

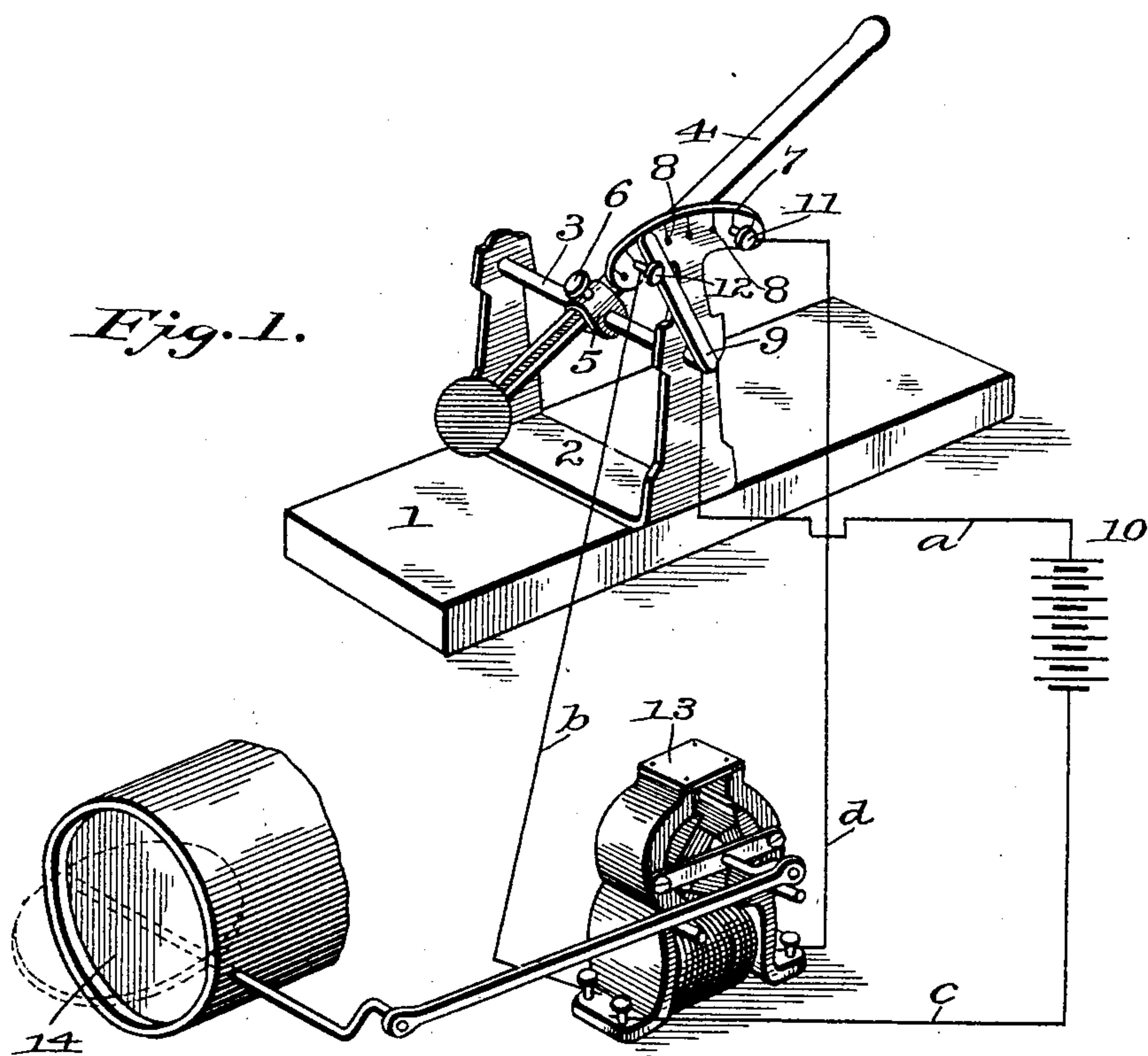
(No Model.)

C. B. ROGERS.  
THERMOSTAT.

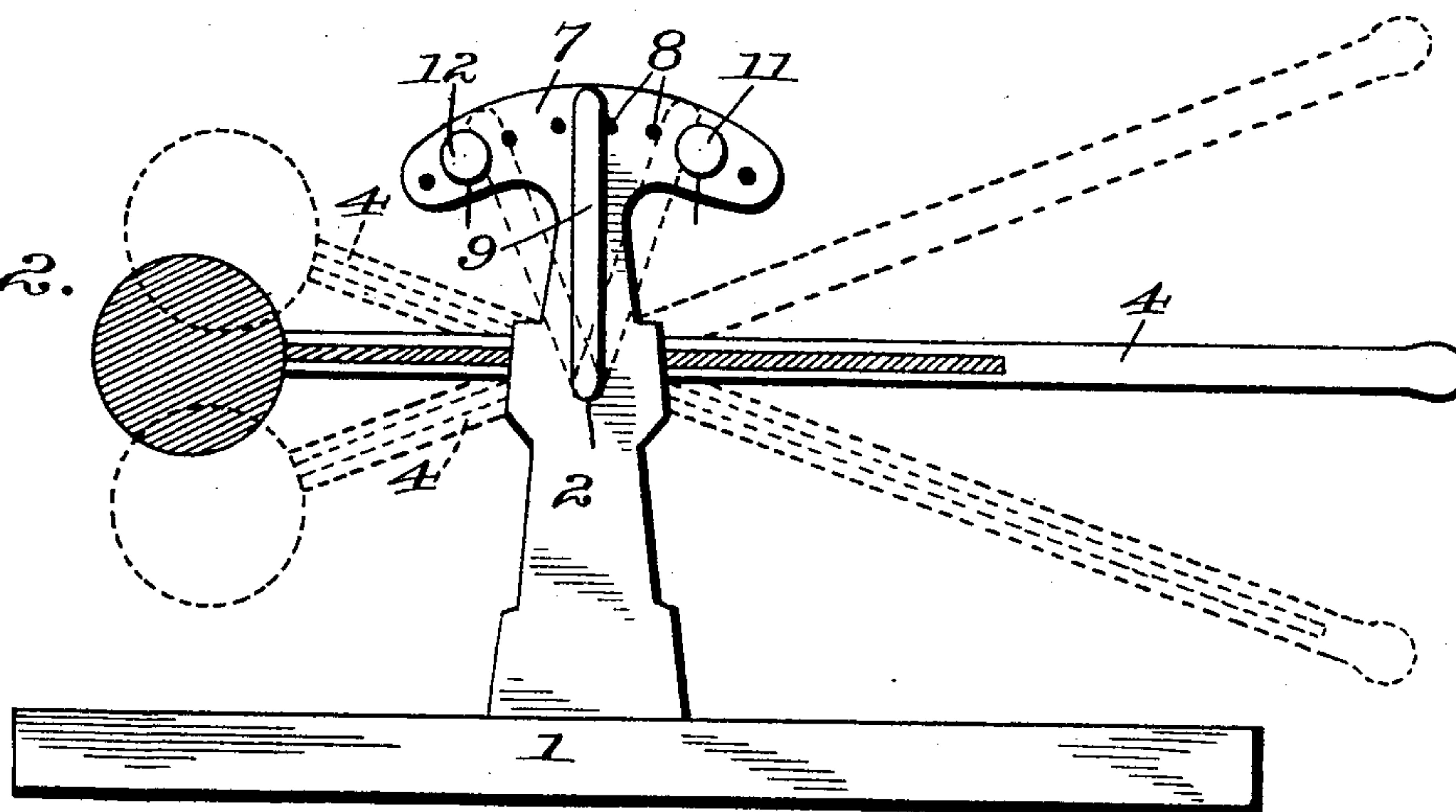
No. 562,917.

Patented June 30, 1896.

*Fig. 1.*



*Fig. 2.*



Witnesses  
Edwin G. McKee  
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Inventor.  
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By John Hedderburn  
his Attorney.



# UNITED STATES PATENT OFFICE.

CHARLES B. ROGERS, OF STEVENSON, MARYLAND.

## THERMOSTAT.

SPECIFICATION forming part of Letters Patent No. 562,917, dated June 30, 1896.

Application filed April 1, 1896. Serial No. 585,780. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES B. ROGERS, a citizen of the United States, residing at Stevenson, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Thermostats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in thermostats, the object of the same being to provide a simple device for controlling an electric circuit which is actuated by changes in temperature in a room or other compartment, whereby a damper may be operated for the purpose of relieving the high or low temperature, as the case may be, or an alarm may be given for indicating that the attention of the operator is required. It is especially adapted, however, and intended to be used in connection with an electric motor and damper-operating devices connected therewith.

The invention consists of an ordinary thermometer-tube adjustably connected to a shaft mounted on knife-edged pivots and balanced on said shaft at a point intermediate between its two ends, a circuit-closing arm connected to the outer end of said shaft, adjustable circuit-terminals in the path of movement of said circuit-closing arm, an electric motor, a battery and circuits between said motor, said circuit-closing arm, and said battery.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view of my device, showing the circuits diagrammatically. Fig. 2 is a side elevation of the same with the different positions which my thermometer-tube may assume shown in dotted lines.

My thermostat is adapted to be located in a room for regulating the temperature thereof, in an incubator where an even temperature is desired, or in any place where it is a desideratum to prevent the heat from rising above or falling below certain prescribed limits. In the drawings it has not been shown in connection with any of these devices, but its arrangement therein will be obvious.

Like reference-numerals indicate like parts in both views.

Mounted upon a base-piece 1 is a frame or bracket 2, preferably constructed of insulating material, in which is mounted in the two arms thereof and upon knife-edge pivots a shaft 3, to which an ordinary thermometer-tube 4 is connected by means of a clip 5 or other suitable attaching device. The clip 5 is provided with a thumb-screw 6, by means of which the thermometer-tube 4 may be adjusted in balanced position at any point between its two ends. Formed integral with the bracket 2 or connected therewith in any suitable manner is an indicating-dial 7, which is graduated and provided with a series of perforations 8 8. Connected to the outer end of the shaft 3 is a circuit-closing arm 9, which is adapted to move in front of the indicating-dial 7 upon the rise or fall of the temperature in the room. This circuit-closing arm 9 is made of conducting material and is in electric connection with an electric battery 10.

11 and 12 represent circuit-terminals, which are represented as being thumb-screws or pins, adapted to fit the perforations 8 in the dial 7. The terminal 11 is in connection with one side of the motor 13 and the terminal 12 with the other side thereof. The motor 13 is one which is adapted to move a half-revolution whenever it is energized in one direction or the other, and connected with said motor is a damper 14 for regulating the draft of a furnace or the admission of air to the room.

My device, as described, is adapted to convert the movement of the mercury or other expansible fluid within the thermometer-tube 4 into an external movement. In using my device I set the circuit-terminals 11 12 in two of the perforations 8 on the dial 7, one at the high and the other at the low degree at which I wish to limit the temperature in the chamber. The thermometer-tube is balanced, and in case the temperature should rise the mercury in the tube expanding and moving to the outer end thereof will disturb the equilibrium, causing the outer end of the tube to be depressed, rotating the shaft 3, and moving the circuit-closing arm 9 until contact is made between it and the circuit-terminal 11. The circuit will then be closed over the following course: battery 10, wire *a*, circuit-closing arm

9, circuit-terminal or contact-point 11, wire *d*,  
motor 13, wire *c* to battery. When this is  
done, the motor 13 is energized and a half-  
revolution of its drive-shaft is made, which re-  
5 verses the position of the damper 14. Should  
the temperature in the chamber fall, how-  
ever, the rear end of the thermometer-tube 3  
will be depressed and contact will be made  
between the circuit-closing arm 9 and the cir-  
10 cuit-terminal or contact-point 12. The cir-  
cuit would then be through battery 10, along  
wire *a*, circuit-closing arm 9, wire *d*, through  
the motor, and back to the battery through  
the wire *c*. This action will cause a reverse  
15 movement to be made to the damper 14.

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

The herein-described thermostat or circuit-

controller consisting of a pair of supports, a 20  
shaft mounted on knife-edge pivots therein,  
a thermometer-tube adjustably mounted on  
said shaft, a circuit-closing arm secured to  
the outer end of said shaft, an indicating-dial 25  
provided with a series of perforations, con-  
tact-points adapted to be inserted in said per-  
forations within the path of movement of said  
circuit-closing arm, and a pair of electric cir-  
cuits both including an electric battery, a mo-  
tor and said circuit-closing arm. 30

In testimony whereof I have signed this  
specification in the presence of two subscrib-  
ing witnesses.

CHAS. B. ROGERS.

Witnesses:

JAMES KELLEY,  
JAMES J. LINDSAY.