

(No Model.)

L. G. ROWAND.
THERMOSTAT.

No. 527,375.

Patented Oct. 9, 1894.

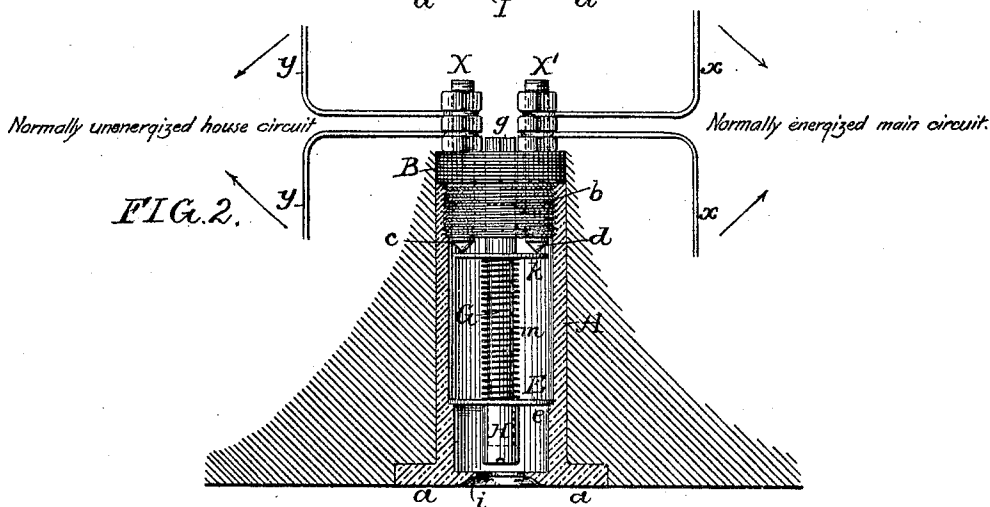
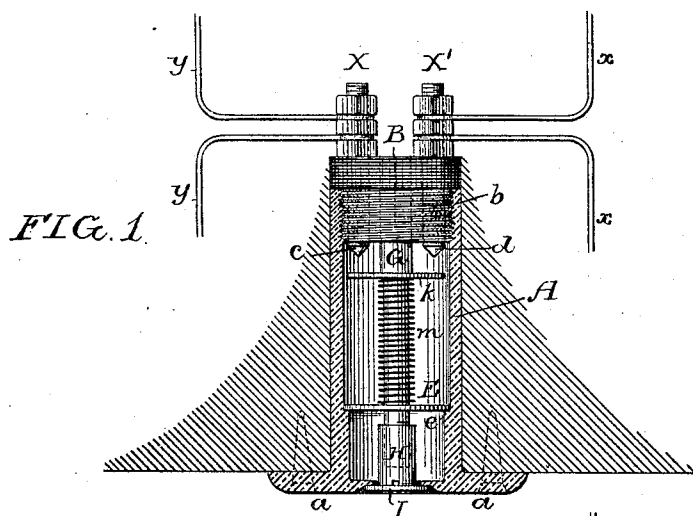


FIG. 4.

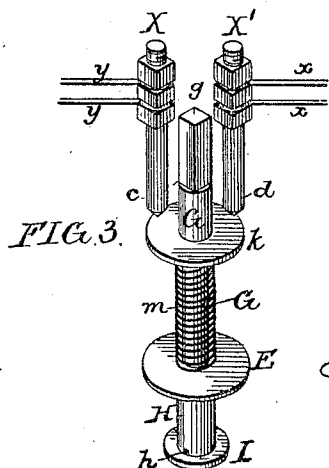
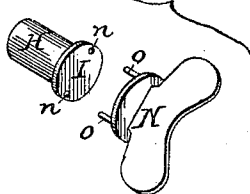


FIG. 5.



Witnesses:
R. Schleicher.
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Inventor
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by his attorneys
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UNITED STATES PATENT OFFICE.

LEWIS G. ROWAND, OF CAMDEN, NEW JERSEY, ASSIGNOR TO THE
UNIVERSAL FIRE ALARM COMPANY, OF SAME PLACE.

THERMOSTAT.

SPECIFICATION forming part of Letters Patent No. 527,375, dated October 9, 1894.

Application filed June 5, 1893. Serial No. 476,628. (No model.)

To all whom it may concern:

Be it known that I, LEWIS G. ROWAND, a citizen of the United States, and a resident of Camden, New Jersey, have invented certain
5 Improvements in Thermostats, of which the following is a specification.

My invention relates to certain improvements in thermostats employed for opening or closing an electric circuit of fire alarm systems and a method of attaching the conducting wires thereto, its main object being to
10 construct a thermostat of simple character which will have all of its working parts protected and not liable to derangement and
15 which may be readily readjusted in position after the sounding of an alarm.

In the accompanying drawings:—Figure 1, is a sectional view of a thermostat constructed in accordance with my invention and showing
20 it situated in the wall or ceiling of a room to be protected. Fig. 2, is a substantially similar view illustrating the position of the parts after the thermostat has acted. Fig. 3, is a detached perspective view of the working
25 portions of the device; and Figs. 4 and 5, are views of details.

In automatic fire signaling systems such as now commonly employed in large buildings it is desirable to employ thermostats which
30 may operate to close or open an electric circuit when the temperature of the room is raised to a dangerous degree by fire and many devices have heretofore been constructed for this purpose but in all of this class with which
35 I am familiar the thermostats are usually placed upon the walls or ceiling of the room in such manner that they may be tampered with, and, being situated entirely outside the line of the wall or ceiling are unsightly and
40 detract from the appearance of the compartment.

In carrying out my invention therefore, I propose to arrange the body of the thermostat within the wall or ceiling in such manner that the cap or head only will be visible
45 and this cap or head may be ornamented in any desired manner or may be sunk flush with the line of the wall and colored in the same manner as the wall itself.

Referring to the accompanying drawings,

A represents a tubular casing of non-conducting material preferably circular in form and adapted to be placed in a recess in the wall or ceiling of the room so that only the end portion *a* will be exposed, and this end portion *a* may project from the line of the wall,
55 as shown in Fig. 1, or may be placed in a counter-sunk recess and its end made flush with the wall as shown in Fig. 2. The opposite end of the casing A is provided with an
60 internal thread *b* to which is adapted the threaded periphery of a plug B of rubber, vulcanized fiber or other suitable material and through this plug extend binding posts
65 X X' terminating at the opposite end of the plug in contact points *c d* which are preferably conical in form.

At a short distance above the end *a* of the casing A is a shoulder *e* on which rests a disk E having a central opening through which is
70 adapted to pass a rod G, one end of which, *g*, is rectangular in form and passes through a similarly shaped opening in the center of the plug B while its opposite end is threaded and adapted to receive a nut H the outer end of
75 which is slotted at *h* and is secured by a fusible solder to a disk I of a diameter somewhat greater than the opening *i* in the end *a* of the casing; and through which opening the nut
80 H normally projects, as shown in Fig. 1, the disk I being soldered to the nut on the outside of the casing. The upper portion of the rod G is of somewhat greater diameter than
85 its lower portion and forms a shoulder on which rests a contact plate *k* of German silver or similar conducting metal and between the plate *k* and the disk E is a coiled compression spring *m* encircling the rod G and
90 tending at all times to force the plate *k* into contact with the contact points *c* and *d*, but this movement being normally prevented by the engagement of the disk I with the exterior of the casing, so that it is only on the rising of the temperature of the room and the
95 consequent fusion of the solder which unites the disk I to the nut H that the spring *m* is permitted to move the plate *k* into contact with the contact points *c d* and establish a circuit.

With a construction of thermostat such as

above described the parts may be readily coupled together and after the thermostat has acted it is simply necessary to unscrew from the end of the rod G the nut H, this operation being simplified by the employment of the transverse slot *h* in the end of the nut and in which a screw driver may be inserted, the opposite end of the rod G being held from rotating by its rectangular end *g* engaging with the rectangular opening in the plug B, and then screwing onto the threaded end of the rod a new nut H with its attached disk I and to facilitate the operation I propose to drill or punch two openings *n* (See Fig. 5) in the disk and employ a tool such as N, having two projecting points *o* adapted to engage with the openings to screw the new nut and disk in place.

A further feature of my invention consists in the method of attaching the conducting wires to the binding posts of the thermostat. Usually the wires are run in pairs all through the system and at each thermostat a single wire from each line extends to the binding posts.

In carrying out my invention if *x* represents say an energized main line and *y* a normally non-energized house line I continue the circuit of each through one of the binding posts as shown, and in this way, in making a test notice is given at the central station in the event of the breakage of either line, by the employment of suitable signal alarms.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination in a thermostat of the cylindrical casing, a block B at one end of said casing, binding posts and contact points carried by said block, the centrally located rod G extending through said block, a nut H secured to one end of said rod and normally extending through the opening of the casing, a disk I secured to the nut on the outside of the casing, a contact plate *k* carried by the rod and a spring tending to force said contact

plate into contact with the contact points of the line wires, substantially as specified.

2. The combination in a thermostat, of the casing, a block at one end thereof having a rectangular opening and provided with contact points, a rod having an inner rectangular portion adapted to said opening in the block, a nut screwed on the outer end of said rod and normally projecting through an opening in the outer end of the casing, a disk secured to said rod by fusible solder and normally bearing upon the outer end of the casing, a contact plate carried by the rod and a spring tending to force the plate toward the contact points, substantially as specified.

3. In a thermostat having contact points, a removable fusion plate having openings, a nut to which said plate is attached by a fusible solder, a spring pressed rod carrying said nut, a contact plate carried by said rod, and a key adapted to engage with the openings in said fusion plate, substantially as specified.

4. In a thermostat having contact points, a spring pressed rod, a contact plate carried thereby, a removable nut attached to said rod, said nut having a slotted end and a fusion plate attached to said nut, substantially as specified.

5. The within described wiring system for electric thermostats, the same comprising a closed and normally energized main line circuit connected to one of the terminals of the thermostat, and a closed and normally unenergized house line circuit connected to the other terminal of the thermostat, whereby the circuit closing devices of said thermostat unite the closed main and house circuits and cause the energizing of the latter by the former, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEWIS G. ROWAND.

Witnesses:

JNO. E. PARKER,
JOSEPH H. KLEIN.