Dec. 13, 1927. 1,652,503

E. E. SUTHERLAND

RESISTOR SUPPORTING UNIT

Filed Aug. 9, 1924

Fig. 1.

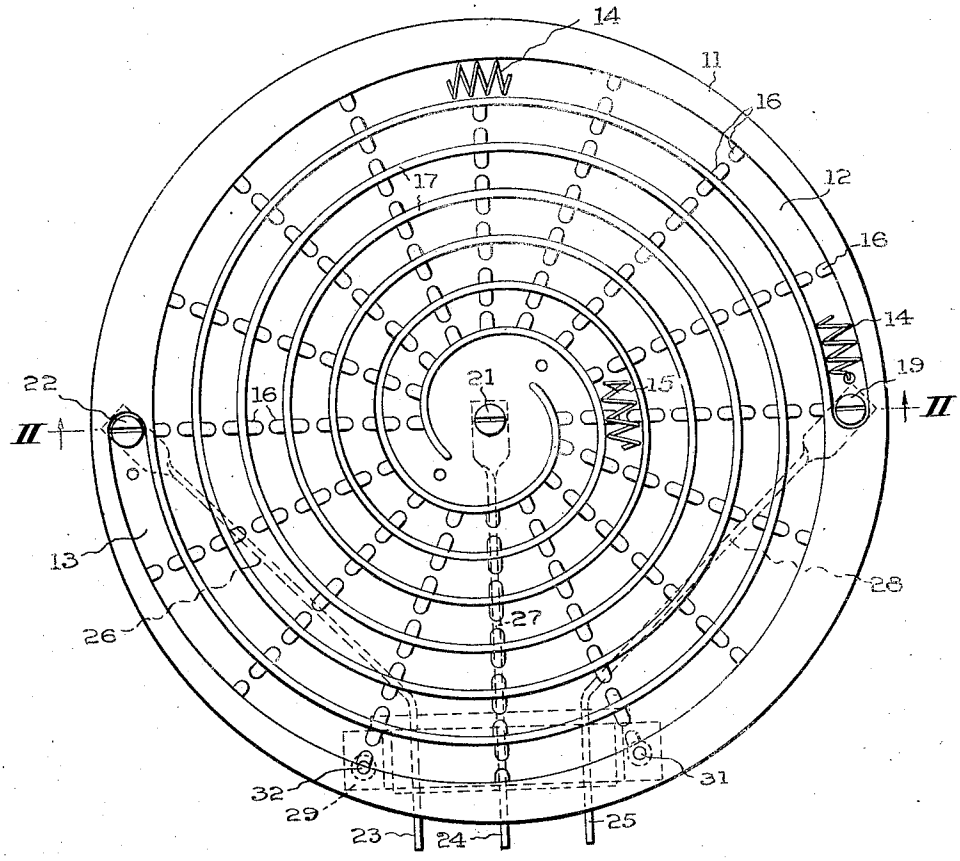


Fig. 2.

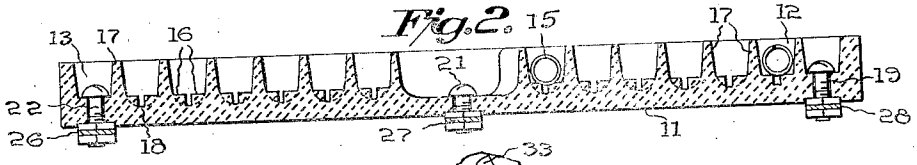
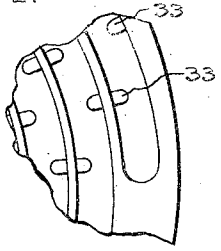


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ERNEST E. SUTHERLAND, OF MANSFIELD, OHIO, ASSIGNOR TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

RESISTOR-SUPPORTING UNIT.

Application filed August 9, 1924. Serial No. 731,066.

My invention relates to electrically heated devices and particularly to resistor-supporting units therefor.

The object of my invention is to provide an electric resistor-supporting means that is so constructed that a maximum amount of the heat radiated therefrom shall be transmitted to the objects to be heated and a minimum amount will be absorbed by the resistor-supporting member.

In practicing my invention, I provide a refractory resistor supporting member having grooves therein for receiving a helically wound resistor member. A plurality of lug members are disposed in said grooves and project inwardly from the sides and upwardly from the bottom thereof. The lug members are relatively small and are located in sets in opposed relation and serve to support the resistor member in an elevated position relatively to the bottom of said groove. Terminals of usual construction are connected to the resistor member.

In the single sheet of drawings,

Figure 1 is a top plan view of an electrically heated device employed in my invention;

Fig. 2 is a view in section thereof, taken along the long II—II of Figure 1; and

Fig. 3 is a fragmentary top plan view of another embodiment of my invention.

A refractory member 11 comprises a plurality of grooves 12 and 13 that are arranged concentrically for convenience and compactness of design. Resistor members 14 and 15 are disposed in grooves 12 and 13 and are supported by a plurality of opposed sets of lugs 16 that project inwardly from the walls 17 and upwardly from the bottom 18 of grooves 12 and 13. The lugs 16 are integral with the refractory member 13 and support the resistor members 14 and 15 in a substantially elevated position relatively to the bottom 18 of said grooves 12 and 13. Any suitable means (not shown) may be employed to secure the resistor members in operative position in said grooves.

Resistor members 14 and 15 are secured at their ends by bolts 19, 21 and 22 to refractory member 11 and are connected to terminal members 23, 24 and 25 by conductors 26, 27 and 28. The terminal members 23, 24 and 25 are secured to refractory member 11 in any well known manner and I have shown a suitable construction that comprises a clamping member 29 that clamps the terminal members 23, 24 and 25 to the refractory member 11 and that is secured thereto by bolts 31 and 32.

Referring to Fig. 3, I have shown another embodiment of my invention in which the lug members 33 are disposed in opposed relation but staggered relatively to each other. Other methods of arranging the lug members may be employed and I do not wish to be limited to the construction shown herein.

By using a construction as hereinbefore described the resistor member may be supported in such manner that the maximum amount of heat therefrom shall be transmitted to the objects that are to be heated and a minimum amount of heat absorbed by the refractory supporting member. The resistor member is located in an elevated position thereby providing a space between itself and the refractory member to prevent absorption of heat by the refractory member due to direct contact therewith.

Various modifications and changes may be made without departing from the spirit and scope of my invention, and I desire therefore that only such limitations shall be placed thereon, as are imposed by the prior art or are set forth in the appended claims.

I claim as my invention:

1. In an electric resistor-supporting device, the combination with a refractory member having a groove therein for securing an electric resistor, of a plurality of spaced lug members integral with said refractory member disposed in said groove for supporting said resistor in an elevated position relatively to the bottom of said groove.

2. In an electric resistor-supporting device, the combination with a refractory member having a groove therein for receiving an electric resistor, of a plurality of lug members extending inwardly from the sides and upwardly from the bottom of said groove for supporting said resistor in an elevated position relatively to the bottom of said groove.

3. In an electric resistor-supporting device, the combination with a refractory member having a groove therein for receiving an electric resistor, of a plurality of sets of opposed lug members extending inwardly from the sides and upwardly from the bottom of

said groove for supporting said resistor in an elevated position relatively to the bottom of said groove.

4. In an electric-resistor-supporting device, the combination with a refractory member having a groove therein for receiving a helical resistor member, of spaced-apart lugs disposed in the bottom of said groove for maintaining the resistor member out of engagement with the bottom thereof.

5. In an electric-resistor-supporting device, the combination with a refractory member having a groove therein for receiving a helical resistor member, of spaced-apart lugs disposed in the bottom of said groove, said lug members being integral with the refractory member for maintaining the resistor member out of engagement with the bottom thereof.

In testimony whereof, I have hereunto subscribed my name this thirty-first day of July, 1924.

ERNEST E. SUTHERLAND.