(No Model.)

C. H. SHAFFER.

ELECTRICAL THERMOSTAT.

No. 441,622. Patented Nov. 25, 1890.

Fig. 1.

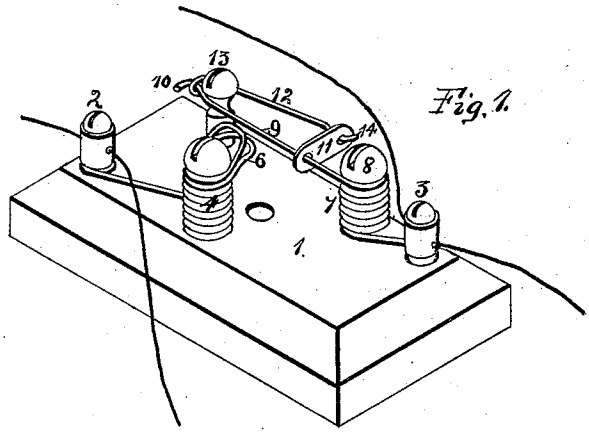
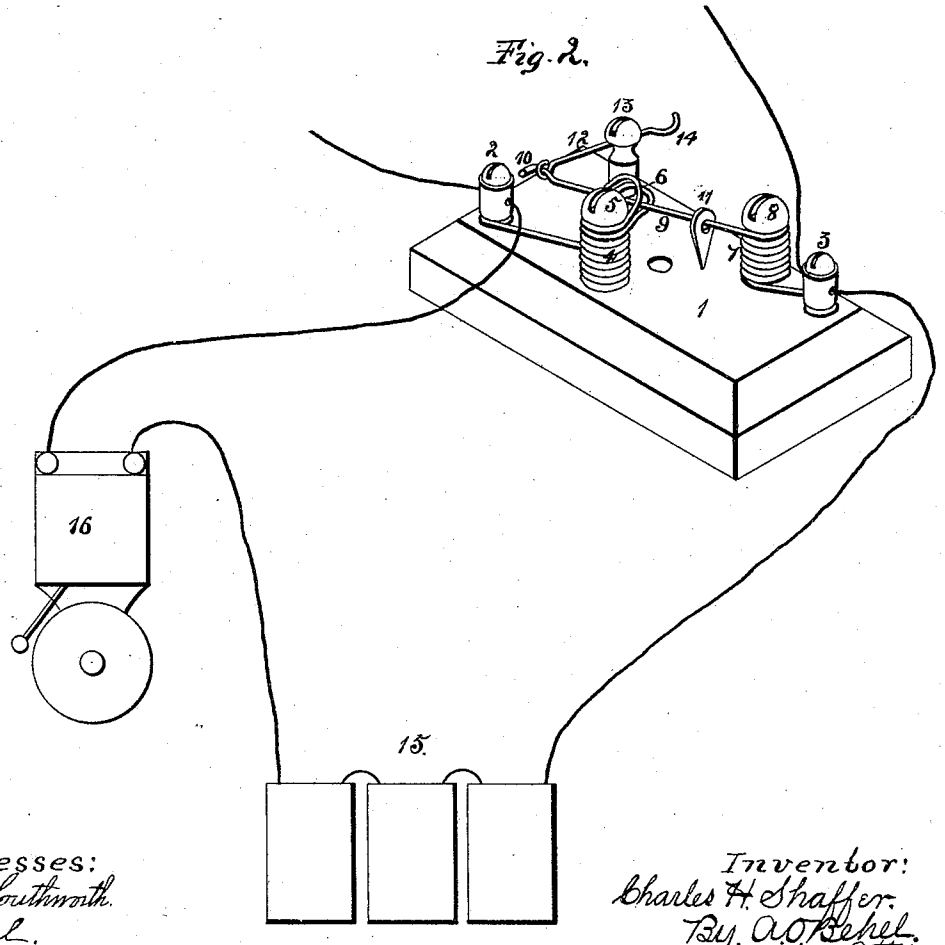


Fig. 2.



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UNITED STATES PATENT OFFICE.

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ELECTRICAL THERMOSTAT.

SPECIFICATION forming part of Letters Patent No. 441,622, dated November 25, 1890.

Application filed May 9, 1890. Serial No. 351,139. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SHAFFER, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Electrical Thermostats, of which the following is a specification.

The object of this invention is to construct an electrical thermostat on the open-circuit plan, which is held open by a link of fusible alloy, and upon the melting of the link the circuit will be closed.

In the accompanying drawings, Figure 1, I have shown my improved thermostat in its normal position, also, Fig. 2, when the circuit has been closed by the action of heat.

The base 1 of my improved thermostat may be made of any insulating material. To the upper surface of the base-plate is secured binding-posts 2 and 3, to which are connected the circuit-wires. A coil-spring 4 is held in position by the screw 5, passing through its coils into the base. The lower end of the coil is secured to the binding-post 2 and has its upper end bent in loops, forming jaws 6. A coil-spring 7 is secured to the base by a screw 8, passing through its coils. The lower end of the coil is secured to the binding-post 3. The upper end 9 of the coil extends horizontally some distance and has its free end 10 in hook form. Upon this arm is placed a link 11 of fusible alloy. To the free end of this arm is hooked an arm 12, which passes around a stud 13, rising from the base. Upon the hooked free end 14 of this arm is hooked the link 11, as shown at Fig. 1.

When the parts comprising my thermostat are in the position shown at Fig. 1, it will be seen that the circuit is held open and that no current can pass between binding-posts 2 and 3 by reason of the arm 9 being held in the position it occupies at Fig. 1 by the link 11 of fusible alloy. With such a thermostat or a series of them placed in circuit with a battery 15 and alarm-bell 16, should the link become melted by the action of heat the arm 9 will by reason of the spring action of the coil 7 be forced between the jaws 6 of the coil 4, as shown at Fig. 2. This movement will form an electrical contact between the binding-posts 2 and 3, and the battery will cause an alarm to be given. By employing the jaws 6 a perfect contact is sure to be had as the arm 9 is forced between them. It is essential that considerable force should be given to the arm 9 when released, and in order to not place an overstrain on the link of fusible alloy the arm 12 is employed, which, owing to the great purchase it has upon the arm 9 around the stud 13, is able to hold the arm 9 with a very light link, which can be made to melt at any required temperature.

I claim as my invention—

1. An electrical thermostat consisting of a base, a spring-actuated arm held against its spring force by a lever resting on a fulcrum, and a link of fusible alloy, whereby the spring-arm is released by the melting of the link and closes a circuit in which the thermostat is placed, substantially as set forth.

2. An electrical thermostat consisting of a base, a spring-actuated arm held against its spring force by a lever resting on a fulcrum, a link of fusible alloy, and a stop, whereby the spring-arm is released by the melting of the link and closes a circuit by engaging the stop, substantially as set forth.

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