J. SAHLIN.

THERMAL CIRCUIT CLOSER.

APPLICATION FILED MAR. 22, 1918.

1,366,286. Patented Jan. 18, 1921.

Fig. 1.

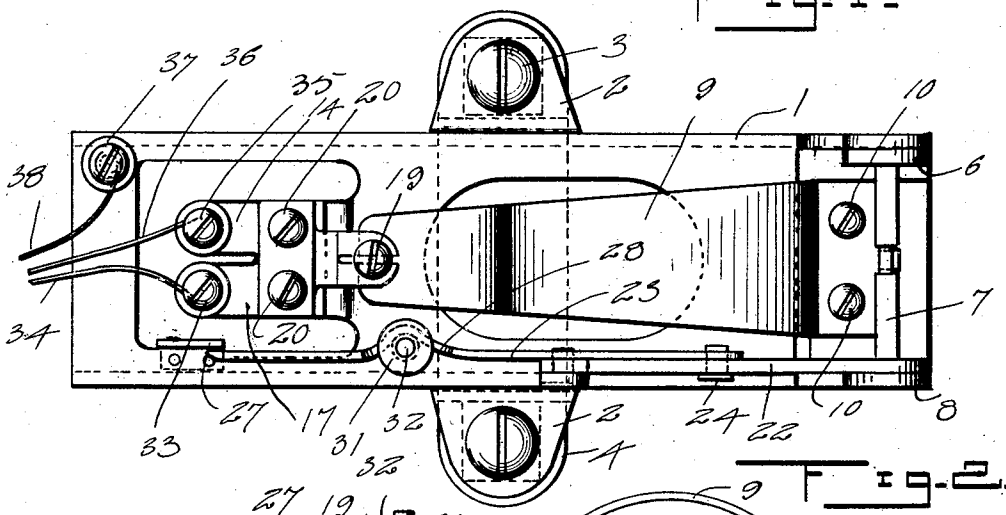


Fig. 2.

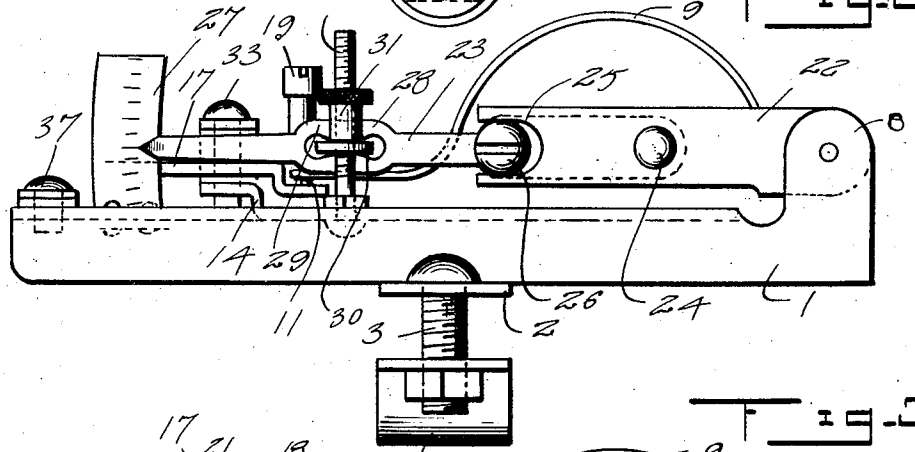
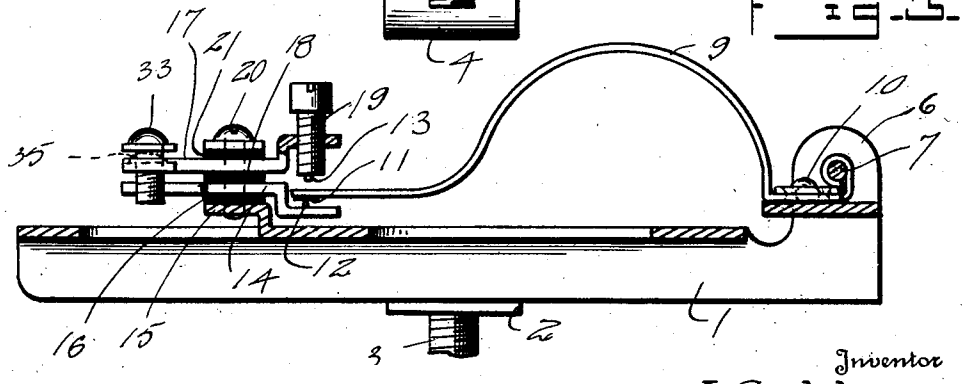


Fig. 3.



Witnesses

C. W. Beall.

Wm. F. Davidson

Inventor

J. Sahlin.

By A. Kaufmann Jr., Attorney

UNITED STATES PATENT OFFICE.

JOHN SAHLIN, OF CHICAGO, ILLINOIS.

THERMAL CIRCUIT-CLOSER.

1,366,286. Specification of Letters Patent. Patented Jan. 18, 1921.

Application filed March 22, 1918. Serial No. 223,987.

To all whom it may concern:

Be it known that I, JOHN SAHLIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Thermal Circuit-Closers; 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.

This invention relates to a thermostat or a heat regulator for controlling temperature and has for one of its objects the provision of a device of this character which will efficiently control the heating source so that a substantially even temperature may be obtained.

Another object of this invention is to provide a novel thermostatic element adapted to complete an electric circuit to a motor for actuating or controlling the heating source, when the heat increases and decreases beyond a given degree.

A further object of this invention is the provision of means for increasing and decreasing the movement of the thermostatic element between the contacts when exposed to alternating changes of temperature.

A further object of this invention is the provision of a thermal circuit closer of the above stated character, which shall be simple, durable and efficient, and which may be manufactured and sold at a comparatively low cost.

With these and other objects in view as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination and arrangement of parts, as will be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a plan view of a thermal circuit closer constructed in accordance with my invention,

Fig. 2 is a side elevation of the same,

Fig. 3 is a longitudinal sectional view illustrating the adjustment of the contacts.

Referring in detail to the drawings, the numeral 1 indicates a base of a skeleton formation having oppositely disposed ears 2 formed thereon which carry bolts 3. The bolts 3 have mounted thereon a clamp 4 which is adapted to secure the base 1 about a pipe or other heating source. A bridge 6 is pivotally mounted upon a member 7 carried by upstanding ears 8 formed upon one end of the base and the bridge has one end of a thermostatic element 9 secured thereto by fasteners 10. The thermostatic element 9 is preferably constructed of brass and steel or may be constructed of any other two metals of different expansion qualities and is in the formation of a question mark so as to increase the action or expansion movement of the same. The free end of the thermostatic element 9 has secured thereto oppositely disposed platinum points 11 which are adapted to coöperate with contact points 12 and 13 for completing an electric circuit. The contact point 12 is carried by a plate 14 mounted upon a struck up extension 15 of the base 1 and insulated therefrom by insulating material 16. A similar plate 17 is disposed over the plate 14 and insulated therefrom by insulating material 18 and has threaded thereto an adjusting bolt or screw 19 on which the contact point 13 is formed. The plates 14 and 17 are secured upon the extension 15 by means of a bolt 20 which is insulated from the plate 17 by insulating material 21. By having the contact 13 carried by the adjusting screw or bolt 19 provides a construction wherein the distance between the contacts 12 and 13 may be varied as desired.

A forwardly extending arm 22 is formed upon one end of the bridge 6 and has pivoted thereto an indicating arm 23 by a bolt 24. The free end of the arm 22 is bifurcated as illustrated at 25 to receive an eccentric screw 26 for the purpose of adjusting the indicating arm 23 in relation to the arm 22 when desired.

A scale plate 27 is secured to the forward end of the base 1 and has engraved thereon degrees ranging preferably from 140 degrees to 180 degrees Fahrenheit. The free end of the indicating arm 23 is disposed over the scale plate 27 so that the operator of the device may readily adjust the location of the same on the scale so as to set the thermostat to a correct predetermined temperature. The indicating arm 23 has an enlarged portion 28 formed thereon which is provided with an elongated slot 29 to receive a shoulder 30 formed upon an adjusting nut 31. The adjusting nut 31 is threaded upon a bolt 32

carried by the base, which when turned in either direction causes the indicating arm 23, arm 22 and the thermostatic element 9 to move in corresponding directions, and varies the position of the thermostatic element in relation to contacts 12 and 13.

The plate 17 has secured thereto a binding post 33 to which a conductor 34 is connected. A similar binding post 35 is connected to the plate 14 and has connected thereto a conductor 36. A binding post 37 is carried by the base 1 and has connected thereto a conductor 38.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination, and arrangement of parts may be made without departing from the spirit and scope of the invention, as claimed.

Having thus described my invention, what I claim is:

1. A thermal circuit closer comprising a base, a thermostatic element movably mounted on said base, contacts carried by the base, an indicating arm adjustable on said base, and adjusting means connected to said arm for varying the position of the thermostatic element between the contacts.

2. A thermal circuit closer comprising a skeleton base, a bridge pivoted to said base, a thermostatic element carried by said bridge, and having an arcuate-shaped intermediate portion, base contacts carried by said base and having the free end of the thermostatic element positioned therebetween, an arm carried by said bridge and having its free end bifurcated, an indicating arm pivoted to said arm and associated with a scale, and an eccentric screw carried by the indicating arm and disposed within the bifurcation of the first named arm for adjusting the indicating arm in relation to the first named arm.

3. A thermal circuit closer comprising a base, a bridge pivoted to said base, a thermostatic element carried by said bridge, contacts carried by said base and associated with the thermostatic element, an arm carried by said bridge, an indicating arm adjustably connected to said arm, and adjusting means connected to the indicating arm for varying the position of the thermostatic element between the contacts.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN SAHLIN.

Witnesses:
H. SENGSTEINER,
P. E. LARRABEE.