Sept. 9, 1924. 1,507,587

G. E. CURTISS

PROTECTIVE DEVICE FOR ELECTRICALLY HEATED UTENSILS

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Fig. 1.

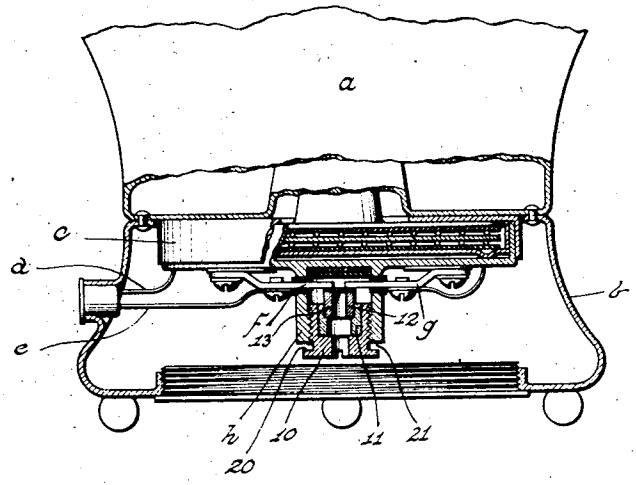
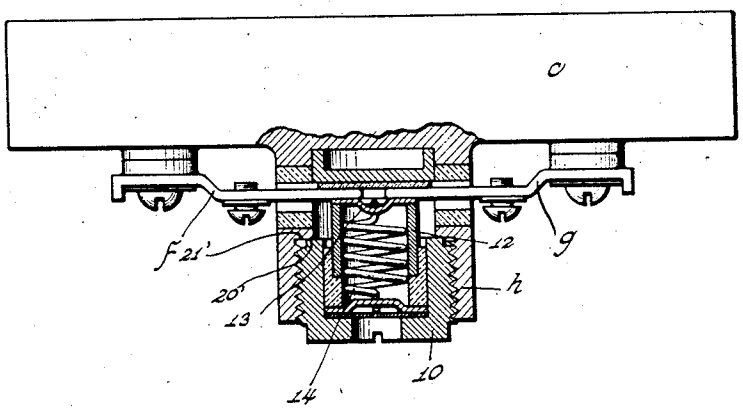


Fig. 2.



Inventor

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UNITED STATES PATENT OFFICE.

GEORGE E. CURTISS, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO LANDERS, FRARY & CLARK, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

PROTECTIVE DEVICE FOR ELECTRICALLY-HEATED UTENSILS.

Application filed December 1, 1922. Serial No. 604,314.

To all whom it may concern:

Be it known that I, GEORGE E. CURTISS, a citizen of the United States, and a resident of New Britain, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Protective Devices for Electrically-Heated Utensils, of which the following is a specification.

This invention relates to protective devices for electrically heated utensils of the type disclosed and claimed in the U. S. Patent No. 1,060,266 granted April 25th, 1913, Joseph F. Lamb, assignor to Landers, Frary & Clark. The protective device shown in said Lamb patent includes a member or connector having a relatively low fusing point which melts and thereby breaks the circuit in the event the utensil reaches a dangerous degree of heat, as when the current is left on after the utensil becomes empty. It has been found in actual practice that users of these devices, when the connector is so melted, will screw up the holder to again bring the now foreshortened connector into contact with the terminals and thus re-establish the circuit, and this is repeated until the connector has been melted down to such an extent that the holder or bushing may be brought into direct contact with the terminals and then, of course, there is no protection for automatically breaking the circuit, with the result that the electric heater may be burned out.

The aim of the present invention is to improve protective devices of this sort so that the holder, after the connector has been melted down, cannot be brought into engagement with the spaced terminals and thus insure against burning out of the heater.

In the accompanying drawing:

Fig. 1 is an elevational view, partly in section, of a utensil equipped with a protective device constructed in accordance with one embodiment of my invention, and

Fig. 2 is a view similar to Fig. 1, but showing a slightly different embodiment.

In this drawing, *a* denotes a receptacle such as a percolator; *b*, the base, and *c*, the heater, the resistance element of which is connected to the circuit wires *d*, *e*. Interposed in the latter wire are spaced terminals *f*, *g*, extending through, but suitably insulated from, the wall of a tubular hub *h* depending from the casing of the heater. This hub has an internally threaded recess into which is screwed a tubular bushing or holder 10 provided with an insulating lining 11 which supports a connector formed, at least in part, of lead or other suitable metal having a relatively low fusing point. In the present illustrative disclosure, this connector includes a readily fusible member or tube 12 and a contact plate 13. The contact plate may, of course, be omitted, if desired. In Fig. 2, the contact plate is urged against the end of the fusible member by means of a spring 14.

In accordance with the present invention, I provide the holder 10 with means adapted to prevent the end of the holder from being brought into engagement with the terminals after the lead connector has been melted down. In the present illustrative disclosures, this means includes an abutment or shoulder on the holder adapted for engagement with a stop on the hub *h*. In Fig. 1, the abutment is in the form of a flange 20 on the outer end of the holder. With this arrangement, it will be noted that in any position of the protective device within the hub *h*, the distance between the flange 20 and the stop formed by the end surface 21 of the hub is less than that between the terminals and the inner end of the holder. In the embodiment disclosed in Fig. 2, the inner end 20′ of the holder constitutes an abutment adapted for engagement with a stop or shoulder 21′ within the hub *h*. In each embodiment, it is impossible for users of these devices to screw the holder into the hub to such an extent that this holder will directly engage the terminals and thus burning out of the heater is effectively guarded against.

I desire it to be understood that it is my intention to cover any alterations or modifications which may come within the scope of the appended claims.

I claim as my invention:—

1. In combination, an electric heater, a pair of spaced terminals connected into the circuit of said heater, a holder and a connector therein having a relatively low fusing point adapted to close the circuit between said terminals, and means for preventing said holder from being brought into engagement with said terminals after said connector has been melted down.

2. The combination with an electrical

heater and a pair of spaced terminals connected into the circuit of said heater, a hub into which the ends of said terminals project, a holder threaded into said hub, a connector readily fusible at a relatively low temperature supported by and insulated from said holder and in contact with said terminals, and a stop on said hub and an abutment on said holder adapted for engagement to prevent the holder from being brought into contact with said terminals when said connector has been melted down.

GEORGE E. CURTISS.