(No Model.) 2 Sheets—Sheet 1.

R. L. LEVIN.

FIRE AND BURGLAR ALARM.

No. 555,173. Patented Feb. 25, 1896.

FIG. 1.

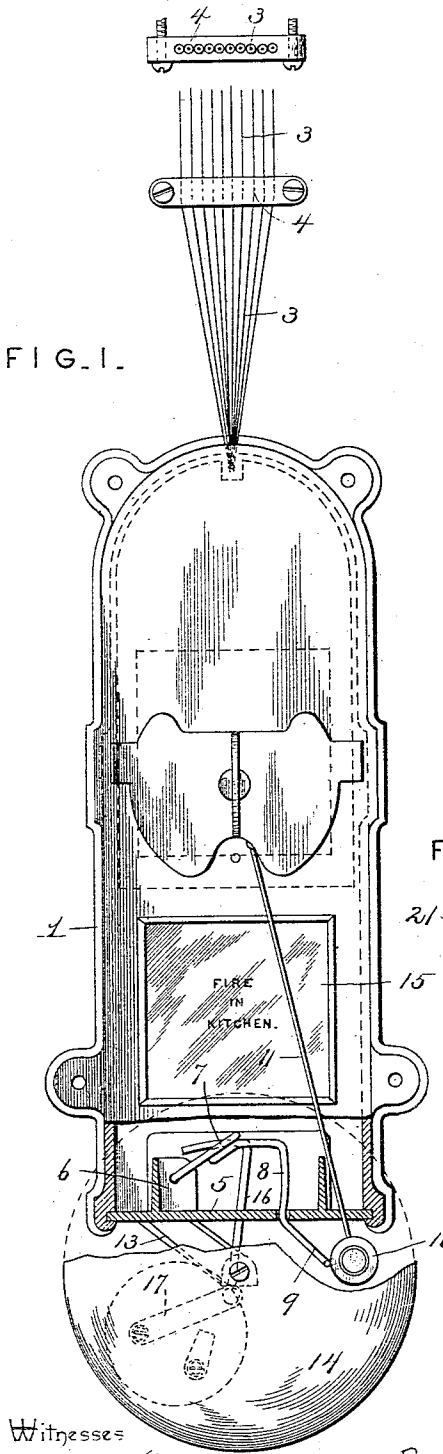


FIG. 2.

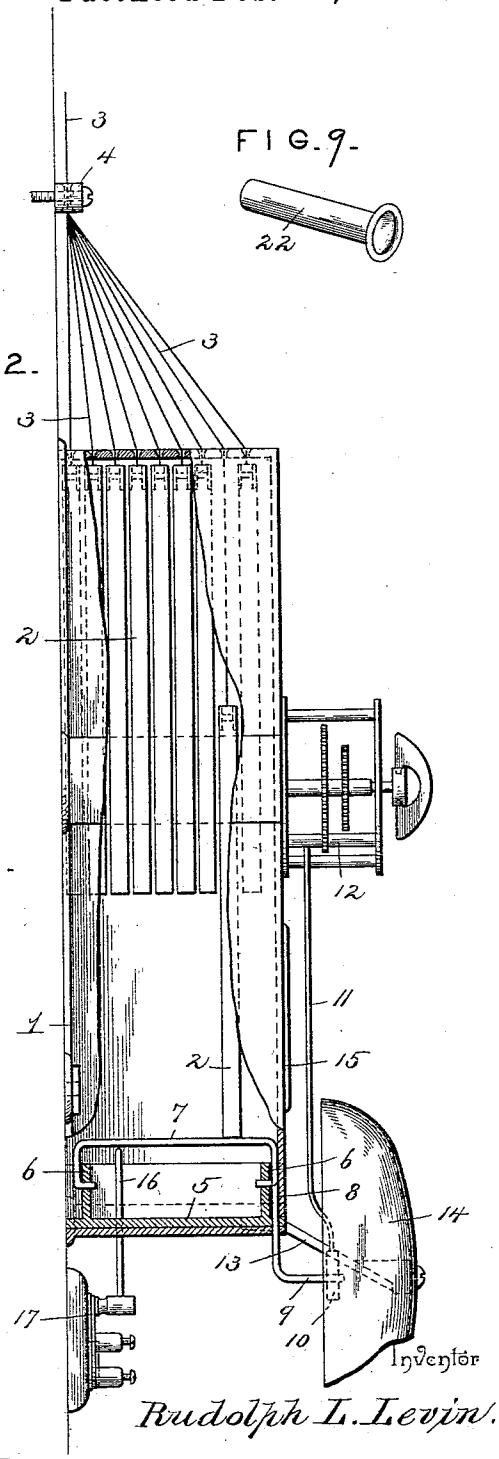
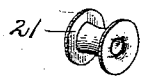


FIG. 9.

FIG. 8.



Witnesses
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Inventor
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By their Attorneys.
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(No Model.) 2 Sheets—Sheet 2.

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FIRE AND BURGLAR ALARM.

No. 555,173. Patented Feb. 25, 1896.

FIG. 3.

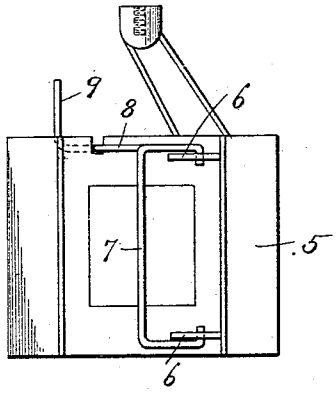


FIG. 4.

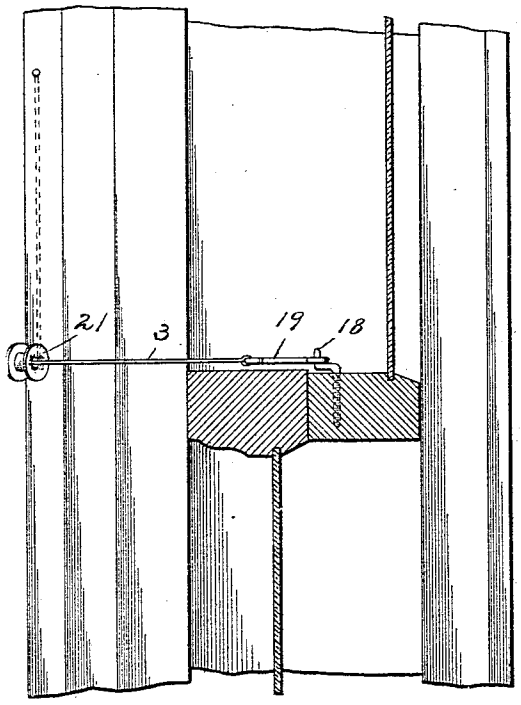


FIG. 5.

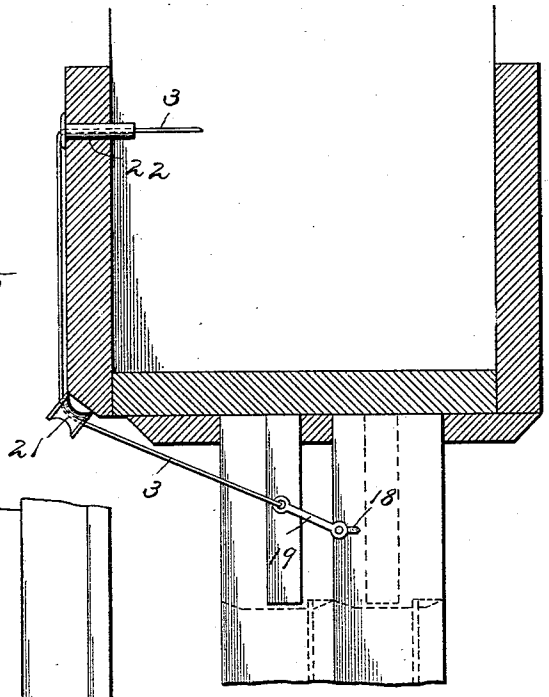


FIG. 6.

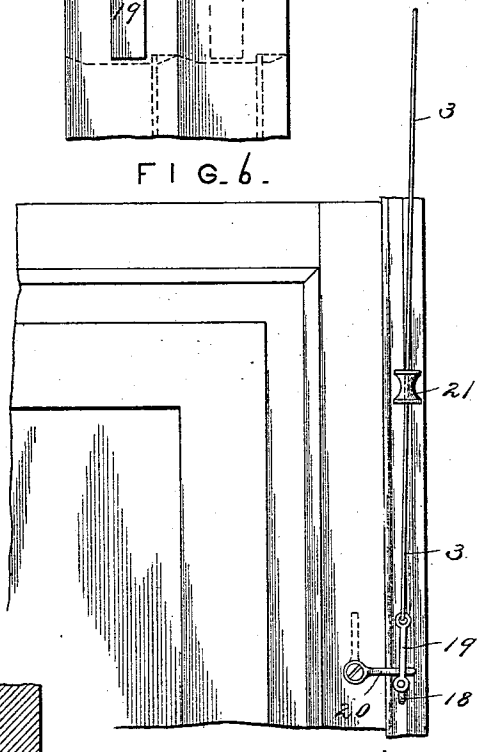
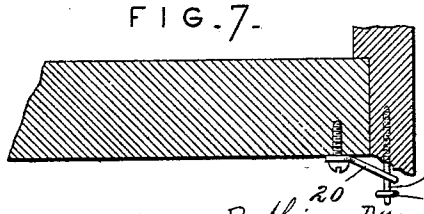


FIG. 7.



Inventor

Rudolph L. Levin.

Witnesses

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By his Attorneys.

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UNITED STATES PATENT OFFICE.

RUDOLPH L. LEVIN, OF MENOMINEE, MICHIGAN, ASSIGNOR OF ONE-HALF TO J. C. JOHNSON, OF SAME PLACE.

FIRE AND BURGLAR ALARM.

SPECIFICATION forming part of Letters Patent No. 555,173, dated February 25, 1896.

Application filed May 25, 1895. Serial No. 550,690. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH L. LEVIN, a citizen of the United States, residing at Menominee, in the county of Menominee and State of Michigan, have invented a new and useful Fire and Burglar Alarm, of which the following is a specification.

This invention relates to an improvement in fire and burglar alarms, and has for its object to simplify and improve the construction shown and described in a former patent granted to me November 21, 1893, No. 508,954.

One object of the present invention is to adapt the alarm mechanism to operate upon a switch-lever for completing an electric circuit and throwing an electric bell or lights into operation.

A further object of the invention is to render the device capable of visually indicating the location of a fire or the particular window or door which has been opened.

Other objects and advantages of the invention will be made apparent in the course of the subjoined description.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings and finally embodied in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional view taken through the alarm-box, certain parts being broken away to better show the construction and relative arrangement of the various parts of the device. Fig. 2 is a side elevation of the alarm-box, partly broken away to show the interior construction. Fig. 3 is a plan view of the bottom of the alarm-box. Fig. 4 is a detail section through the meeting-rails of two window-sashes, showing the means for releasing one of the operating cords or wires. Fig. 5 is a detail section through a window-casing, showing the meeting-rails of the sashes in plan and the application of my improvements thereto. Fig. 6 is an elevation of a portion of a door and the adjacent jamb, showing the manner in which the improvement is applied thereto. Fig. 7 is a detail horizontal section of the same. Fig. 8 is a detail perspective view of one of the bell-mouthed thimbles by means of which a cord is passed around a corner. Fig. 9 is a similar view of a bell-mouthed tube by means of which the cord or wire is passed through a wall or partition.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates an alarm-box, which is preferably made of metal and substantially rectangular and provided with perforated ears or lugs by means of which the same may be attached to a wall or other convenient point.

Arranged within the upper portion of the alarm-box is a series of sliding weights, the number of which may be varied to suit the size of the building in which the apparatus is employed or the number of rooms contained within said building. These weights are supported by means preferably consisting of fine copper wires 3, one of which is secured to the upper end of each weight in any convenient manner and extends through a corresponding opening above and in vertical alignment with its respective weight.

Above the alarm-box is arranged a bracket or spreader 4, secured to the wall or any convenient point and provided with a series of perforations corresponding in number to the number of the line-wires 3, from which the weights 2 are suspended. It is to be understood that these line wires or cords are extended throughout the building to the different rooms and halls thereof, and that the line wires or cords may be provided with any number of branches extending to the various windows and doors in a manner similar to that described in my former patent referred to. It is preferred, however, to form these line wires or cords from sections of wire and cord, so that the wire portions or sections thereof will lie within and pass through the walls or partitions, thereby protecting the line from rodents, the cord-sections being used to pass around corners or angles. The ends of the different lines, as shown in Fig. 1, are composed of fine copper wire, as being subjected to wear as they operate through the top of the alarm-box they will last longer on this account.

In the base of the alarm-box is arranged a bottom or floor 5, which is provided with up-

wardly-extending flanges and inwardly-extending perforated ears or lugs 6 formed integrally therewith.

7 indicates a trip-lever which is pivoted in the lugs or ears 6 and has a downwardly-extending arm 8 projecting through an aperture in the bottom of the alarm-box, said arm being provided with a forwardly-extending finger 9, which is adapted to bear against a bell-hammer 10, carried by an arm 11, mounted rigidly in and adapted to be actuated by the arbor 12 of a clock escapement mechanism, as indicated in Fig. 2. The bottom plate 5 is also provided with a forwardly-extending arm 13, to which is secured a bell 14.

From the foregoing description it will be apparent that when any one of the weights 2 is released and falls upon the trip-lever 7 the hammer-retaining arm 8 will be vibrated and the finger 9 thereof moved out of engagement with the bell-hammer, which is thus adapted to be actuated by the escapement mechanism referred to for ringing the alarm-bell in a manner that will be readily understood. Each one of the weights has represented thereon the number or name of the room to which its respective line wire or cord extends, and when said weight falls such representation may be observed through a window 15 in the front wall of the box 1, as shown.

16 designates an arm, which is arranged within the path of or may be connected to the trip-lever 7, said arm projecting downwardly through the bottom of the alarm-box and having its lower end connected to an electric switch-lever, as indicated at 17. When a weight descends upon the trip-lever 7, the arm 16 is thrust downward, thereby operating the switch-lever 17 for closing an electric circuit. This may be utilized for throwing an electric-light system into operation, where such a system is contained in the building, or it may be employed for ringing an electric alarm-bell at a residence or dwelling in the event of the alarm-box 1 being used in a store or ware house.

By reference to Fig. 4 and also Fig. 5, it will be seen how the opposite ends of the line wires or cords are attached to and adapted to be released from window-sashes. This is accomplished by means of a pin 18, screwed into the meeting-rail of the upper or stationary sash, and a link 19, secured to the end of one of the line wires or cords and having an eye adapted to be passed over and to engage the pin 18. Said link lies just above the meeting-rail of the lower sash, so that when the latter is raised slightly the link 19 will be forced off the pin 18, thereby releasing the line wire or cord 3 and allowing its respective weight to descend for ringing the alarm, as above described.

In Figs. 6 and 7 I have shown how the end of a line wire or cord is connected with a door so as to be operated by the opening of the same. One of the links 19 is secured to the end of said wire or cord and is engaged over a pin 18, secured to the door frame or jamb in close proximity to the swinging edge of the door.

20 designates a swinging finger, which is pivotally connected to the door by means of an ordinary wood-screw, adapting said finger to be thrown into the horizontal position shown in full lines in Fig. 6 or into the vertical position indicated by the dotted lines in the same figure. When thrown into horizontal position the end of the finger lies behind the link 19, and upon the opening of the door the link 19 will be forced off the pin 18, thereby releasing the cord or wire and its weight. By inclining the finger 20 outwardly from the inner face of the door, as shown in Fig. 7, the door may be closed from the outside and the inclined finger 20 will ride by and push or swing the link 19 to one side without disengaging the link from the pin 18, so as to pass behind the link, thereby automatically setting the device and adapting it to operate for releasing the wire or cord when the door is next opened.

21 designates a bell-mouthed thimble, having the reversely-curved convex inner walls, as shown, said thimble being located at points where it is necessary for the line wires or cords or the branches thereof to pass around sharp corners or angles, the object being to prevent wear upon such wires or cords. The tube 22 is provided for passing the line wires or cords or the branches thereof through walls or partitions, said tube being also formed with a flaring or bell-shaped mouth, as shown. As above stated, it is preferred to use wire in that portion or section of the line which passes through a wall or partition, so as to prevent the liability of the same being gnawed by rodents.

The device above described is very simple in construction, can be easily put up and operated in any building, and will be found very efficient in practice both as a fire and burglar alarm.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a fire and burglar alarm, the combination with a suitable box or casing, of a series of weights vertically movable therein, a bottom for said box or case having an oppositely-disposed pair of integrally-formed ears or lugs, a bail-shaped trip-lever pivoted in said lugs, an arm extending downwardly from said trip-lever through an opening in said bottom, an outwardly-projecting bell-hammer-retaining finger on said arm and a bell-hammer arranged in the path of said finger and adapted to be held out of action thereby, substantially as specified.

2. A combined fire and burglar alarm, comprising a suitable box or case adapted to be

secured to a wall or other support, a series of weights vertically movable within such case and upheld by means of wires or cords running to different parts of the building, a bail-shaped trip-lever having a horizontal portion arranged beneath and in the path of and common to each and all of said weights, an alarm-bell attached to the casing exteriorly thereof, a bell-hammer, suitable actuating mechanism for said bell-hammer, and an arm or finger attached to the swinging end of said trip-lever and projecting through the casing into the path of the bell-hammer, all arranged and combined substantially as and for the purpose described.

3. In a fire and burglar alarm, the combination with a suitable box or case, of a series of vertically-movable weights mounted therein, a bail-shaped trip-lever arranged beneath and in the path of and common to each and all of said weights, an electric switch arranged in proximal relation to said trip-lever, and an arm attached to the pivoted switch-arm and arranged in the path of the trip-lever so as to be operated thereby, substantially in the manner and for the purpose specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

RUDOLPH L. LEVIN.

Witnesses:
FRANK BRACELIN,
A. D. GIBBS.