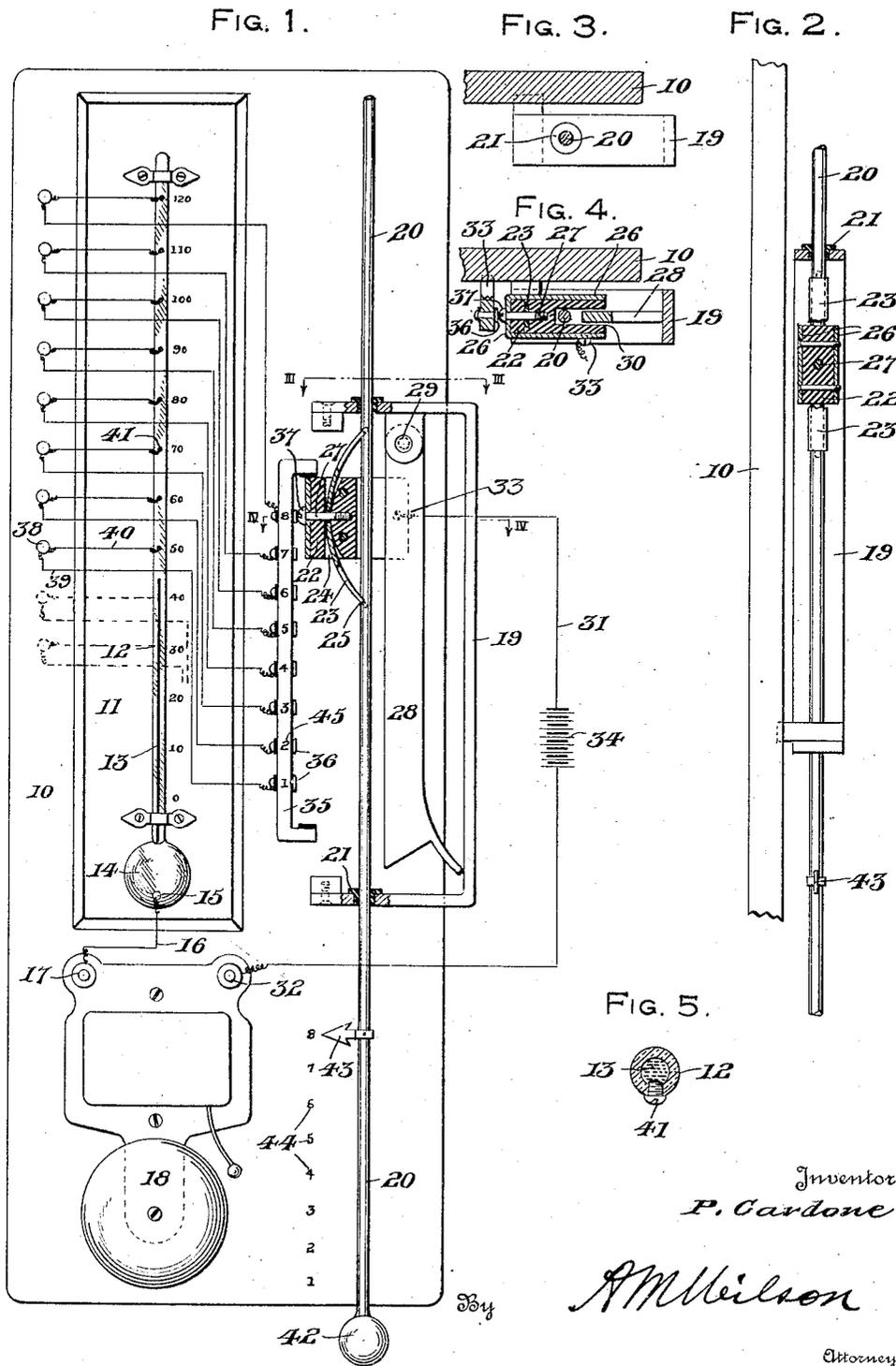


P. CARDONE.
 AUTOMATIC HEAT ALARM.
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AUTOMATIC HEAT-ALARM.

1,298,175.

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To all whom it may concern:

Be it known that I, PAOLO CARDONE, a subject of the King of Italy, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Automatic Heat-Alarms, of which the following is a specification.

The primary object of the invention is the provision of an alarm adapted to be automatically sounded when the temperature at a given point rises to a predetermined degree, means being arranged for readily adjusting the device for actuation at different temperatures.

A further object of the invention is the provision of a device that is simple in construction and adapted for sounding an audible alarm at any desirable point when the temperature at any fixed point at a distance therefrom reaches a predetermined degree, the device being serviceable for such objects as advising the janitor of a building when the degree of heat becomes excessive at any point in the building or advising him when the thermometer at any given point reaches a certain temperature.

A still further object of the device is the provision of an alarm adapted to be automatically sounded in case of a fire occurring at a given point and raising the temperature at such point beyond a predetermined degree, the device being adjustable for different degrees of heat to be noted by the alarm.

In the drawing:—

Figure 1 is a front elevation of the device partially shown diagrammatically and with parts being broken away;

Fig. 2 is a vertical sectional view through a portion of the device;

Figs. 3 and 4 are transverse sectional views taken upon lines 3—3 and 4—4 respectively of Fig. 1; and

Fig. 5 is a cross sectional view of the thermometer tube taken adjacent one of the terminal screws carried thereby.

Referring more in detail to the drawing, a base 10 is provided having a thermometer 11 of substantially the usual form mounted thereon, the said thermometer having a glass tube 12 within which the indicating fluid such as mercury 13 is arranged for ascending therein as the temperature of the surrounding atmosphere rises. The thermometer tube 12 is provided with a bulb 14 at its lower end for containing the main supply

of the mercury and an electric terminal 15 is arranged through the bulb 14 in constant contact with the mercury 13 and electrically connected by means of a wire 16 with one of the binding posts 17 of an electric alarm bell or gong 18.

A U-shaped frame 19 is mounted upon the base 10 having a rod or slider 20 mounted therein by means of dielectric bushings 21. A block 22 is mounted upon the rod 20 by means of a spring 23 secured through a slot 24 in the block 22 and having its opposite ends 25 socketed at spaced points in the rod 20. A U-shaped cover-plate 26 partially surrounds the block 22 secured in position by a screw 27 also passing through the spring 23 for retaining the latter in the slot 24.

A guide-strip 28 is secured within the frame 19 as at 29 and is adapted to be straddled by the block 22, which block is arranged with a side slot 30 within which the guide 28 extends. A circuit wire 31 connects the other binding post 32 of the alarm 18 with the cover-plate 26 as at 33 while a source of electrical supply such as a battery 34 is provided in the circuit wire 31.

A switch member or bar 35 is provided upon the base 10 adjacent and parallel with the rod 20 having a plurality of contacts or buttons 36 arranged thereon adapted for selective contact by the head 37 of the screw 27 during the vertical movement of the slider 20. The buttons 36 are designated numerically from 1 to 8, and each button is provided with a binding post 38 upon the opposite side of the thermometer 11, electrical connection being established between each button 36 and its respective binding post 38 by means of a wire 39.

Each of the binding posts 38 is connected by means of a wire 40 with a terminal 41 herein shown in the form of a screw and mounted at different elevations through the thermometer tube 12 for engagement by the mercury 13 therein during the rising of the mercury upon an increase in temperature of the surrounding atmosphere.

The slider 20 has a ball 42 upon its lower end serving as a handle for slidably moving the rod 20 in the frame 19 and positioning the contact head 37 in electrical contact with any desired one of said buttons 36. An arrow 43 is carried by the rod 20 which points toward the corresponding figure 44 of a series of figures carried by the base 10 iden-

tical in arrangement with the numbers 45 upon the bar 35 which indicates the respective buttons 36.

The device is arranged for positioning 5 the contact screws 41 at definite points upon the tube 12 corresponding to desired degrees of temperature thereon, such as 50, 60, 70, 80, 90, 100, 110 and 120 so that, as will be apparent, the movement of the slider 20 for 10 positioning the arrow 43 adjacent the uppermost numeral, 8, of the series 44, will position the contact head 37 in circuit with the upper button, numbered 8, of the series of buttons 36 and which upper button is electrically connected with the uppermost screw 15 41 at the temperature scale indication of 120°. It will be understood that any other degree designations upon the thermometer tube 12 may be arranged with similar electrical connections for automatically sounding 20 the alarm when the temperature reaches such designations and a portion of these connections for the designations 20 and 40 are herein indicated by dotted lines in Fig. 1 of 25 the drawing.

By moving the rod 20 for contacting the head 37 with any of the other buttons 36, such as the lowermost button numbered 1, will adjust the device for sounding the 30 alarm 18 automatically at a different temperature when reached by the mercury 13 of the thermometer. It will also be apparent that the thermometer 11 may be arranged at one position such for instance as 35 in a melting vat, not shown, while the alarm 18 may be arranged at a considerable distance therefrom and the regulating means including the bar 15, rod 20 and accompanying elements may be placed at a different 40 distant location. The device is serviceable in sounding the alarm 18 when the tempera-

ture at the location of the thermometer bulb 14 reaches any of the points of temperature noted by the terminal screws 41 while the slider 20 renders the easily changeable audi- 45 ble sounding of the alarm at any of the different degrees of temperature for which the device is arranged.

What I claim as new is:—

1. In a device of the class described, a 50 switch bar, successively arranged contact buttons carried by said switch bar, a screw having a contact head adapted for selective engagement with said buttons, a switch 55 block to which said screw is attached, a slidably mounted rod to which said switch block is attached, a cover plate upon said block contacting said screw, said block having a side slot through which said rod extends, a mounting frame for said rod, said slot in 60 the block engaging with a part of said frame, and insulating bushings upon said frame through which said rod slidably extends.

2. In a device of the class described, a 65 switch bar, successively arranged contact buttons carried by said switch bar, a screw having a contact head adapted for selective engagement with said buttons, a switch 70 block to which said screw is attached, a slidably mounted rod to which said switch block is attached, a cover plate upon said block contacting said screw, said block having a side slot through which said rod extends, a mounting frame for said rod, insulating 75 bushings upon said frame through which said rod slidably extends, and a guide strip longitudinally carried by said frame, said slot in the block engaging with a part of said guide strip. 80

In testimony whereof I affix my signature.

PAOLO CARDONE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."