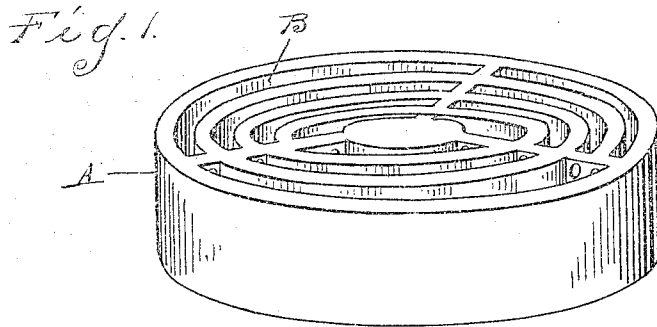
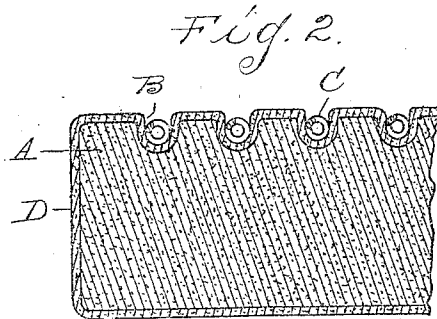


R. W. DAVENPORT,
ELECTRIC HEATING UNIT.
APPLICATION FILED JAN. 24, 1916.

1,265,433.

Patented May 7, 1918.



Inventor
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UNITED STATES PATENT OFFICE.

RANSOM W. DAVENPORT, OF DETROIT, MICHIGAN, ASSIGNOR TO DETROIT STOVE WORKS,
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ELECTRIC HEATING UNIT.

1,265,433.

Specification of Letters Patent.

Patented May 7, 1918.

Application filed January 24, 1916. Serial No. 74,006.

To all whom it may concern:

Be it known that I, RANSOM W. DAVENPORT, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Electric Heating Units, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to electric heating units and has particular reference to the construction of an insulator base for supporting the resistor.

In the drawings:

Figure 1 is a perspective view of the base; and

Fig. 2 is a cross section through a portion thereof with the resistor in place.

In the construction of electric heating units of the type employing a naked resistor it is necessary to provide an insulator support for the resistor and also a mechanical support for the article to be heated in close proximity thereto. One construction which has been used for this purpose is that of a block or plate of refractory insulating material having grooves therein in which the resistor wire is placed, the depth of the groove being sufficient to protect the resistor from short circuiting contact. As the block must also mechanically support the article to be heated, which in the case of a cooking utensil may have considerable weight, it is necessary to employ a material having considerable mechanical strength. On the other hand an insulating body having sufficient density for the required mechanical strength will usually absorb a considerable portion of the generated heat by direct conduction from the resistor. The thermal conductivity of the material is greatly lessened where it is of a porous nature, but this not only diminishes the strength but also is objectionable on account of its absorbent nature where water or other material is spilled on the unit.

With my improvement I have secured an

insulator body A having relatively low thermal conductivity which is nevertheless both strong and non-porous at the surface. In carrying out my invention I preferably employ a material of low apparent density and low thermal conductivity, such as infusorial earth. The apparent density is further lowered in the formation of the body by incorporating in the cementitious mixture organic matter or other destructible material of a granular nature, such as ground cork. This during the baking process will be consumed and driven off leaving voids distributed throughout the body. While the material is still plastic it is suitably molded to conform to the desired contour of surface, and as shown is provided with a spiral groove B in which the resistor C is subsequently laid. The outer surface D is then rendered non-porous by a thin coating of a hard, dense and relatively impervious material, such for instance as Portland cement or a fusible clay.

With the body constructed as described, when the resistor is laid in the groove and current is passed therethrough a relatively large percentage of the generated heat will be dissipated by radiation and only a small percentage will be absorbed by the insulator body.

What I claim as my invention is:—

1. In an electric heating unit, a resistor-support, comprising a non-homogeneous body having a loosely-compacted porous interior and a relatively thin hard and dense exterior coating.

2. In an electric heating unit, a resistor-support, comprising a grooved body of a non-homogeneous and porous character, the grooved surfaces being coated with a dense and impervious material.

3. In an electric heating unit, a unit resistor support formed of an electric and thermal insulating body of a porous nature and provided with a dense relatively impervious facing adhering to said insulating body.

In testimony whereof I affix my signature.

RANSOM W. DAVENPORT.