Dec. 1, 1959 N. E. LOOMIS 2,915,614

PROTECTED INSULATED HEATING ELEMENT FOR ELECTRIC PERCOLATORS

Filed Nov. 21, 1958 2 Sheets-Sheet 1

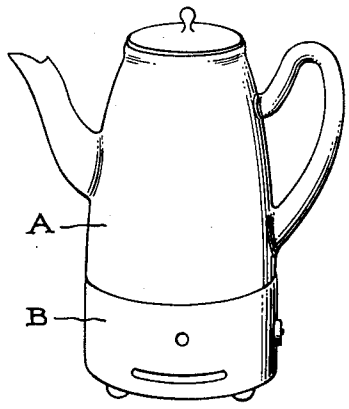

FIG. 1.

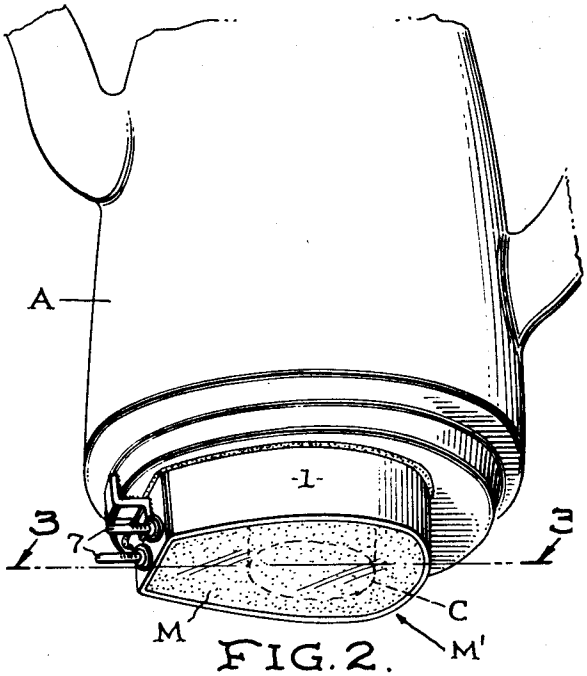

FIG. 2.

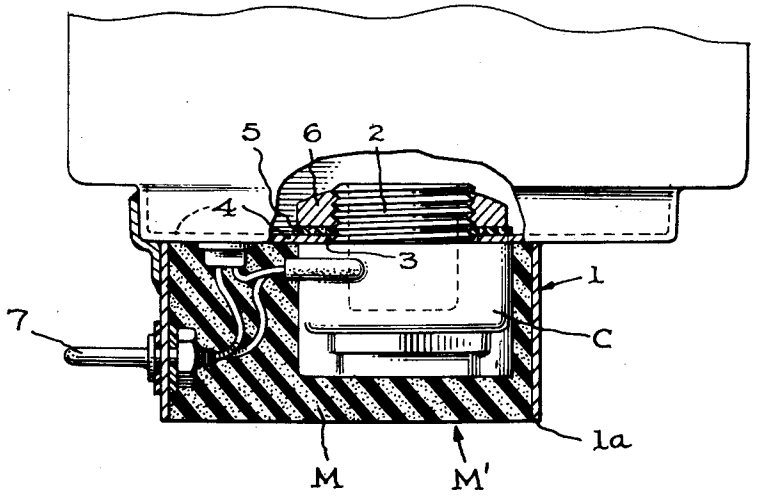

FIG. 3.

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FIG. 4.

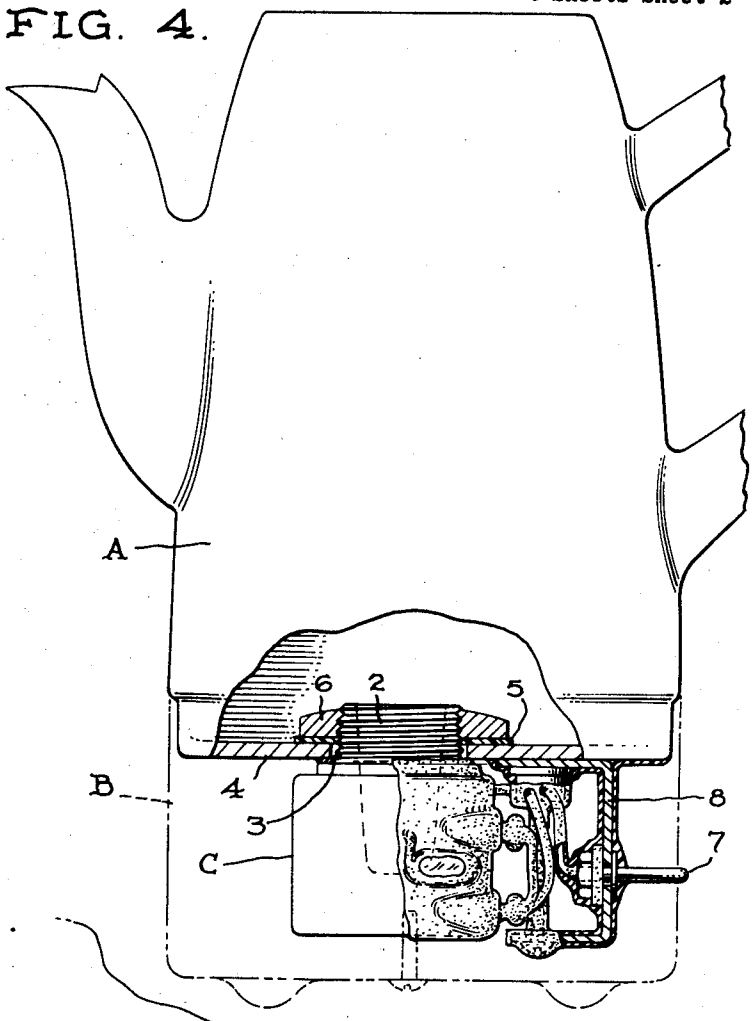
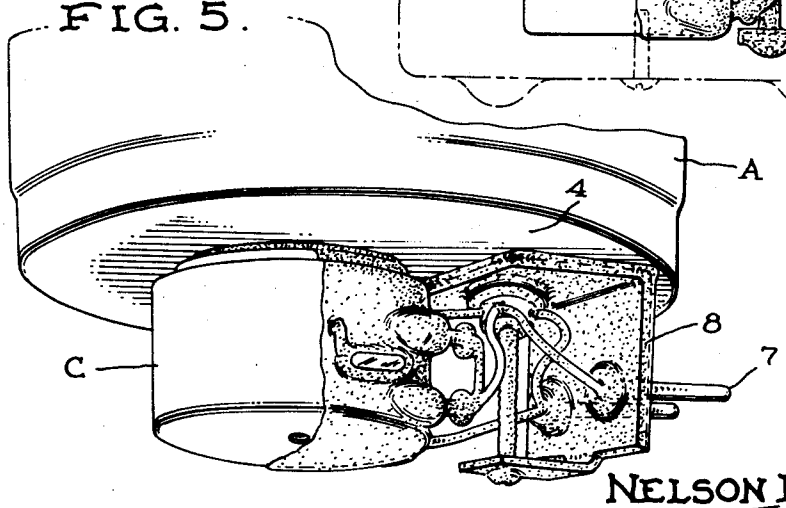


FIG. 5.



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2,915,614

PROTECTED INSULATED HEATING ELEMENT FOR ELECTRIC PERCOLATORS

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1 Claim. (Cl. 219—44)

This invention relates to an improvement in percolators which enables the same to be immersed, or otherwise washed or sanitized, without danger of damaging the electrical heating unit and its thermostat.

One of the objects of the invention is to thoroughly and adequately waterproof all of the live electrical parts such as wires, terminals, connections and the like by covering the same individually with an insulation material which is initially in a more or less fluid state by dipping, spraying or otherwise placing the insulation on the electrical parts so that they will be impervious to water and still stand the heat necessary in a percolator without disintegrating. Thus, the electrical elements are completely protected and may be freely cleansed without the hazard of impairing their conductivity and materially adding to the longevity of the device embodying the invention.

Another object of the invention is to provide a percolator having its electrical heating unit, as well as its thermostat, completely encased or enveloped in a waterproof and heat resistant medium which may be molded thereabout as a block and which, upon hardening or setting, becomes a permanent part of the unit.

With the above and other objects in view, which will more readily appear as the nature of the invention is better understood, the invention consists in the novel construction, combination and arrangement of parts, hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 is a side elevation of a coffee-maker.

Fig. 2 is a bottom perspective view of the appliance shown in Figure 1 with the supporting base removed to illustrate the electrical unit encased in insulating material in accordance with one form of the present invention.

Figure 3 is a side elevation, partly in section, taken on the line 3—3 of Figure 2.

Figure 4 is a side elevation, partly in section, of another form of the invention showing the heating element and its wiring connections, with the waterproofing compound applied by spraying or dipping.

Figure 5 is a bottom perspective view of the percolator shown in Figure 4.

Similar reference characters designate corresponding parts throughout the several figures of the drawing.

As shown in the drawings, the percolator includes a receptacle A having a base B which contains an electrical thermostatically controlled heating unit designated generally as C.

In the form of the invention shown in Figures 1 to 3, the electrical heating unit includes a shell **1** housing the electrical resistance elements proper, which are normally concealed therein and which may have a threaded neck portion **2** for insertion into the opening **3** in the bottom wall **4** of the percolator. The neck portion **2** may be externally threaded to receive a gasket **5** and a lock nut **6** to securely hold the electrical heating elements to the bottom **4** of the appliance.

It will, of course, be understood that the electrical heating unit C is provided with externally accessible plug elements **7** which enable it to be connected with any

conventional outlet cord. These elements may be carried by the shell **1** as in Figures 1 to 3, for example, and which is in the form of a band shaped to encase the heating element. This shell constitutes a mold for receiving insulating material M in its flowable state. Preferably an adhesive type of flowable insulating material is used, such as "Silastic" rubber, or polyester or epoxy resins. Therefore it will be understood that when the shell is filled with the flowable material, it not only completely encases and protects the electrical heating element C as well as the connections to the terminals **7**, but at the same time contacts the outer face of the bottom wall **4**. In other words, when the flowable insulating material M hardens or sets, it seals all contact between the electrical unit and the bottom wall **4** of the percolator and at the same time permeates and envelops every nook and cranny about the electrical resistance unit **1** to render it impervious to water or moisture.

Preferably the insulating material M is filled to the outer edge **1***a* of the shell or band so as to provide an external surface M' which constitutes a complete wall surface for the portion of the shell lying opposite the bottom wall **4**.

In the modified form of the invention shown in Figures 4 and 5, where the shell or mold **1** is to be dispensed with, the heating unit C and the electrical connections, including the thermostat, are encased with the waterproof insulating material by the spraying, dipping or other appropriate method of encasement or envelopment. Since the shell **1** is not used in this form of the invention, the terminals **7** are supported by means of a bracket **8** independently secured to the bottom wall **4** of the percolator.

It is also within the scope of my invention that instead of filling the shell with the flowable material, a comparatively thin layer of the material can be applied to the bottom wall **4** within the shell **1**, also to the inner side wall of the shell, and the open end of the shell can be sealed off with a cover member formed of the same material just prior to its reaching its "set" condition. There would thus be formed a waterproof skin surrounding and protecting the heating element.

It will now be seen that the foregoing construction provides a safety insulated and waterproofed electrical unit which is not affected by conditions such as extreme heat or by immersion in cleansing fluids.

I claim:

In an electric percolator intended to be immersed in a cleansing fluid and having a bottom wall with a centrally located opening therein, a heating element secured to said bottom wall through said opening, a substantially U-shaped bracket also secured to said bottom wall adjacent said heating element, a thermostat and terminal members each carried by said bracket and wires connecting said heating element with said thermostat and terminals, a heat and moisture resistant coating of epoxy resin encasing said heating element, thermostat and wiring, and a base member secured to the percolator side walls and enclosing said heating element and related parts.

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