M. F. ARIAS.

THERMOSTATIC CIRCUIT CLOSER.

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1,290,866. Patented Jan. 14, 1919.

Fig. 1.

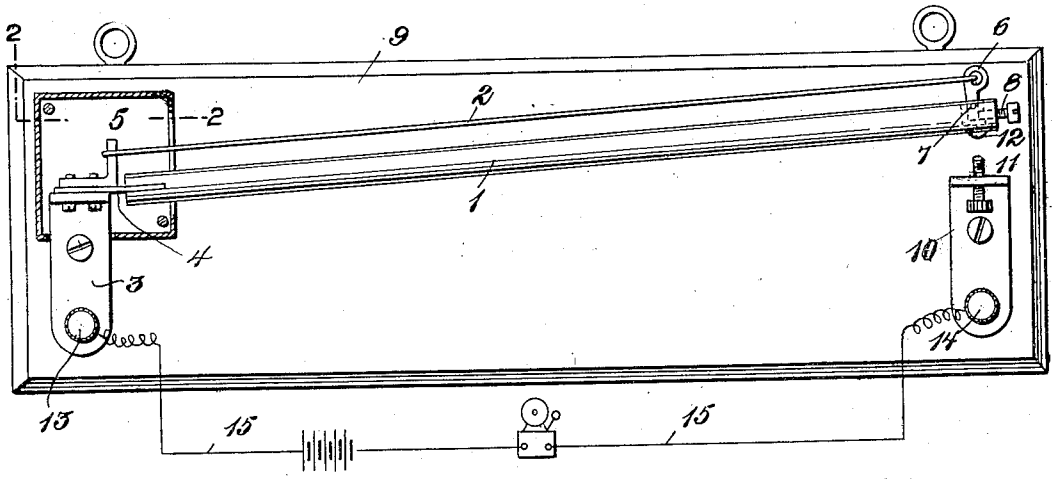
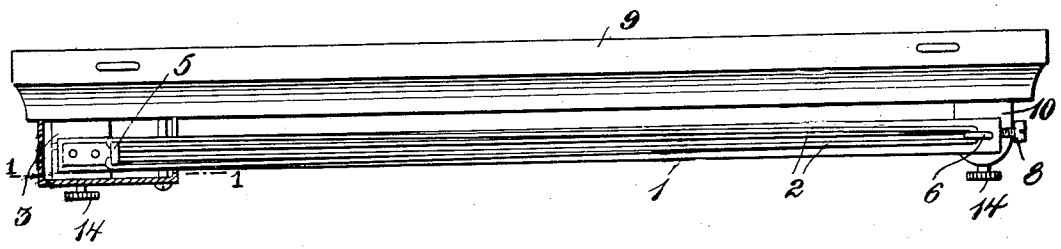


Fig. 2.



WITNESSES

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THERMOSTATIC CIRCUIT-CLOSER.

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To all whom it may concern:

Be it known that I, MARIO FERNANDEZ ARIAS, a subject of the King of Spain, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Thermostatic Circuit-Closer, of which the following is a full, clear, and exact description.

This invention relates to thermostatic circuit closers and has to deal more particularly with a new combination of thermo-responsive elements so designed that an extremely sensitive, reliable and efficient thermostat is produced which is suitable for closing electric circuits, operating valves or any other purpose where action under thermal changes is desired.

A more specific object of the invention is the provision of a thermostat in which one of the elements is a tube and the other a plurality of untwisted strands of wire, the tension of which can be readily adjusted according to the delicacy required.

With such objects in view, and others which will appear as the description proceeds, the invention comprises various novel features of construction and arrangement of parts which will be set forth with particularity in the following description and claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention and wherein similar characters of reference indicate corresponding parts in both the views,

Figure 1 is a side view of the device with a portion in section on the line 1—1, Fig. 2; and

Fig. 2 is a plan view with a portion in section on the line 2—2, Fig. 1.

Referring to the drawing, 1 and 2 designate the thermostatic elements, the former being a piece of brass or equivalent tubing which has one end attached to a supporting bracket 3 by a leaf spring 4 and the opposite end is free to swing up and down. The element 2 is carried by a fixed post 5 supported on the bracket 3, and an adjustable post 6 carried on the free end of the arm 1. The post 6 is mounted on a pivot 7, and an adjusting screw 8 threaded in the end of the arm 1 engages the post 6 to swing the upper end of the latter toward or from the post 5, whereby the element 2 can be tensioned to any desired extent. The element 2 is formed of a wire doubled back and forth any desired number of times and passed through eyes in the top of the posts 5 and 6. By this arrangement the elements 1 and 2 form a swinging arm which moves under variations in the temperature of the air. The employment of a tube and wire as the thermal elements insures great sensitiveness and enables the thermostat to be readily adjusted for different ranges of temperature.

When the device is employed as a circuit closer the bracket 3 is mounted on a back board 9 which also serves as a support for a bracket 10 which carries an adjustable contact 11 with which the contact point 12 on the outer end of the tube 1 is adapted to engage. The brackets 3 and 10 have binding posts 13 and 14 to which alarm circuit wires 15 are connected. When the arm 1 moves downwardly far enough the contacts 11 and 12 will engage, so that the alarm circuit will be closed to thus indicate an increase in temperature above a predetermined point. If the device is used in a fire alarm circuit, engaging the contact 12 with the contact 11 will cause the fire alarm to be sounded so as to give the necessary warning. Obviously the thermostat can be used for other purposes.

From the foregoing description taken in connection with the accompanying drawing, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while I have described the principle of operation, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as fall within the scope of the appended claims.

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

1. A thermostat comprising a rod flexibly supported, and a plurality of wire strands fixed at one end adjacent the flexibly supported end of the rod and fastened to the free end of the rod.

2. A thermostat comprising an expansible rod having one end movably supported and the other end free, and an expansible wire element having one end fastened adjacent the supported end of the rod and the other end fastened to the free end of the rod.

3. A thermostat including a tubular rod, a support on which the rod is flexibly mounted at one end, a post adjacent the support, a plurality of strands of wire connected with the post, and an adjustable post on the free end of the rod and with which the strands of wire are connected.

4. A thermostat including a rod, a support, a leaf spring connecting one end of the rod with the support, a fixed post on the support, a post on the free end of the rod, and a wire element extending from one post to the other and coöperating with the rod to cause the latter to move under temperature variations.

5. A thermostat including a rod, a support, a leaf spring connecting one end of the rod with the support, a fixed post on the support, a post on the free end of the rod, a wire element extending from one post to the other and coöperating with the rod to cause the latter to move under temperature variations, and means for adjusting the last-mentioned post.

MARIO F. ARIAS.