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I. M. SIMONS.  
ELECTRIC FIRE ALARM.  
APPLICATION FILED FEB. 26, 1907.

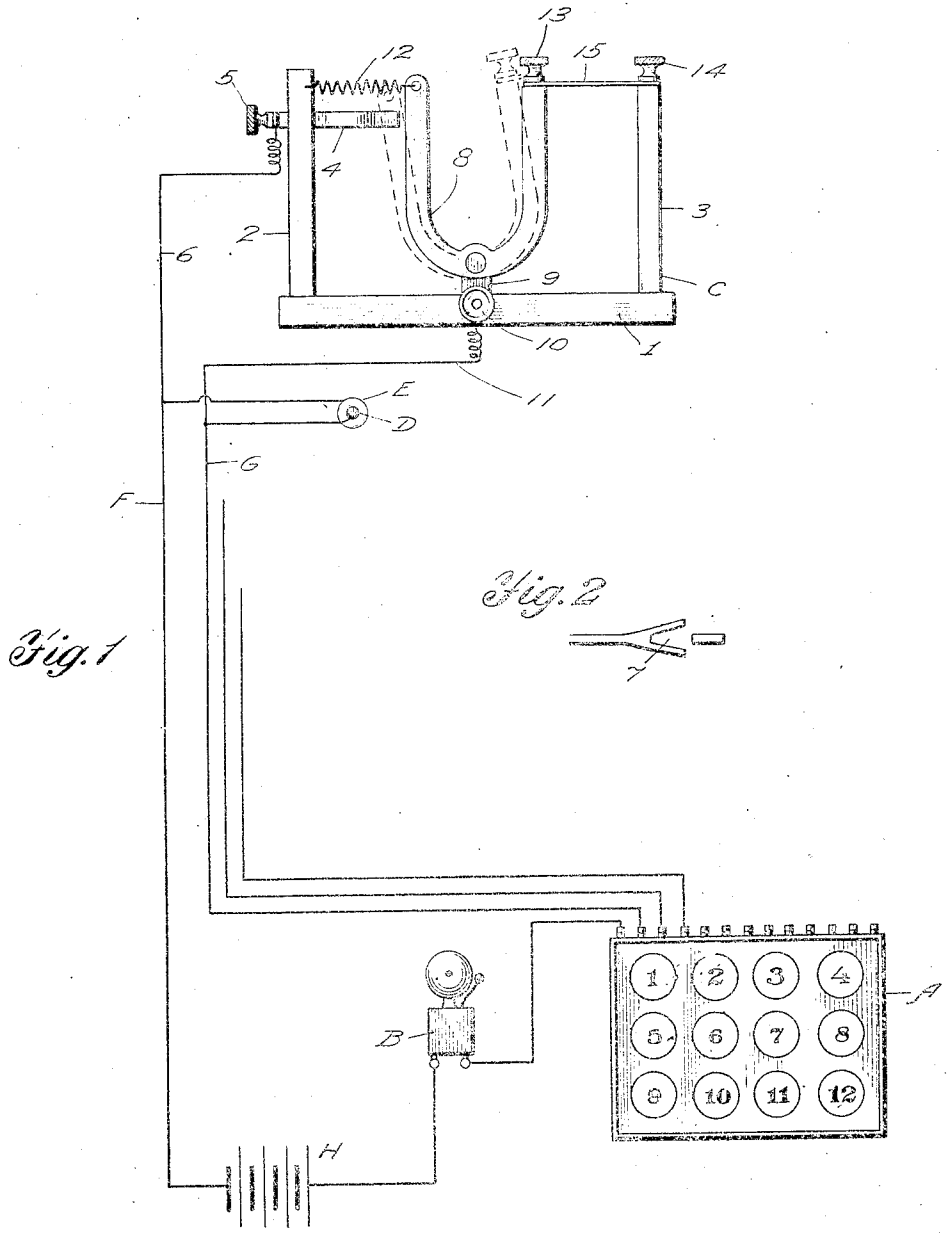


Fig. 1

Fig. 2

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## ELECTRIC FIRE-ALARM.

No. 856,921.

Specification of Letters Patent.

Patented June 11, 1907.

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*To all whom it may concern:*

Be it known that I, ISAAC M. SIMONS, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented new and useful Improvements in Electric Fire-Alarms, of which the following is a specification.

This invention relates to fire alarms for automatically sounding an alarm and indicating the location of a fire; and it has particular reference to that class of fire alarms which include a readily fusible strip of soft metal which, when fused by an abnormal or unusual rise in temperature, will release a spring actuated lever that serves to close an electric circuit including an alarm bell which is sounded by the closing of a circuit.

The present invention is specially adapted to buildings, such as hotels, where a large number of rooms or apartments are electrically connected with a central station, such as the office, where an annunciator is located, and the invention has for its object to indicate, through the medium of the annunciator, the exact room or apartment where an incipient fire is under way.

Further objects of the invention are to simplify and improve the construction and operation of this class of devices.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawing has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings: Figure 1 is a diagrammatic view showing an annunciator, a circuit closing mechanism, an electric bell, and the connecting circuit. Fig. 2 is a detail plan view showing a portion of the circuit closing mechanism.

Corresponding parts in both figures are denoted by like characters of reference.

An annunciator A of ordinary construction is arranged in a suitable location, such as the office of the particular building where the invention is installed, said annunciator being in

electrical communication with the several rooms or apartments of the hotel or building which are designated, upon the annunciator by numbers, in the usual manner. An electric bell B is suitably arranged in proximity to the annunciator.

In each room or apartment is arranged a circuit closing device C of special construction. In each room or apartment is also located an ordinary circuit closing device including a pressure button D and a contact member E which are respectively connected with the line wires F and G of a circuit including the annunciator A, the bell B and a battery H.

The special circuit closing device C includes a base 1 having posts or uprights 2 and 3, the former of which supports a horizontally disposed arm 4 having at its outer end a binding screw 5 which is connected with one end of a conductor such as a wire 6, the opposite end of which is connected with the line wire F; the inner end of the horizontal arm 4 is provided with a V-shaped notch 7. Pivotaly supported upon the base 1, intermediate of the posts 2 and 3, is a rocking U-shaped lever 8, said lever being preferably supported upon a lug 9 having a binding screw 10 and connected by said binding screw with one end of a conducting wire 11; the other end of which is connected with the line wire G. A spring 12 connects one end of the lever 8 with the post 5; the tendency of said spring being to draw the lever into engagement with the notch 7 of the arm 4. The opposite end of the lever 8 has a binding screw 13 and another binding screw 14 is arranged at the upper end of the post 3. The latter is connected with the lever 8 by means of a strip 15 of readily fusible material, secured by the binding screws 13 and 14, and whereby the spring 12 is put under tension and the arm of the lever 8 adjacent to the post 2 is held normally out of contact with the arm 4.

A sudden abnormal or unusual rise of temperature in the apartment where the device C is located will fuse the strip 15 upon which the lever 8 will be rocked by the action of the spring 12, placing one arm of said lever in direct contact with the arm 4 into the V-shaped notch of which the arm of the lever will be infallibly guided, thus completing the circuit and causing the bell B to be sounded while the location of the device C, the strip 15 of which is fused, will be indicated upon the an-

nunciator. The bell will continue to sound until the circuit is broken.

This improved device, as will be seen, is very simple in construction, and it may be readily installed, at a comparatively trifling expense, in any establishment that is already equipped with the electric annunciator. One or more of the devices may be arranged in different locations in each room or apartment if this should be considered necessary or desirable in order to insure complete protection.

By this device the exact location of an incipient fire will be indicated, and destructive conflagrations may thus frequently be avoided.

Having thus fully described the invention, what I claim as new is:--

1. In a device of the class described, a circuit closing device including a base, posts or uprights upon the base, a horizontally disposed arm upon one of the posts, a U-shaped lever supported upon the base intermediate of the posts, a traction spring connecting one arm of the lever with the post having the horizontal arm, a readily fusible strip connecting the other arm of the lever with the opposite post and electric conductors connecting the horizontal arm and the U-shaped lever respectively with the line wires of a circuit including an annunciator and an electric bell.

2. In a device of the class described, a circuit closing device comprising a base having posts or uprights, a rocking member supported pivotally upon the base intermediate of the posts, a spring connecting the rocking member with one of the posts, a readily fusi-

ble strip connecting the rocking member with the opposite post, a horizontally disposed arm supported by the first post or upright and having a terminal V-shaped notch adapted to receive the rocking member, and conductors connecting the horizontal arm and the rocking member respectively with the line wires of the circuit including an annunciator and an electric bell.

3. In an electric fire alarm, an annunciator and an electric bell located at a central station, a circuit closing device such as a pressure button arranged in an apartment distant from the central station, line wires connecting the contact members of the circuit closer with an electric circuit including the annunciator, the bell, and a battery, and a special circuit closing device disposed in the apartment where the pressure button is located and including a pair of posts or uprights, a rocking member supported pivotally between said posts or uprights, a spring connecting the rocking member with one of the posts, a horizontally disposed arm supported by said post and having a terminal notch adapted to receive the rocking member, a readily fusible strip connecting the rocking member with the other post, and electric conductors connecting the horizontal arm and the rocking member respectively with the line wires of the circuit including the annunciator, the bell and the battery.

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

ISAAC M. SIMONS.

Witnesses:

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