W. H. MARKLAND.

THERMOSTATS.

No. 184,641. Patented Nov. 21, 1876.

Fig. 1.

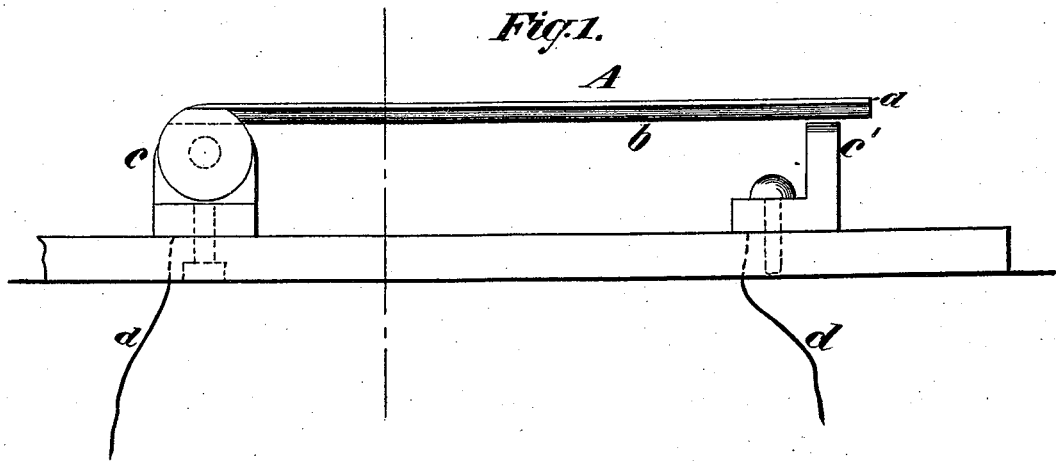
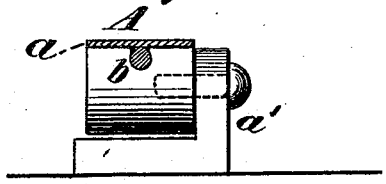


Fig. 2.



Witnesses.
John Becker
Fred Haynes

Wm H. Markland
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

WILLIAM H. MARKLAND, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN THERMOSTATS.

Specification forming part of Letters Patent No. **184,641**, dated November 21, 1876; application filed September 15, 1874.

To all whom it may concern:

Be it known that I, WILLIAM H. MARKLAND, of the city of Brooklyn, in the county of Kings and State of New York, have invented an Improved Thermostat, of which the following is a specification:

My invention relates to that class of thermostats in which two differently-expansible metals are soldered or otherwise firmly affixed to each other, and in which heat, by reason of the different expansibility, causes a warp or convexity on the side of the most expansible.

The objects of my invention are an easier construction of such a thermostat and its greater efficiency.

My improvement consists in a round wire of less expansible metal, preferably steel, centrally soldered, or otherwise firmly fixed, to and along the surface of a broader strip of more expansible metal, preferably zinc.

The following is a description of my invention, reference being had to the accompanying drawing, in which similar letters indicate similar parts for the different figures.

Figure 1 is a side view, and Fig. 2 a transverse section in the line *x x*, Fig. 1, of my thermostat, represented as applied to the purpose of closing an electric circuit at a certain temperature.

A is my improved thermostat, consisting of a strip of more expansible metal, *a*, preferably zinc, to and along the lower side of which is soldered, or otherwise firmly fixed, the round wire *b*, of less expansible metal, preferably steel. C C′ are blocks of brass, firmly fixed in their positions relative to each other, and connected, repectively, with the poles of a battery by the wires *d d*. The thermostat, at one end, is soldered, or otherwise firmly fixed, to the block C, so that the other end is separated by a very thin space from the upper surface of C′.

When the thermostat is heated above a certain temperature the different expansion of the metals causes the free end to turn downward, thus making contact with the block C, and completing the electric circuit.

The advantages secured by me in employing the round wire of less expansible metal in place of the flat strip heretofore used are twofold: first, the ease with which it is brought to the required shape, and the facility with which it may be soldered along its entire length, thus avoiding the difficulty heretofore experienced in causing two flat strips of different metals to adhere to each other throughout their entire length or surface; and, secondly, as the less expansible of the metals commonly used in thermostats is generally much less flexible than the more expansible metal, it is easier to obtain the requisite flexibility in the form of a wire.

The thermostat may be used either for the purpose of closing an electric circuit, as shown in the drawing, for regulating dampers or registers, or for any other purpose for which thermostats are applied.

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

The combination, in a thermostat, of the wire *b*, soldered centrally throughout its entire length upon the broad metal strip *a*, having a different expansibility from that of the wire, all constructed and operating substantially as described.

WM. H. MARKLAND.

Witnesses:
MICHAEL RYAN,
FRED. HAYNES.