

No. 630,671.

Patented Aug. 8, 1899.

L. H. DES ISLES.
ELECTRIC THERMOSTAT.

(Application filed Sept. 2, 1898.)

(No Model.)

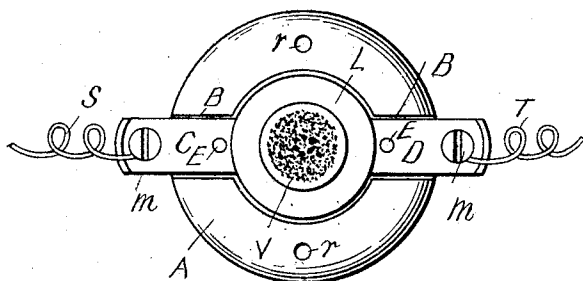


Fig. 1.

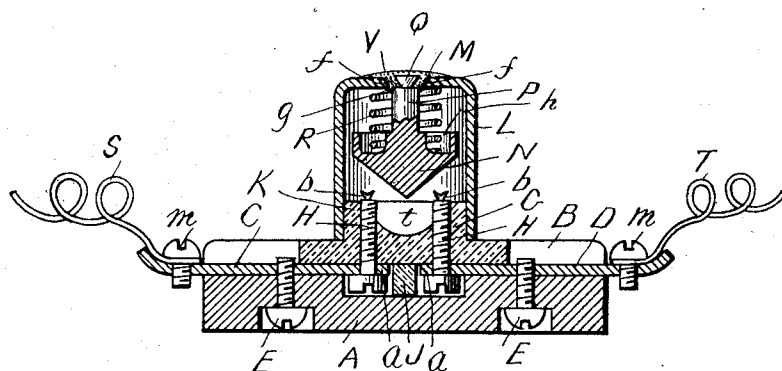


Fig. 2.

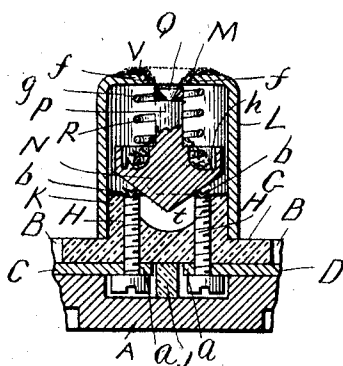


Fig. 3.

WITNESSES

Florence I. Garrett.
Luther C. Lewis.

INVENTOR

Leonard H. Des Isles,
Per Edwin M. Brown,
Attorney.

UNITED STATES PATENT OFFICE.

LEONARD H. DES ISLES, OF BOSTON, MASSACHUSETTS.

ELECTRIC THERMOSTAT.

SPECIFICATION forming part of Letters Patent No. 630,671, dated August 8, 1899.

Application filed September 2, 1898. Serial No. 690,114. (No model.)

To all whom it may concern:

Be it known that I, LEONARD H. DES ISLES, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Electric Thermostats, of which the following is a full, clear, and exact description.

This invention consists of an electric thermostat constructed and arranged for operation all substantially as hereinafter fully described, reference being had to the accompanying sheets of drawings, in which is illustrated an electric thermostat constructed in accordance with this invention.

Figure 1 is a plan or front view. Fig. 2 is a longitudinal vertical section enlarged. Fig. 3 is a detail section like Fig. 2 with some of the parts in different positions, to be hereinafter more particularly referred to.

In the drawings, A represents a circular flat block of porcelain, having a transverse groove B on its front or upper side in which are secured two flat strips C D of metal by screws E, their ends *a* being separated from each other, so they will not touch. To the inner ends of each strip C D is secured a block G of india-rubber by screws H, respectively, the inner ends *b* of the screws projecting above or beyond the surface of the block, as shown in Figs. 2 and 3, and a central portion J of the block G extending into the groove B between the ends of the two strips to separate and insulate them from each other. The portion K of the block G is circular, and over its sides extends and is secured in any suitable manner a metal cap or casing L, its end having a central opening M, the edges *f* of which are beveled outwardly, as shown in Figs. 2 and 3.

N is a cone-shaped metal block placed within the cap or casing L, having a central stem or spindle P, its end terminating with a head Q like a common screw-head, having under bevel sides *g*, as shown, substantially corresponding to the bevel edges *f* of the opening M of the cap or casing L. Disposed around the stem and bearing in an annular groove *h* and pressing against the cap in the head is a spiral spring R. This cone-shaped head is secured and held in the position shown in the casing above the screws H by solder V or a metal fusible at a low degree of temperature,

which holds it against its spring, so that its cone portion will not touch the two screws.

To each strip C D is connected by screws *m*, respectively, electric wires S T, which connect with the poles of an electric battery; but with the parts as shown in Figs. 1 and 2 the electric circuit is open, as there is no metal or electric contact between the ends *b* of the two screws or contact-points H.

As shown in Figs. 1 and 2 the thermostat is in position for use, its two electric wires being connected to an electric battery and to any suitable alarm in any of the well-known ways, but not shown.

The thermostat being placed in position in a room or other place to be protected is secured in position by screws passing through holes *r* in the block A and screwing into a proper support and the electric wires connected to the battery and alarm.

If in a room or other place in which is located the thermostat extra heat or fire should occur sufficient to melt the fusible metal, the fusible metal will be melted or fused, which leaves the cone-head free of the cap, so that its spring will then set and force it down at once upon the ends *b* of the two screws H, instantly making electric contact between the two and thus the electric circuit and sounding the alarm in connection therewith.

The bevel-head Q of the cone-stem and the correspondingly-beveled edges *f* of the cap insure to a great degree the positive holding of the cone-head to the cap away from the contact ends *b* in the position shown in Fig. 1, as the pull of the spring practically holds the fusible metal between the bevel sides of the cap-opening and the cone-stem head, holding the cone-head in position longer and more decidedly than it otherwise would if the stem were straight and depended more particularly upon the adhesion of the fusible metal to its sides, the cone-stem being dovetailed, as it were, in position. Also such construction allows the cap to be made of quite thin metal, by which the cap and fusible metal are more quickly affected by the heat.

The block A and other parts can be made of any suitable material; but the necessary parts must be insulated from each other in any suitable manner for the operation of the thermostat, as described. Also the metal

head can be of any suitable form than of cone shape that will make proper contact between the two screws, although a cone shape is preferable for use.

- 5 The ends *b* of the screws are made, as shown, with thin knife-edges, so that the cone-head makes contact therewith. They will scrape the sides of the cone-head and remove whatever dirt or other foreign substance
10 there may be on the cone, assuring the electric circuit.

The block *G* has in its portion *K* a central depression or cavity *t* to allow room for the cone-head end *u* when the cone-head is bearing against the ends *b* of the contact-screws
15 *II*, as shown in Fig. 3 more particularly.

Having thus described my invention, what I claim is—

1. In an electric thermostat, in combination, a block to which are secured two electric contact-points insulated from each other, a casing or cap secured to said block over said contacts, said casing having an opening
20 therethrough having a bevel edge, a head or block having a spindle or stem with a bevel-shoulder or dovetail end to project into said casing-opening and secured to the casing in said opening by fusible metal, and a spring bearing on said head and said casing for the
25 purpose specified.

2. In an electric thermostat, in combina-

tion, a block to which are secured two electric contact-points insulated from each other, a casing or cap secured to said block over said contacts, said casing having an opening
35 therethrough having a bevel edge, a cone-shaped head or block, a spindle or stem with a bevel-shoulder or dovetail end to project into said casing-opening and secured to the casing in said opening by fusible metal, and
40 a spring bearing on said head and said casing for the purpose specified.

3. In an electric thermostat, in combination, a block to which are secured two electric contact-points insulated from each other
45 the point of each having a knife-like edge, a casing or cap secured to said block over said contacts, said casing having an opening therethrough, having a bevel edge, a head or block having a spindle or stem with bevel-shoulder
50 or dovetail end, to project into said casing-opening, and secured to the casing in said opening by fusible metal, and a spring bearing on said head and said casing for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LEONARD H. DES ISLES.

Witnesses:

EDWIN W. BROWN,

FLORENCE I. GARRETT.