

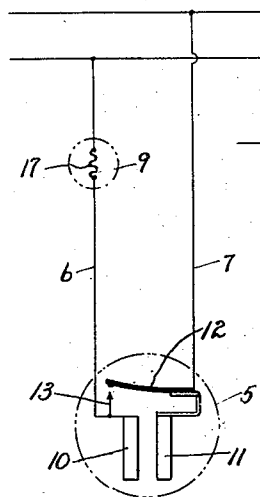
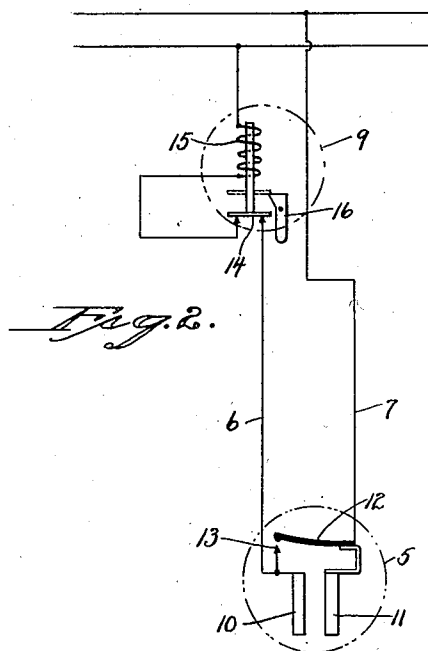
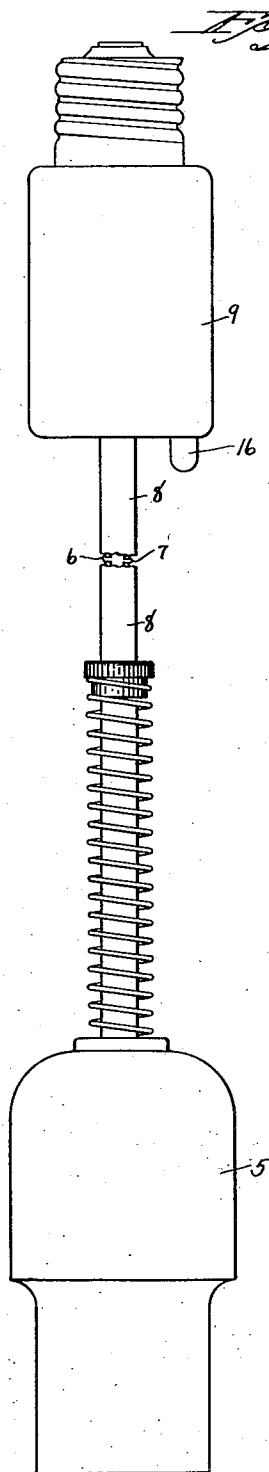
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A. T. SMITH

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MEANS FOR PREVENTING OVERHEATING OF ELECTRICALLY HEATED APPLIANCES

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UNITED STATES PATENT OFFICE.

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MEANS FOR PREVENTING OVERHEATING OF ELECTRICALLY-HEATED APPLIANCES.

Application filed February 5, 1925. Serial No. 6,930.

To all whom it may concern:

Be it known that I, ALVA T. SMITH, a citizen of the United States, residing at Winsted, in the county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Means for Preventing Overheating of Electrically-Heated Appliances; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Fig. 1 a side view of an electrical attachment device constructed in accordance with my invention.

Fig. 2 a diagrammatic view, illustrating one form of my invention, including a solenoid circuit-breaker.

Fig. 3 a similar view, illustrating my invention with a blow-out fuse.

This invention relates to improvement in means for preventing overheating of electrically-heated appliances, and is applicable to all devices electrically heated, such as soldering irons, flatirons, and various domestic cooking utensils. In electrically-heated devices, if they become heated above a predetermined temperature, the resistance heating-coil burns out, thus involving the expense and trouble of installing a new heating unit. The object of this invention is to provide a thermostatically-operated switch extending between the two feed-wires of the device and adapted, when the temperature rises to a dangerous point, to close and so short-circuit the circuit-wires, causing an increased flow of current through those wires, which may operate a mechanical circuit-breaker or burn out a common fuse, and the invention consists in the construction as hereinafter described and particularly recited in the claims.

In illustrating my invention, I have shown it in connection with a common form of connecting plug, adapted for use in a variety of purposes. As shown in Fig. 1, the connecting-plug 5 is of standard form, con-

nected with the usual circuit-wires 6 and 7 in a cable 8, which is connected with the usual screw-plug 9 for attachment to an ordinary outlet. The circuit-wires 6 and 7 terminate in clips 10 and 11, and connected to the clip 11 is an ordinary bi-metal thermostatic switch 12, the end of which is adapted to engage with a contact 13 in the circuit-wire 6, this thermostatic switch straightening out as the temperature rises, so as to touch the contact 13. This short-circuits the wires 6 and 7, and this short-circuiting results in an increased flow of current, and this may be employed to operate a switch 14 actuated by a solenoid 15, which, under the ordinary flow of current, remains inactive, and closes the circuit through the wire 6, but under the increased current, the solenoid is actuated to open the circuit, and this switch may be held in the open position by a latch 16, this being a known form of mechanical circuit-breaker. When the device cools, the latch 16 may be operated to let the switch drop back to close the circuit. Instead, however, of using a mechanical switch, a fuse 17 of usual construction may be inserted into the circuit-wire 6, so as to blow out as soon as the wires 6 and 7 are short-circuited by the closing of the thermostatic switch 12, this being indicated in Fig. 3 of the drawings. The mechanical circuit-breaker is preferably located in the plug 9, whereas, the fuse 17 may be located either in the plug or wherever convenient. It will be obvious that the fuse 17 may be used in the same circuit with the solenoid 15, so that, in case the solenoid 15 should fail to operate, the fuse will blow. I thus provide, in a simple manner, a plug for electric percolators, water heaters, sterilizers, hot plates, and other devices for domestic use, which will be brought into operation when the device is heated above a predetermined temperature.

I claim:

A device for preventing the overheating of electrically-heated appliances comprising two circuit conductors, a normally-open thermostatic short-circuiting switch connected between the said conductors in position to be

affected by the temperature of the heated appliance, and a circuit-breaker interposed in one of the said conductors and through which the heating current normally flows, whereby, when the temperature of the appliance rises above a predetermined point, the thermostatic short-circuiting switch will act to short circuit the conductors, and thereby momentarily increase the flow of current through the circuit-breaker, and thus cause the latter to act to open the circuit. 10

In testimony whereof, I have signed this specification.

ALVA T. SMITH.