April 14, 1925. 1,533,292

J. C. WOODSON

ELECTRICALLY HEATED DEVICE

Filed Dec. 2, 1922

Fig. 1.

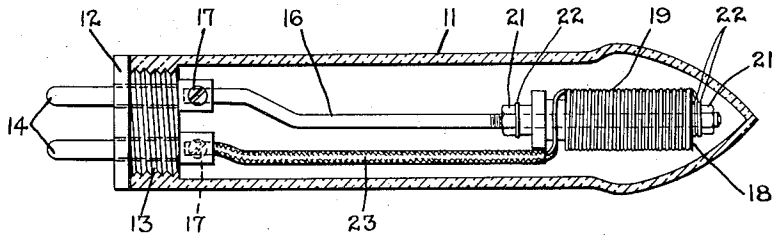


Fig. 3.

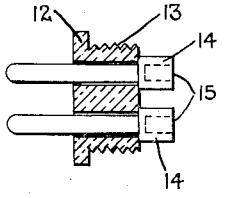


Fig. 2.

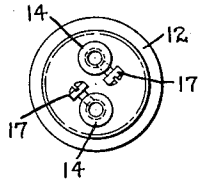


Fig. 4.

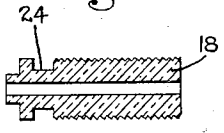
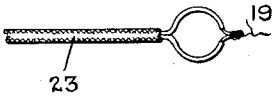


Fig. 5.



WITNESSES:

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Patented Apr. 14, 1925. 1,533,292

UNITED STATES PATENT OFFICE.

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ELECTRICALLY-HEATED DEVICE.

Application filed December 2, 1922. Serial No. 604,499.

To all whom it may concern:

Be it known that I, JAMES C. WOODSON, a citizen of the United States, and a resident of East Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Electrically-Heated Devices, of which the following is a specification.

My invention relates to electrically heated devices and particularly to electrically heated applicators.

The object of my invention is to provide a relatively simple, rugged and compact heating element for an applicator.

In practicing my invention, I provide a tubular casing, closed at one end, with a removable closure member for the open end, and mount in the closure member a pair of contact terminal members. A longitudinally extending central rod has one of its ends secured to one of the contact terminals and has mounted thereon, at its other end, a refractory resistor-supporting member upon which is wound a resistor wire. One end of the resistor wire is electrically connected to the rod and the other end of the wire is connected by a flexible lead to the other contact terminal.

In the single sheet of drawings,

Figure 1 is a view, in longitudinal section, of a device embodying my invention,

Fig. 2 is a view in end elevation, of a closure member comprising a part of the device embodying my invention,

Fig. 3 is a longitudinal sectional view thereof,

Fig. 4 is a longitudinal sectional view of a refractory resistor supporting member, and

Fig. 5 is a view in side elevation, of a connecting lead.

A refractory tubular casing 11, open at one end, and having a closed end of substantially conical shape is provided, at its open end, with a removable closure member 12. The closure member 12 may be secured to the member 11 at its open end in any suitable or desired manner, as by screw threads 13 on a reduced portion thereof, which cooperate with screw-threads provided on the inner surface of the tubular member adjacent to the open end.

The closure member 12 and the tubular member 11 may be made of hard rubber or any other suitable material. A pair of contact terminal members 14 are mounted in the closure member 12 and extend a suitable distance from the outer surface thereof to permit of their being operatively engaged by a suitable terminal plug having contact sockets of the type usually employed in the art. The inner ends of the members 14 are enlarged and have an axially extending opening 15 therein for a purpose to be hereinafter set forth.

A longitudinally extending central metal rod 16 has its outer end offset so that it may be located in one of the openings 15 where it may be secured by a small machine screw 17 extending laterally into the enlarged portion of the member 14. The outer end of the rod 16 is provided with screw threads and a tubular refractory resistor supporting member 18 is located thereon. The member 18 is provided with helical screw threads on its outer surface to permit of locating therein a resistor member 19 wound in the V-grooves of the screw threads. A plurality of nuts 21 and washers 22 are located on the outer end of the rod 16, each of the nuts and washers being located adjacent to each end of the refractory members 18 to securely clamp the same on the rod 16.

One end of the resistor member 19 is clamped between the plurality of washers 22 at the outer end of the member 18. A flexible conductor 23 has one of its ends secured to the inner end of the other contact terminal 14 and extends substantially parallel to the rod 16. The other end of the lead 23 is located in a circumferentially extending groove 24 at the inner end of the refractory member 18, the strands of the lead 23 being split substantially as illustrated in Fig. 5 of the drawing to permit their being located in the groove 24 and being held therein by having the overlapping ends thereof soldered together. The other end of the resistor member 19 may also be soldered to the lead 23, at the junction of the two sets of strands.

In applicators of this kind, I have found it desirable to concentrate the heat at the forward or closed end thereof and the device embodying my invention provides a compact and rugged heating element for

accomplishing this object. The hereinbefore described construction provides a heating element which is substantially supported by the closure member and is removable therewith.

Various modifications and changes in detail and arrangement may be made without departing from the spirit and scope of the invention, and such modifications are intended to be covered by the appended claims.

I claim as my invention:

1. In an electrically heated device, the combination with a tubular refractory casing closed at one end and having internal screw threads at its open end, of a refractory closure member having external screw threads and fitting into the open end of said casing, and a plurality of spaced contact terminals mounted in said closure member and projecting therefrom and adapted to be operatively engaged by a contact plug.

2. In an electrically heated device, the combination with a tubular casing closed at one end and internally screw threaded at the open end, and an electric heating element in said casing, of a refractory closure member having external screw threads and fitting into the open end of said casing, and a plurality of terminal pins mounted in said closure member and projecting therefrom, and adapted to support, at their inner ends, said heating element, and, at their outer ends, to removably operatively engage a contact plug.

In testimony whereof, I have hereunto subscribed my name this 27th day of November, 1922.

JAMES C. WOODSON.