drawer may be pulled out, as will be readily understood; but this knob it will be seen is located at one side of and some distance from the knob 31 of the lock, which latter is preferably placed in the center of the front of the drawer.

The particular form of lock here shown is substantially the same as that shown and described in my patents before mentioned, and

it has a vertically-sliding bolt 32, loosely attached to the back plate of the lock by means of guiding-stirrups 33. It has an apical head upon its upper end, forming outer and inner inclines thereon, which I designate by the numerals 34 and 35, which engage respective inclined sides of a downwardly-projecting V-shaped keeper 36, affixed to the under side of the platform 8 in proper position thereon so that when the drawer is pushed inwardly to the limit of its inward movement, as shown in Fig. 8, the incline 35 on the head of the bolt will engage with the outer inclined surface of the said V-shaped keeper and the bolt be thereby retracted, and likewise when the drawer is withdrawn from said position the incline 34 will engage the inner inclined surface of said keeper and likewise retract the bolt, providing the mechanism which is now to be described is in proper adjustment to permit such action.

37 indicates a push wheel or disk mounted upon a spindle 38, which is mounted in suitable bearings in the front and back plates of the lock, which permit it to be revolved and slid back and forth in said bearings. 39 indicates a pin or projection carried by said push-wheel 37, which is adapted to come in contact with the lower end of a rock-lever 40, which is provided with a suitable projection 41 for such purpose. Said rock-lever is pivoted at about the middle of its length to a lug 42, projecting from the inner surface of the back plates, so that when its lower end is pressed inwardly its upper end will be correspondingly thrown outwardly.

43 indicates a shoulder formed upon the bolt 32, which is adapted to engage the upper end of said rock-lever 40 and limit the downward movement of said bolt.

The contact-plate 24 and the contact-spring 27 are respectively secured to the inner plate of the lock by any suitable means, such as screws or rivets, so that said contact-spring shall project in front of said contact-plate and be depressed into contact therewith by the projection 44, formed upon the upper end of the said rock-lever, whenever said bolt is retracted through any cause whatever, and thereby complete a circuit and sound an alarm, as will be more fully hereinafter described.

45 indicates a suitable spring having one end secured and fixed to the back plate of the lock and its free end in contact with the lower end of the bolt 32, and the function of which spring is to shoot the bolt outwardly and normally hold same at the limit of its outward movement.

46 indicates a flat spring fixed at one end of the back plate of the lock, near the lower end thereof, and having its free end projecting upwardly in contact with and pressing outwardly the lower end of rock-lever 40, this being the position of said rock-lever after the bolt has been retracted.

47 indicates a bell-crank lever pivoted to the back plate, so that one of its arms 48 will

engage a depression 49 in bolt 32 and move with said bolt when the same is shot outward or retracted, and the other or lower arm of which is adapted to engage a notch or depression 50, formed in the lower end of the rock-lever 40, whenever the bolt 32 is shot outwardly, and thereby hold said rock-lever in its normal position. Such other portions of the lock as I here show but have not described I do not consider as necessary to be referred to, the operation of the invention being complete as above stated.

The operation is as follows: If the operator desires a bell 3 to ring and sound an alarm, (with the drawer being opened or withdrawn,) he throws the switch 5 to contact 53, (see Fig. 4,) the parts of the lock occupying the position in which they are shown in Figs. 5, 6, 7, and 8. Then he pushes the drawer inwardly until the incline 34 of the bolt 32 contacts with the V-shaped keeper 36 and to the limit of its inward movement, which operation will retract the bolt and throw the lower end of bell-crank lever 47 out of engagement with the notch 50 in the lower end of rock-lever 40, thereby releasing the same and permitting it to be thrown outwardly and its upper end thrown inwardly, the projection 44 on said upper end engaging the spring 27 and pressing the same into contact with contact-plate 24, thereby completing a circuit through the said spring 27, contact-plate 24, wire 23, battery 2, bell 3, and wire 26. The alarm so caused to be sounded will continue to sound until the operator presses inwardly the knob 31, carrying a wheel 37, and projection 39 will thereby be caused to engage with 41, causing the upper end of the rock-lever 40 to be thrown outwardly until projection 44 releases the spring 27 from contact with contact-plate 24, as shown in Fig. 7, and said circuit will thereby be broken. Likewise when the operator desires to cut out the bell 3 and have the distant bell 4 sound an alarm upon the manipulations just described being gone through with all he need do will be to throw the switch 5 to contact 52, thereby cutting out the bell 3 and causing current to pass from battery 2 through contact 52 over wire 19 to battery 13, thence to bell 4, and from bell 4 over wire 20 through the terminal of bell 3, to which wire 26 is connected, and then to and through the spring 27 to contact 24 and by way of wire 23 to the battery 2, and vice versa. Of course in some cases it may not be necessary to include the battery 13 in the circuit, as will be readily understood.

The short wires 21 and 22 within the drawer are simply continuations of the line-wires 19 and 20, and I here designate them by different numerals in order to make it more clear, the spring 11 being adapted to connect with line-wire 20 by contact with contact-plate 9 (on the under side of the platform 8,) and the spring 12, connecting with line-wire 19 by contact with contact-plate 10.

Of course it will be understood that the con-

tact-plates 9 and 10 are only engaged by the springs 11 and 12 while the drawer is at rest at the limit of its inward movement and that when the drawer is pulled outward said springs slide off of said plates and along the under surface of platform 8. By engagement of the head of the bolt with the V-shaped keeper when said drawer is pulled outwardly the same action of the lock and electrical connections will take place as previously occurred when the drawer was shoved inward. So, likewise, if the drawer be moved or, rather, forced inwardly beyond the normal limit of its inward movement by a burglar or other unauthorized person the incline 35 on the head of said bolt will come in contact with a lug 60, formed upon the keeper 36, and said bolt will be thereby retracted and an alarm sounded, as before. Thus it will be readily perceived that if the drawer is moved while the parts are in the positions shown in Fig. 8 in attempting to get inside thereof an alarm is sounded.

In some cases I may omit the distant bell and battery, the line-wires 19 and 20, the springs 11 and 12, the contact-plates 9 and 10, and the switch 5, thereby placing the bell 3 permanently in a local circuit contained entirely within the drawer, and in such case it will be evident that, all the electrical fittings, wire, and battery being inside of the drawer, with no wires or connections outside to be cut by a burglar, access to the drawer can only be had by cutting or disfiguring the same in some way. The battery, bell, lock, and electrical connections are thus thoroughly protected from interference by unauthorized persons, except they be burglars intent upon destruction of the drawer or portions thereof.

What I claim is—

1. The combination, with a sliding drawer, of a battery and bell contained therein and electrical connections adapted to automatically close the circuit when the drawer is slid from its normal position, substantially as and for the purpose set forth.

2. In a lock and alarm mechanism for drawers, a drawer adapted to slide, a lock for said drawer, a bolt for said lock, means for depressing said bolt located on each side thereof, a battery and bell, and electrical connection between said bolt, battery, and bell, whereby when said bolt is retracted the circuit will be closed and an alarm sounded whether the drawer be pushed in or pulled out, substantially as shown and described.

3. The improved lock and alarm mechanism for drawers, comprising a drawer adapted to slide, a lock for said drawer, a battery, a bell, and electrical connections therewith and with portions of said lock, forming a local circuit, all contained within said drawer, and an additional bell also adapted to be included in said circuit, but located at a distance from said drawer and exterior thereof, substantially as shown and described.

4. The improved lock and alarm mechanism

for drawers, comprising a drawer adapted to slide, a lock for said drawer, a battery, a bell, and electrical connections therewith and with portions of said lock, forming a local circuit, all contained within said drawer, and an additional bell also adapted to be included in said circuit, but located at a distance from said drawer and exterior thereof, and a switch for cutting out of the circuit either of said bells, substantially as shown and described.

5. The improved lock and alarm mechanism for drawers, comprising a drawer adapted to slide, a lock for said drawer, a battery, a bell, electrical connections between said battery, bell, and lock, all contained within said drawer and sliding therewith, an additional bell, an additional battery, each adapted to be included in circuit with the bell, battery, and lock in said drawer, but located at a distance therefrom, and the switch also located in the drawer and adapted to cut out or in either of

said bells and the distant battery, substantially as shown and described.

6. In a lock and alarm mechanism for drawers, a drawer adapted to slide, a lock for said drawer, a battery, a bell, and electrical connections between said lock, battery, and bell, and said bell and battery located in a portable box or casing, as 14, said casing being divided vertically by a partition-wall 15, thereby forming a chamber or recess 16 for the bell and a separate chamber or recess 17 for the battery, each chamber being closed upon all sides, except the front side of the chamber in which the bell is located, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT BAUMANN.

Witnesses:

BENJ. J. KLENE,
ED. E. LONGAN.