

G. W. WILLIAMSON.
THERMOSTAT.
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1,363,072.

Patented Dec. 21, 1920.

Fig. 1.

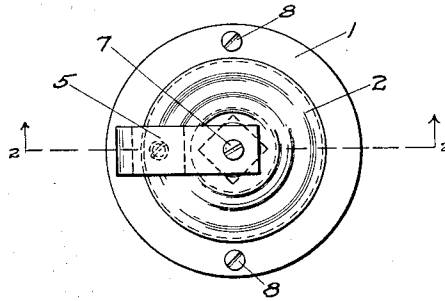
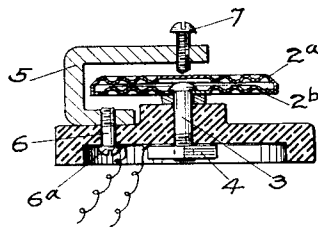


Fig. 2.



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THERMOSTAT.

1,363,072.

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To all whom it may concern:

Be it known that I, GEORGE WRIGHT WILLIAMSON, a citizen of the United States, residing at Oregon City, in the county of Clackamas and State of Oregon, have invented a new and useful Thermostat, of which the following is a specification.

This invention relates to fire alarm systems and particularly to means for automatically applying a circuit for operating a suitable signal.

An object of the present invention is to provide a simple and inexpensive device in the form of a thermostat, which may be included in an alarm or signal circuit and which will respond to a given temperature, means being provided for regulating the degree of heat necessary for the operation of the thermostat.

To this end the invention consists of the following novel construction, combination and arrangement of parts to be hereinafter more fully described and illustrated in the accompanying drawings, in which:—

Figure 1 is a plan view of a thermostat constructed in accordance with the present invention;

Fig. 2 is a sectional view on the line 2—2 of Fig. 1, illustrating the thermostat in connection with an alarm circuit.

Referring to the drawings in detail, the invention comprises a base 1, preferably formed of hard rubber, fiber or other insulating material. This base is preferably circular in form and is provided with a centrally arranged boss through which extends an opening for the reception of a threaded shank 3 carried by a thermostat 2.

The thermostat 2 is also preferably circular in shape and consists of spaced walls 2^a and 2^b, joined at their edges so as to provide a hollow air tight bottom. The walls 2^a and 2^b are preferably concentrically corrugated as shown, their central portions being in the form of parallel disks. The chamber so formed is adapted to contain a suitable volatile fluid, preferably a compound of ether, mercury and alcohol. This compound when subject to heat readily expands, so as to expand the walls 2^a and 2^b of the thermostat for a purpose presently apparent.

The under side of the base 1 is preferably hollowed out as shown and a nut 4 is secured upon the end of the threaded shank 3 so as to hold the thermostat in position.

Mounted upon the threaded shank 3 between the base and the wall 2^b of the thermostat is a spacing collar 2^c, so that practically the entire surface of both walls of the thermostat are subjected to the heat.

Mounted upon the screw 6 carried by the base 1 is an arm 5, one end of the arm projecting over the central portion of the wall 2^a of the thermostat. Mounted in this end of the arm and disposed in alinement with the shank 3, is a contact screw 7, the inner end of which is pointed as shown. This screw may be adjusted at any desired distance from the center portion of the wall 2^a, so as to regulate the degree of heat to which the device will respond.

In addition to forming means for securing the thermostat and arm 5 in position, a nut 4 and a screw 6 serve to secure respectively conductor wires 9 and 10, of an alarm circuit. Engaged in this circuit is a signal in the form of a bell 11, while the source of electrical energy is shown in the form of a battery 12. The base 1 may be secured in position through the medium of screws 8, or other suitable devices which pass through openings in the said base.

Having described the invention, what is claimed is:—

The combination with a normally open electric circuit, and a thermostat including an insulating base, a hollow air tight expansion chamber having spaced walls, a volatile fluid within said chamber, a threaded stud projecting from one wall of the chamber and extending through said base to hold the expansion chamber in position and providing a terminal for connection to said circuit, a substantially U-shaped bracket having a long arm and a short arm, the short arm of the bracket being secured to the base with the expansion chamber extending between the bracket arms, a screw for securing the short arm of the bracket to the base and providing a terminal for connection with the circuit and an adjustable contact element carried by the long arm of the bracket for contact with the adjacent wall of the expansion chamber to close the circuit.

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Witnesses:

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SAM ARNOLD.