No. 783,376. PATENTED FEB. 21, 1905.

P. C. HOWE.

ELECTRIC THERMO ALARM.

APPLICATION FILED APR. 23, 1904.



Fig. 1.

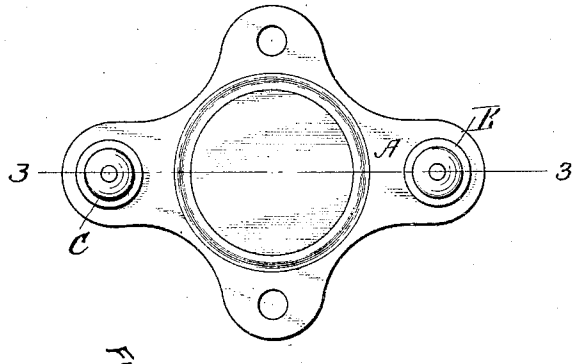


Fig. 2.

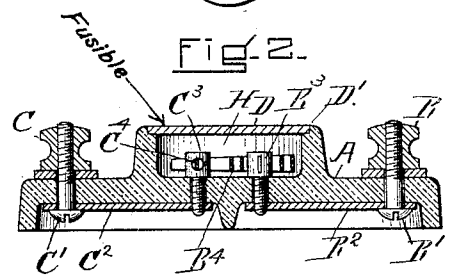


Fig. 3.

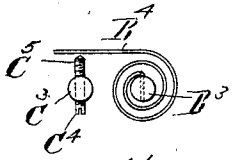


Fig. 4.

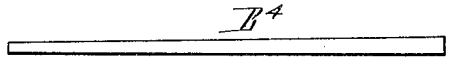


Fig. 5.

WITNESSES.

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No. 783,376. Patented February 21, 1905.

UNITED STATES PATENT OFFICE.

PERCY C. HOWE, OF CAMBRIDGE, MASSACHUSETTS.

ELECTRIC-THERMO ALARM.

SPECIFICATION forming part of Letters Patent No. 783,376, dated February 21, 1905.

Application filed April 23, 1904. Serial No. 204,639.

To all whom it may concern:

Be it known that I, PERCY C. HOWE, a citizen of the United States, residing at Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Electric-Thermo Alarms, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to that class of electric thermostats that are used to give an alarm when from any cause the immediate surroundings of the instrument have risen in temperature to a dangerous degree; and it consists in construction and combinations that are peculiar and that may be best understood by reference to the descriptive specification, as illustrated by the accompanying drawings, in which—

Figure 1 is an elevation of one of my instruments. Fig. 2 is a plan of the same. Fig. 3 is a vertical section taken through line 3 3 of Fig. 2; Figs. 4 and 5, details.

In the drawings, A represents the base or body upon which the several parts are assembled and is made of porcelain, glass, or of any suitable non-conducting material.

B and C are binding screw-nuts of the usual construction.

The base A has two recesses on the back or wall side, as shown in Fig. 3. These recesses are divided from each other by a central ridge, so that the two conductor-plates B^2 C^2 are when the instrument is attached to the wall completely protected from dust or insects and also have their ends protected by the central ridge between them, thus guarding against the forming of an arc-leak between the two ends that are of necessity near each other, as shown in Fig. 3.

The binding screw-nut B is electrically connected to the thermostat-post B^3 by the screw B′ and conductor-plate B^2. The binding screw-nut C is connected to the thermostat-post C^3 by the screw C′ and conductor-plate C^2.

The thermostat proper, B^4, (see Figs. 4 and 5,) consists of a combination of two strips of sheet metal of different coefficients of expansion united by soldering, brazing, or riveting, and coiled, as shown in Fig. 4. It is usual to make the thermostat of a compound strip of metal of uniform width; but I make my strip wider at the end that is attached to the post B than it is at the free end. (See Fig. 5.) The object in thus making the strip is to have it more stable and less liable to shake or to get out of alinement with the contact-point C^5 of the electrode C^4 in the thermostat-post C^3. The device operates in the usual manner—that is, as the temperature arises the contact end B^5 approaches the contact-point C^5, and when the temperature arises to the danger degree the contact is made and the alarm given.

The chamber H, Fig. 3, in which the thermostat is placed, is usually left open and the contact-making parts are exposed, so as to become injured by dust, moisture, corrosion, or by insects. To permanently close this chamber would have the effect of preventing the free circulation of air about the thermostat B^4 and to prevent the prompt effect of a rise in temperature of the surroundings. To meet the various objections and requirements as above, I seal the chamber H by a plate D, which will promptly fuse as soon as the temperature reaches the danger-point, or instead of a fusible plate D, I may cement it to the base at D′ by some readily fusible cement, so that upon becoming heated the plate will drop out. This closure device should be constructed of non-ignitable material.

I claim—

1. An electric-thermo alarm comprising a base of non-conducting material having recesses on the wall side insulated from each other and adapted to receive the conductor-plates, and having an inclosed recess on the face side; a fusible closure device for said recess on the face side; terminal conductor-plates in said wall-side recesses connecting thermostat-posts, said posts and a thermostat inclosed in said recess on the face side, substantially as and for the purpose set forth.

2. A device of the character specified, comprising a base of non-conducting material, said

base recessed on the wall side and adapted to receive the conductor-plates; and having a recess on the face side adapted to receive thermostat-posts and a thermostat, substantially as and for the purpose set forth.

3. A device of the character specified, comprising a base of non-conducting material having recesses on the wall side and adapted to receive the conductor-plates; a recess on the face side of said base adapted to receive thermostat-posts and a thermostat; a temporary closure device for said recess on the face side, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 22d day of April, A. D. 1904.

PERCY C. HOWE.

Witnesses:
FRANK G. PARKER,
WILLIAM EDSON.