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F. KUHN ET AL
HEATING UNIT
Filed June 15, 1918

Fig. 1.

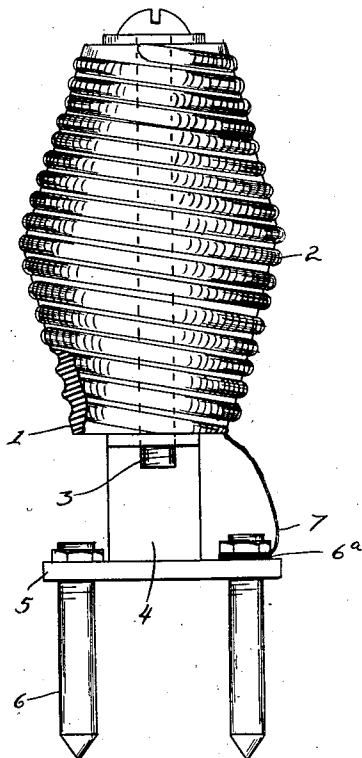


Fig. 2.

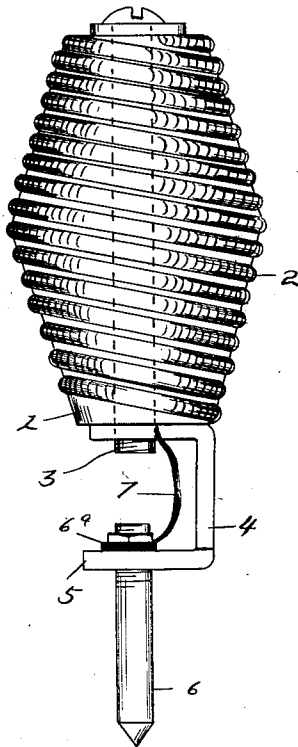
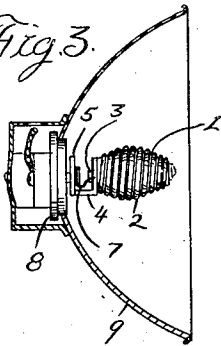


Fig. 3.



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UNITED STATES PATENT OFFICE.

FRANK KUHN AND JAY A. HAND, OF DETROIT, MICHIGAN, ASSIGNORS TO AMERICAN ELECTRICAL HEATER COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

HEATING UNIT.

Application filed June 15, 1918. Serial No. 240,150.

To all whom it may concern:

Be it known that we, FRANK KUHN and JAY A. HAND, citizens 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 Heating Units, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an electric heating unit and its object is to provide a heating unit particularly adapted to be located at the focus of an ellipsoidal or other dished reflector, the construction being such as to interfere as little as possible with the reflected rays of heat.

In the accompanying drawings:

Figure 1 is a view of the heating unit in side elevation and sectionally showing a reflector and socket member with which the unit is associated;

Figure 2 is a view of the heating unit seen at right angles to the showing in Figure 1;

Figure 3 is a cross-sectional view showing the heating unit associated with the reflector.

In these views, the reference character 1 designates an insulatory core which is gradually reduced in diameter from an intermediate point to its respective extremities, said core being formed with a spiral groove in which is wound a coiled heating element 2, the convolutions of said heating element being transverse to said groove. Said core is mounted upon a bolt 3, the head of which has electrical connection with one end of said heating element adjacent the corresponding end of said core, the bolt being extended slightly beyond the other end of the core to engage a bracket 4. Said bracket has an integral base portion 5 to which are secured a pair of spaced pins 6 parallel to the bolt 3 and projecting oppositely therefrom. One of said pins is directly connected with said base 5 while the other is insulated from the base by mica washers 6^a and has a metal strip 7 clamped beneath its head with which strip the adjacent extremity of the heating element is connected. 8 is a socket member with which said pins are detachably engageable and 9 is a reflector

preferably of ellipsoidal shape at the focus of which said heating unit is disposed.

Owing to the double taper given to the above described heating unit, the end portions of the heating element do not appreciably interfere with the direct forward or rearward radiation from a center portion of the unit so that an increased efficiency is secured as compared to cylindrical heating units such as have hitherto been employed. By employing a coiled heating element the number of turns necessary to apply a given length of the element to the core is very much reduced as compared to an uncoiled element. The provision for quick detachability of the unit facilitates assembling and repairs.

What we claim as our invention, is:

1. An electric heating unit comprising an insulating core, a resistor wound upon said core, a metallic support for the core passing centrally therethrough and included in the circuit of said resistor, a bracket upon which said support is mounted, also included in said circuit, and terminal members carried by said bracket one of which has electrical connection therewith while the other is insulated therefrom, and means connecting the last-mentioned terminal with said resistor.

2. A heating unit comprising an insulating core, a metallic supporting bracket for said core, a pair of terminal posts mounted upon said bracket, one thereof having an electrical contact with the bracket, and the other being insulated therefrom, and a heating resistor wound upon said core and having its ends respectively connected to the insulated post and to said bracket.

3. An electric heating unit comprising an insulating core, a resistor wound upon said core, a metallic support for said core passing through the same, a mounting engaged by one end of said support, the other end thereof being electrically connected to the corresponding end of said resistor.

In testimony whereof we affix our signatures.

FRANK KUHN.
JAY A. HAND.