E. H. MOE.

ELECTRIC FIRE ALARM.

APPLICATION FILED JAN. 4, 1911.

1,019,270. Patented Mar. 5, 1912.

Fig. 1.

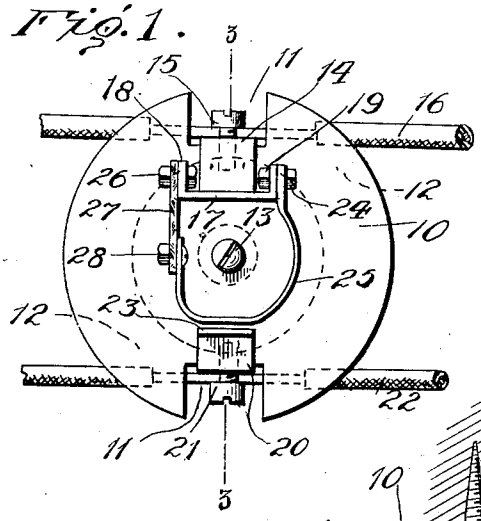


Fig. 2.

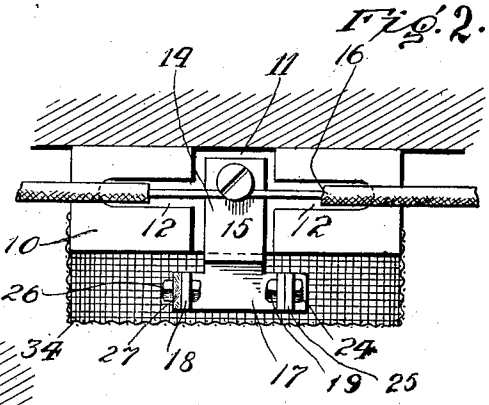
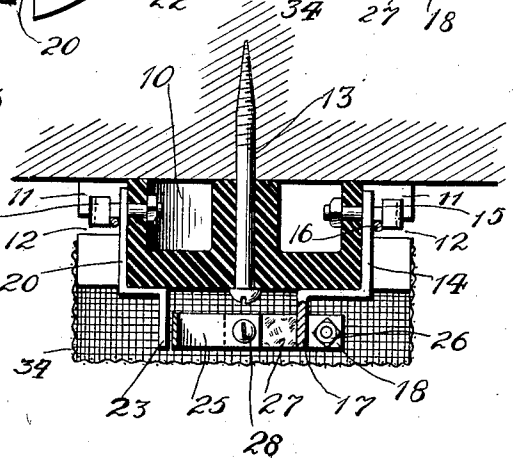


Fig. 3



Witnesses

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ELECTRIC FIRE-ALARM.

1,019,270. Specification of Letters Patent. **Patented Mar. 5, 1912.**

Application filed January 4, 1911. Serial No. 600,784.

To all whom it may concern:

Be it known that I, ELDOR H. MOE, citizen of Norway, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Electric Fire-Alarms, of which the following is a specification.

This invention relates to improvements in thermostats, of the class arranged to be actuated to sound an alarm in event of fire or for like purposes, and has for one of its objects to simplify and improve the construction and increase the efficiency and utility of devices of this character.

With these and other objects in view the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims.

In the drawings employed for illustrating the preferred embodiment of the invention, Figure 1 is a bottom plan view, enlarged, of one of the improved thermostats; Fig. 2 is an elevation of the thermostat, looking from one side; Fig. 3 is a section on the line 3—3 of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

The thermostat portion of the device comprises a base 10 of porcelain or other nonconductive and heat resisting qualities and preferably formed circular. The bases 10 are generally attached to the ceiling of the room in which they are located and for the purpose of this description it will be assumed that the blocks are so attached and with their flat faces extending horizontally and their edges extending vertically. Formed in the opposite edges of the base 10 are vertical recesses 11 and transverse recesses 12 communicating with the vertical recesses, as shown. The base or block 10 is preferably hollow in its rear face to reduce the weight and is adapted to be connected to the ceiling or wall of a building by a screw 13 or other suitable fastening device. Connected to the base 10 within one of the recesses 11 is a plate 14, preferably of brass, or like conductive metal, and secured in position by a clamp screw 15 or like fastening device, the plate 14 and the screw 15 serving as a binding mechanism to couple a conductor wire 16 which is extended through one of the transverse recesses 12, as shown. The plate 14 is directed inwardly and thence downwardly, as shown at 17, and provided at the terminals of the downwardly directed portion with lateral flanges or offsets 18—19, the offsets thus extending horizontally and in parallel relations to the adjacent flat or lower face of the base 10 and spaced therefrom. Fitting within the other vertical recess 11 is another plate 20 which is secured in position by a clamp screw 21 and utilized to couple a wire 22 to the base within the other pair of transverse apertures 12. At its lower end the plate 20 is directed inwardly and thence downwardly, as at 23, and forms an electrical contact plate, as hereafter explained.

Connected at one end, at 24, to the offset 19, is a curved spring contact 25 adapted to engage with the contact 20—23 when released. Connected at 26 to the offset 18 is a strip 27 of fusible material, the free end of the strip being connected at 28 to the free end of the spring contact 25 and operating to maintain the latter spaced away from the contact 23. By this arrangement it will be obvious that so long as the fusible member 27 remains intact the circuit will be maintained broken, but when the temperature rises sufficiently to fuse the member 27 the contact 25 will be released and the circuit closed by its engagement with the contact 23.

The wires 16—22 are connected with the opposite poles of the source of electric energy, for instance a battery, not shown. By this arrangement it will be obvious that so long as the various fusible members 27 are intact the circuit will remain open, but in event of a rise in temperature sufficiently near any one of the fusible strips to destroy the same, the circuit will be closed and the signal bell sounded.

It will be noted that the lateral extensions 18—19 are located a considerable distance apart, so that a relatively slight curvature is required for the member 25, so that the pull upon the fusible strip 27 is correspondingly straight or in longitudinal alinement with the strip, thus lessening the tendency to fracture the fragile strip by lateral strain. The strip 27 may be constructed of any suitable material, but practice has shown that a compound of bismuth, cadmium, tin and lead meets the requirements, and by slightly varying the proportions of these various metals the fusing point may be raised or lowered, so that the thermostat may be

adapted to be actuated by different degrees of heat. Generally a compound will be employed which will fuse at about 150° Fahrenheit, but the fusing point may be changed as circumstances may require.

The base 10 and the exposed contact devices 25 and fusible strip may be provided with any suitable protective covering which does not prevent the passage of the heat to the fusible member. For the purpose of illustration the base is shown covered with an open screen 34, but it will be understood that any suitable device may be employed for this purpose.

The improved device is simple in construction, can be inexpensively manufactured and can be installed by any person familiar with the ordinary means for installing electrical wiring.

Having thus described the invention, what is claimed as new is:

1. A thermostat comprising a base of insulating material having vertical recesses and transverse recesses communicating with the vertical recesses, binder plates bearing in the bottoms of said recesses and extending in advance of the base, a conductor wire extending through each of said transverse recesses, means for connecting said conductor wires respectively to said binder plates, a resilient member connected at one end to the extended portion of one of said binder plates, a fusible element connected at one end to said last mentioned binder plate and at its other end to the free end of said resilient member and holding the same normally out of contact with the projecting portion of the other binder plate.

2. A thermostat comprising a base of insulating material having vertical recesses and transverse recesses, binder plates bearing in the bottoms of said recesses and extending in advance of the base, one of said extended portions being formed with offsets at its ends, a conductor wire extending through each of said transverse recesses, means for connecting said conductor wires respectively to said binder plates, a resilient member connected at one end to one of said offsets, and a fusible element connected at one end to the other of said offsets and with the other end of the fusible element connected to the free end of said resilient member and holding the same normally out of contact with the projecting portion of the other binder plate.

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

ELDOR H. MOE. [L. S.]

Witnesses:
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