

J. A. ROBINSON.

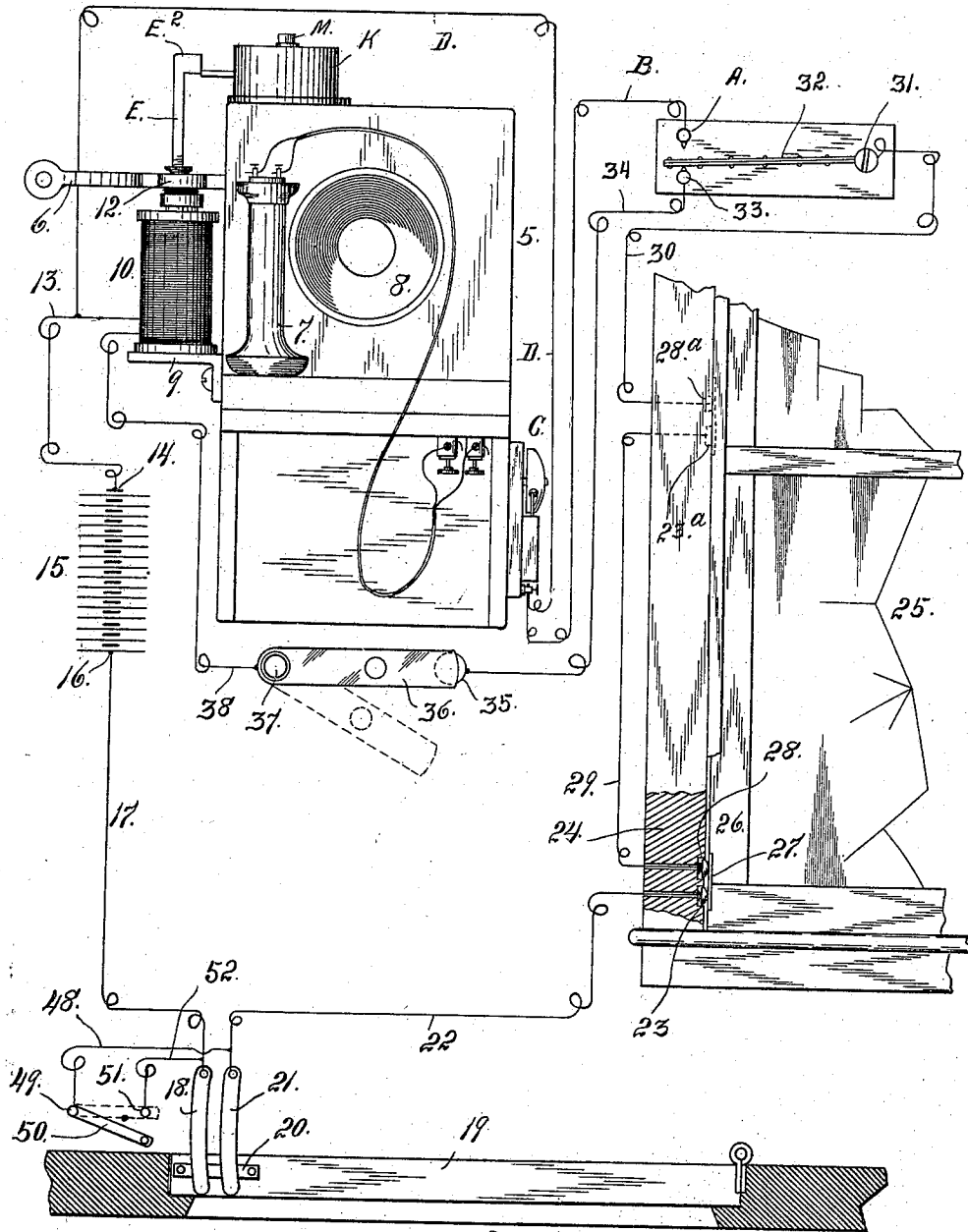
ALARM.

APPLICATION FILED MAR. 2, 1908.

996,279.

Patented June 27, 1911.

2 SHEETS—SHEET 1.



Witnesses
J. D. Thornburgh
Otto E. Heddick.

Fig. 1.
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Attorney

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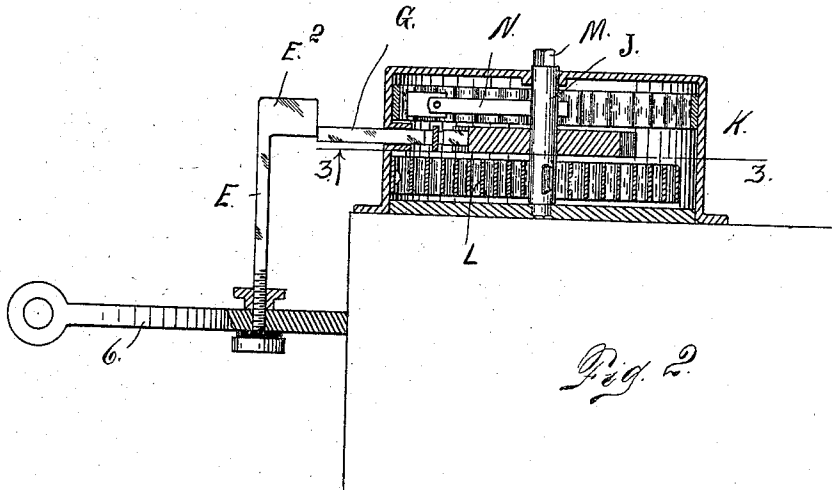


Fig. 2

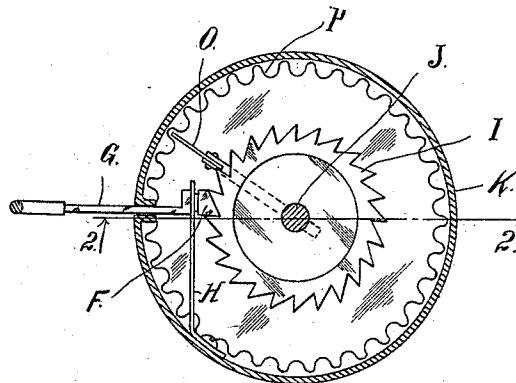


Fig. 3

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UNITED STATES PATENT OFFICE.

JAY A. ROBINSON, OF DENVER, COLORADO.

ALARM.

996,279.

Specification of Letters Patent. Patented June 27, 1911.

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To all whom it may concern:

Be it known that I, JAY A. ROBINSON, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Alarms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in alarms adapted for use in connection with telephones.

In my improved construction an electro-magnet normally located in a closed circuit, acts to hold the receiver hook of the telephone in the depressed position, when the receiver is removed. Provision is made whereby the electro-magnet circuit is broken by the opening of a door or window, in which event the receiver hook will spring upwardly whereby the central office is notified. Provision is also made for breaking the circuit in the case of a fire whereby the temperature rises sufficiently to perform this function through the instrumentality of a suitable device located in the circuit.

The invention just explained is set forth in my previous application Serial No. 399,371, filed Oct. 26th, 1907, allowed Feb. 18th, 1908.

The object of my present invention, is to introduce special alarm devices, which shall be set off simultaneously with the breaking of the magnet circuit, one kind of alarm device being used in the case of the opening of a door or window as in an attempt to commit burglary; and another kind of an alarm set off when the magnet circuit is broken in case of fire, so that the central office will be precisely informed as to the nature of the difficulty.

Having briefly outlined my improved construction, I will proceed to describe the same in detail reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing, Figure 1 illustrates the apparatus shown in connection with means for breaking the magnet circuit resulting from either raising a window or opening a door, and also in connection with a thermostat adapted to break the magnet circuit

and close the circuit in which a special alarm is located in case of fire. In this view means are also shown for operating a special alarm when the circuit is broken by opening a door or window. Fig. 2 is a sectional view illustrating a special alarm to indicate burglary. Fig. 3 is a section taken on the line 3—3, Fig. 2 looking upwardly or in the direction of the arrow.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate an ordinary telephone; 6 the receiver hook thereof; 7 the receiver and 8 the mouth piece of the transmitter. To the frame work of the telephone is attached a bracket 9 upon which rests an electro-magnet 10 which when in this position is located directly beneath the hook 6 of the telephone, being preferably just in the rear of the bifurcated part of the hook. This hook which is ordinarily composed of brass, must be equipped with a piece of magnetic material 12 in order that the magnet may be operative in the manner just explained.

As shown in the drawing a conductor 13 leads from one terminal of the magnet 10 to a pole 14 of an electric source 15. From the opposite pole 16, a conductor 17 leads to a contact 18 located just above a door and adapted to be engaged by a contact plate 20 attached to the upper end of the door. Located in suitable proximity to the contact 18 is a similar contact 21 which is also adapted to be engaged by the plate 20 when the door is in the closed position. From the plate 21 leads a conductor 22, to a contact 23 attached to the frame work 24 of a window 25. One of the sash rails 26 of this window is provided with a metal contact 27 adapted to bridge the space between the contact 23 and a similar contact 28 also mounted on the window frame. From the contact 28 leads a conductor 29 to a similar contact 23^a on the upper part of the frame, while from a contact 28^a leads a conductor 30. The two contacts 23^a and 28^a are so located as to be operative in connection with the upper sash of the window. The conductor 30 leads to the extremity 31 of a thermostat 32, whose normal position is in engagement with the contact 33 from which leads a conductor 34 to a contact 35 engaged by one extremity of a switch arm 36 pivoted at 37. From the pivotal extremity of this switch arm leads a conductor

38 to the opposite terminal of the coil of the magnet 10. On the opposite side of the thermostat bar from the contact 33 is a contact A from which leads a conductor B to an electric bell C or other suitable electric alarm. From this bell also leads a conductor D to the conductor 13 whereby the conductor D is connected with one terminal of the magnet coil. By virtue of these connections, in case of a fire, the thermostat bar will move sufficiently to leave the contact 33 thus breaking the magnet circuit, and engage the contact A thus closing the circuit through the electric bell C. In this event the receiver hook will rise notifying central, and the sound of the bell will be heard at the central office thus indicating the nature of the trouble since it will be understood that when the bell rings, there is a fire where the telephone is located.

From the conductor 22 leads a branch conductor 48 to the pivotal extremity 49 of a switch arm 50. This switch arm when in the closed position or that shown by dotted lines in the drawing, engages a contact 51 from which leads a branch conductor 52 to the conductor 17. The last named construction is so arranged that by closing the switch arm 50, the door 19 may be opened and closed without giving the alarm, since it will be necessary when the other parts of the mechanism are arranged to give the alarm, that the occupant or occupants of the room shall have a means of exit. The contacts 18 and 21 are of such length that after the door has been swung during its closing movement to engage the last named contacts, the door will still be open wide enough to allow the person leaving the room and being outside of the door, to reach through and throw the switch arm 50 to the open position or that shown by full lines in the drawing. Again if an authorized person wishes to enter the room, it will also be necessary in order that the alarm may not be given, for him to close the switch arm 50 before he disengages the door from the contacts 18 and 21.

The receiver hook 6 is equipped with an upwardly projecting arm E which may be turned in the hook. The normal position of this arm, however, is indicated in the drawing. The upper extremity E² of this arm is enlarged and engages the protruding arm G of a pawl F which is acted on by a spring H which has a tendency to throw the pawl out of engagement with a toothed wheel I fast on a spindle J journaled in the opposite ends of a casing K. Located also in the casing is a coil spring L one extremity of which is connected with the spindle J while the other extremity is attached to the casing. The spring is wound up by applying a suitable key (not shown) to the protruding extremity M of the spindle which is fashioned to receive the key. By turning

the spindle in the proper direction the spring L is placed under tension. As soon as this is done, the pawl F is pushed into engagement with the toothed wheel I and locked in the engaged position against the tension of the spring F, by the upper extremity of the arm E. To the spindle J is also attached a spring arm N provided at its outer extremity with a sort of clapper O adapted to slip over a toothed ring P which extends entirely around the casing K. In the event that the magnet circuit is broken, and the receiver hook rises, the upper extremity E² of the arm E will be disengaged from the arm G, and the latter will then be free to leave the toothed wheel I under the influence of the spring H, thus allowing the spindle J to rotate in response to the recoil of the spring L. This will cause the arm N with its clapper device O to move rapidly over the toothed ring P of the casing giving a peculiar noise which is quite distinct from the bell alarm heretofore described and given when the magnet circuit is broken due to a fire where the telephone is located. Assuming that the receiver hook is held in the down position under the influence of the magnet, if it is desired to wind the spring L, the arm E may be turned in the receiver hook, so that the enlargement E² of the arm will be in such position that its narrow or thin dimension will be in the line of the path of the arm G, and when in this position will allow the arm to move outwardly in response to the spring, whereby the pawl F will be disengaged from the toothed wheel I thus allowing the spindle to be turned freely in the direction indicated by the arrow in Fig. 3 for the purpose of winding the spring. As soon as the spring is wound, the pawl F is pushed into engagement with the toothed wheel I, and the arm E turned to the position shown in the drawing whereby its enlarged extremity E² locks the pawl in the said position, until the receiver hook rises and releases the pawl in the manner heretofore explained.

From the foregoing description the use and operation of my improvements will be readily understood. Assuming that a fire occurs, and the thermostat bar moves out of engagement with the contact 33 and into engagement with the contact A, the magnet circuit will be broken and the circuit through the electric bell closed. At the same time the receiver hook will rise and disengage the arm E from the pawl F whereby both alarms will be sounded in the manner heretofore explained. However, in the event that a window or door is opened, whereby the magnet circuit is broken, the receiver hook will rise and disengage the arm E from the pawl F and sound the alarm only with which the pawl is connected. Thus central will be able to distinguish whether the diffi-

culty results either from a fire or a burglary, since in the case of a fire both alarms ring while in the case of a burglary only one will be heard, namely the mechanical alarm as distinguished from the electric alarm or bell.

Having thus described my invention, what I claim is:

1. The combination with a telephone and an alarm, of an electric circuit, an electro-magnet located in the said circuit, the said magnet being located underneath the telephone hook, the hook being equipped with a magnetic member whereby the hook will be drawn downwardly when the magnet is energized, means including two contact points located in the circuit for breaking and closing the circuit, and means connected with the hook for setting off the alarm when the circuit is broken, substantially as described.

2. The combination with a telephone and an alarm, of an electric circuit, the telephone hook being equipped with a magnetic member, an electro-magnet located in the circuit and arranged under the telephone hook, so that when the magnet is energized the hook will be drawn downwardly, means for deenergizing the magnet to cause the receiver hook to be released, and means carried by the said hook for setting off the alarm when the hook is released, substantially as described.

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

JAY A. ROBINSON.

Witnesses:

A. J. O'BRIEN,
DENA NELSON.