Sept. 27, 1932. E. MARSHALL 1,879,383

AUTOMATIC FIRE ALARM SWITCH

Filed Feb. 10, 1930

Fig. 1.

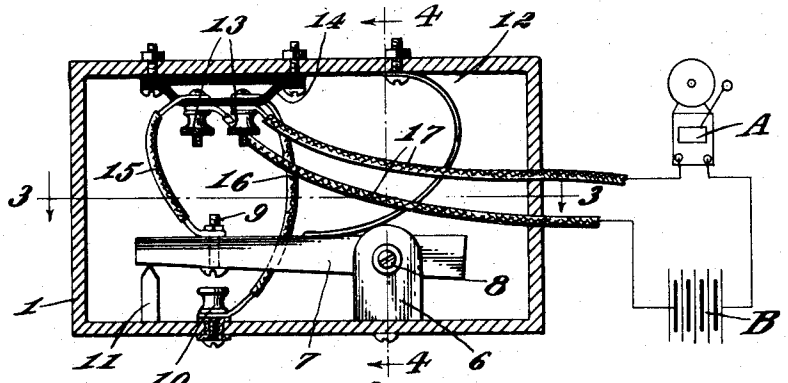


Fig. 2.

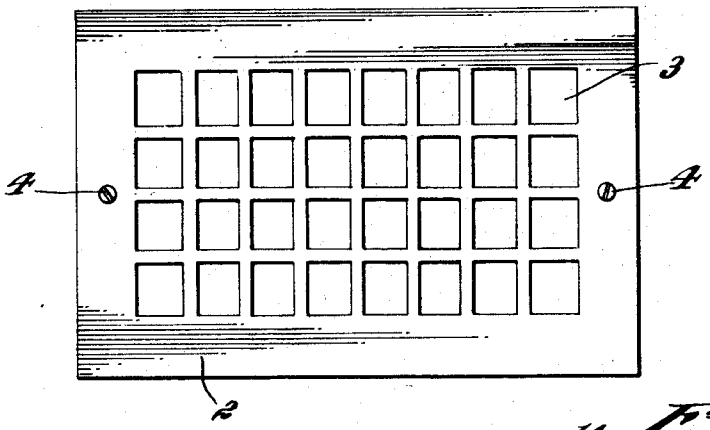


Fig. 3.

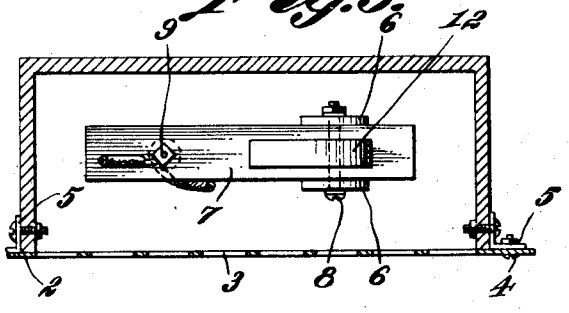
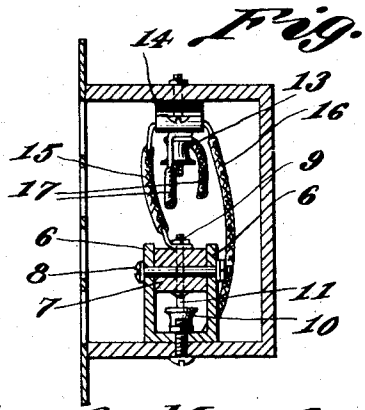


Fig. 4.



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UNITED STATES PATENT OFFICE

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AUTOMATIC FIRE ALARM SWITCH

Application filed February 10, 1930. Serial No. 427,294.

This invention relates to a fire alarm switch, the general object of the invention being to provide a switch located in an alarm circuit, with a fusible member normally holding the switch in open position and spring means for closing the switch when the fusible member melts so that the alarm will be sounded when a fire occurs.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a sectional view through the device.

Figure 2 is a view looking toward the cover of the casing in which the device is placed.

Figure 3 is a section on line 3—3 of Figure 1.

Figure 4 is a section on line 4—4 of Figure 1.

In these views, the numeral 1 indicates a casing and 2 the cover thereof, this cover being formed with a plurality of large openings 3 so that the parts within the casing can be acted on by the heat from a fire. The cover is attached to the casing by means of the bolts 4 passing through the cover and the brackets 5 attached to the casing. A U-shaped bracket 6 is connected to one wall of the casing and a switch arm 7 is pivoted between the limbs of said bracket by the bolt 8. A terminal 9 is carried by the arm and passes through the same and a terminal 10 is attached to a wall of the casing and is arranged directly under the terminal so that when the arm is in lowered position, the terminals will contact each other. The two contacts are normally held out of contact with each other by a post 11 of fusible material against which the free end of the arm rests. A spring 12, fastened to a part of the casing and contacting the arm, tends to force the arm downwardly and holds the arm against the post.

A pair of terminals 13 is supported in spaced relation from the support 14 formed of non-conducting material and attached to a wall of the casing. A conductor 15 connects one of the terminals 13 with a terminal 9 and a conductor 16 connects the other terminal with the terminal 10. Conductors 17 connect the terminals 13 with a battery B and an alarm A. Thus it will be seen that the circuit is normally held in open position by the post 11, but when a fire occurs, the post will melt, thus enabling the spring 12 to cause the switch arm 7 to move to a position where the terminal 9 will engage the terminal 10. This will complete the circuit from the battery through one of the terminals 13, conductor 15, terminals 9 and 10, conductor 16, the second conductor 17, through the alarm, back to the battery. Thus the alarm will be sounded and occupants of the room or building in which the device is placed will be notified that a fire has occurred.

I prefer to place the device on the ceiling so that when a fire occurs, the heated air rising to the ceiling, will enter the casing through the openings 3 and thus melt the post 11.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. In a fire alarm device, a circuit closer comprising a casing of box-like form having a cover plate of grid-like form detachably secured thereto, a U-shape bracket mounted within the casing, a contact arm pivoted intermediate its ends between the arms of said U-shape bracket, a contact carried by said arm and having a conductor therewith, a stationary conductor carried by and insulated from the adjacent wall of the casing in position to be engaged by the first named contact, spring means urging said arm toward the second named contact, and a fusible post carried by said wall of the casing and engaged

by said arm for normally holding the latter out of engagement with the second named contact.

2. In a fire alarm device, a circuit closer comprising a box-like casing closed at its open side by a multi-apertured cover plate, a U-shaped bracket secured upon one side of said casing and located therewithin, a contact arm pivoted intermediate it ends between the arms of said U-shaped bracket, a contact extending through said arm and connected with a conductor, a second contact secured to and insulated from said casing and connected with a conductor and located in position to be engaged by the first named contact, spring means carried by the opposite wall of the casing bearing upon said contact arm, and a post of fusible material carried by the first mentioned side of the casing and engaged by the arm for normally maintaining the same in position with said contacts out of engagement.

In testimony whereof I affix my signature.

ENOCH MARSHALL.