

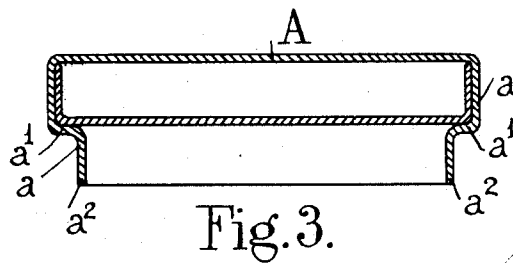
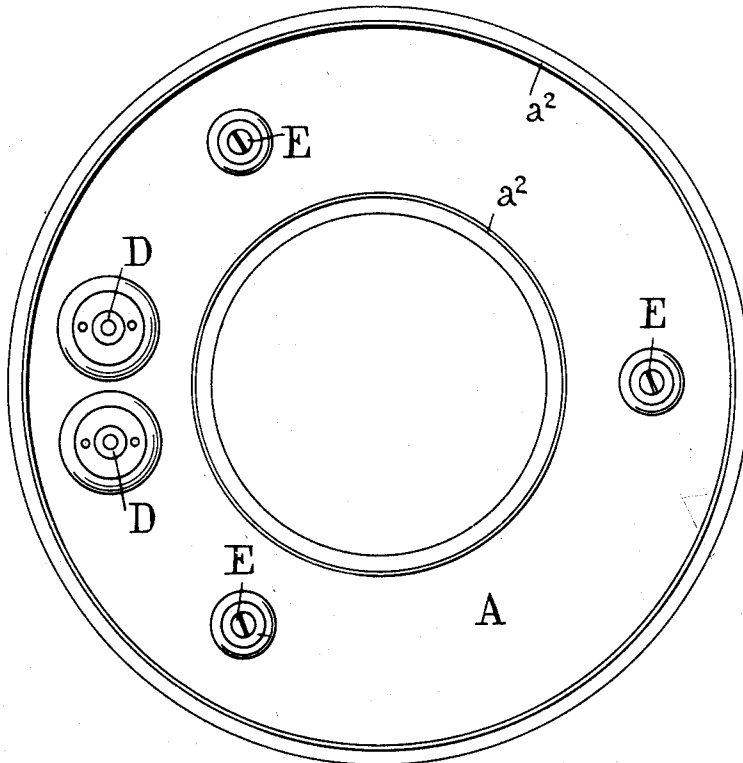
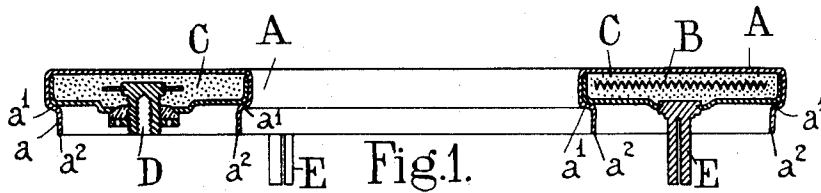
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G. BRAY

1,892,298

ELECTRICAL HEATING ELEMENT

Filed Jan. 28, 1931



INVENTOR

George Bray.
by W. O. O'Brien
att'y.

UNITED STATES PATENT OFFICE

GEORGE BRAY, OF LEEDS, ENGLAND, ASSIGNOR TO GEO. BRAY & COMPANY LIMITED, OF
LEEDS, ENGLAND

ELECTRICAL HEATING ELEMENT

Application filed January 28, 1931, Serial No. 511,909, and in Great Britain February 8, 1930.

This invention relates to electrical heating elements of the type comprising a resistor enveloped in a mass of refractory material enclosed within a shallow sheet metal casing made in two parts connected together by spinning or flanging the edge of one over the edges of the other.

It is found that when in use for instance in hot plates used for cooking or boiling there is a liability of moisture creeping past the joint and deteriorating the interior refractory insulating material.

In the known form of heating element one part of the sheet metal casing has been of channel section and the other part flat or substantially flat over which the edges of the channel are deflected or flanged, but it has been found that such flanging of the edges does not prevent liquid spilled on the upper surface from soaking into the heating element which is assisted by capillary forces which are set up between the two metal surfaces.

The invention comprises a metal casing for the interior insulating refractory material of two channel shaped parts one fitted within the other, the flanges of the outer channel being partially turned over the flanges of the other and extended downwards to form drip edges.

The provision of the drip edges, which should extend towards below the lower surface of the casing a distance substantially equal to the depth of the element does away with any possibility of liquid coming into contact with the interior of the casing.

The invention will be fully described with reference to the accompanying drawing:—

Fig. 1 is a sectional elevation of a circular heater.

Fig. 2 is a plan of same.

Fig. 3 is a transverse section of the casing (enlarged.)

The heating element which may be either annular as shown or of straight or strip form is constructed with a metal casing A enclosing a resistor element B embedded in a refractory material C the resistor element B being of known construction and the refractory material C of known composition.

According to the invention the sheet metal casing A is made of two channel sections, the lower one forming a container which is filled with the refractory material C compressed around the electric resistor element B, is fitted into the upper.

The upper or outer channel is deeper than the inner channel and the sides or flanges a thereof project downwards below the lower channel a distance substantially equal to the depth of the casing.

The projecting sides a are turned inwards at a^1 to embrace the underside of the lower channel to hold the two channels together leaving a downwardly projecting flange or member a^2 to direct liquid away from the joint.

Terminals D are inserted in the casing A in known manner to connect with the resistor elements B and bifurcated or other rivets E or screwed studs are attached to the inner or lower channel member by which to affix it to a support.

This construction of double walls to the sides of the sheet metal casing and the annular depending drip edge a^2 gives protection against creepage and the entry of foreign matter into the interior. The depending edges give a stiffer unit and the incomplete turnover at a^1 avoids cracking of the metal.

What I claim as my invention and desire to protect by Letters Patent is:—

1. A casing for an electric heating element of the type referred to comprising an upper channel shaped part, a lower channel shaped container to fit inside the upper part to form a double wall around the periphery and a downwardly projecting continuous flange on the upper part extending substantially the depth of the casing below the lower edge of the lower channel.

2. A casing for an electric heating element of the type referred to comprising an upper channel shaped part, a lower channel shaped container to fit inside the upper part to form a double wall around the periphery, a flanged-in portion on the upper part to embrace the underside of the lower channel and a downwardly projecting continuous flange on the upper part extending substantially

the depth of the casing below the lower edge of the lower channel.

3. An electric heating element comprising the combination of an inner channel shaped container, refractory material therein, a resistor element embedded in the refractory material and an outer and upper channel shaped part to close the container, a flanged-in portion on the upper part to embrace the underside of the lower channel and a downwardly projecting continuous flange on the upper part extending substantially the depth of the container below the lower edge thereof.

In testimony whereof I have hereunto set my hand this 9th day of January, 1931.

GEORGE BRAY.

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