

H. G. LEVY.

ELECTRICAL HEATING ELEMENT.

APPLICATION FILED SEPT. 18, 1917. RENEWED OCT. 20, 1919.

1,332,852.

Patented Mar. 2, 1920.

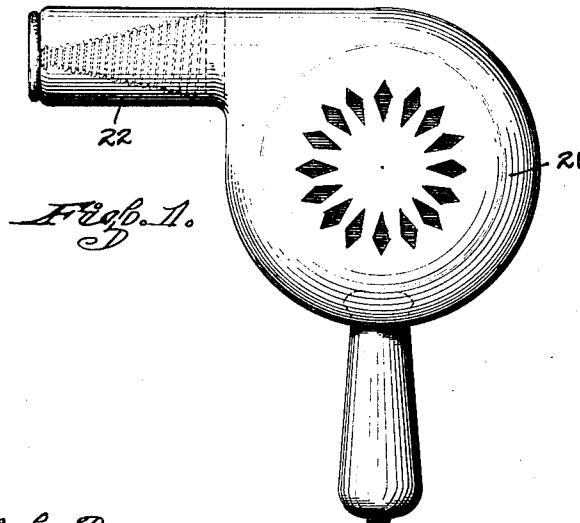


Fig. 1.

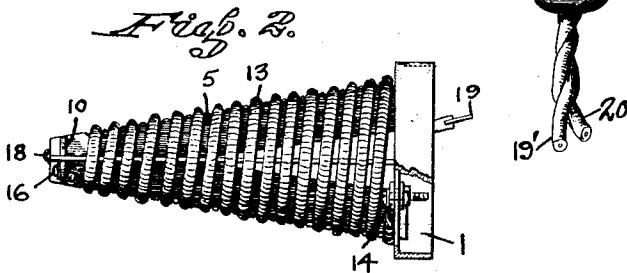


Fig. 2.

Fig. 5.

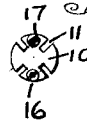


Fig. 6.

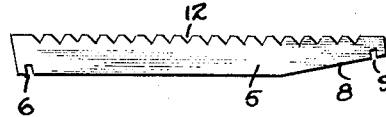


Fig. 4.

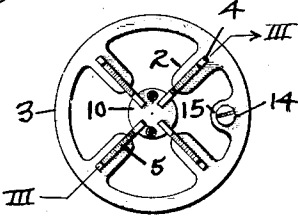
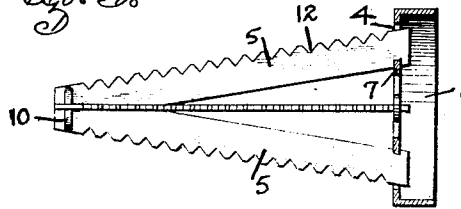


Fig. 3.



INVENTOR

HENRI G. LEVY

BY

Carson Dale
ATTORNEY

UNITED STATES PATENT OFFICE.

HENRI G. LEVY, OF SAN FRANCISCO, CALIFORNIA.

ELECTRICAL HEATING ELEMENT.

1,332,852.

Specification of Letters Patent.

Patented Mar. 2, 1920.

Application filed September 18, 1917, Serial No. 192,009. Renewed October 20, 1919. Serial No. 332,102.

To all whom it may concern:

Be it known that I, HENRI G. LEVY, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have made a new and useful Improvement in Electrical Heating Elements; and I do hereby declare the following to be a full, clear, concise, and exact description of the same.

The invention relates particularly to electrical heating elements for air blasts for hair driers and the like.

Among the objects of the invention are to provide a simple, rigid and compact insulating unit for the reception of the electrical resistance element to be wound thereupon to complete the unit and hold it in rigid assembly.

Another object of the invention is to present the minimum amount of impediment to the passage of air through the heating element while presenting the maximum amount of heating surface.

Other objects and advantages will appear as the description progresses.

In this specification and the annexed drawings, the invention is illustrated in the form considered to be the best, but it is to be understood that the invention is not limited to such form, because it may be embodied in other forms, and it is also to be understood that in and by the claims following the description it is desired to cover the invention in whatever form it may be embodied.

In the accompanying one sheet of drawings:

Figure 1 is a side elevation of an electrical air blast machine having a heating element constructed in accordance with this invention incorporated therein.

Fig. 2 is an enlarged detail in side elevation of a heating element embodying this invention.

Fig. 3 is a similar view of the insulating unit of the heating element with the electrical heating element omitted, the base ring or head being shown in cross section on the line III—III, Fig. 4.

Fig. 4 is an end view of the same.

Fig. 5 is a detail in plan of the head forming the apex of the base structure.

Fig. 6 is a detail in side elevation of one of the insulating strips.

In detail the construction illustrated in the drawings includes the base ring or head 1 having inwardly projecting lugs 2, at right angles to the plane of the ring 1. For greater stability the annular flange 3 is formed on the ring between the lugs 2. The lugs 2 may be multiplied in number as occasion requires to meet particular conditions. These lugs are slotted longitudinally on the diameter of the ring 1.

The support for the heating resistance hereinafter referred to as the coil consists of a strip of mica or other suitable insulating material (see Fig. 6). The supporting strips 5 are of a thickness approximately equal to the width of the slot 4 and are provided with notches as at 6, to engage the lugs 2 at their ends 7, at the inner extremity of the slots 4. The width of the strips 5 is equal to the length of the slots 4, assembly being accomplished by inserting the ends of the strips 5 into the slots and moving the strips forward until the notches 6 engage the ends of the lugs 2. If it is desired to give the heating element a pyramidal or cone shape, the strips 5 are tapered as at 8 and are notched as at 9 to engage the thickness of the apex head 10, slotted as at 11 to receive the thickness of the strips 5. The cut-away portion 8 of the plurality of strips 5 permit them to nest close together at the top to give the desired taper to the whole structure. The outer edges of the strips 5 are notched or serrated as at 12 to separate the convolutions of the coil 13 wound spirally or helically thereupon. The windings of the coil tend to draw the strips 5 inward toward the axis of the coil which tends to hold the strips in close assembly engagement with the heads 10 and the lugs 2 at their respective ends, which assembly may be made more permanent by the addition of shellac or any suitable cement, which however, in practice has proven unnecessary. The lower end of the coil is connected to the binding post 14, engaging the lug 15 formed on the flange 3, the opposite end of the coil is fixed to the binding post 16 on the head 10, which is also connected to the lead wire 18, extending through the perforation 17

on the opposite side and back down through the center of the coil, from which it is suitably insulated, and terminates as at 19. The opposite ends of the coil are connected
 5 in circuit with the lead wires 19' and 20 supplying current for the heating element and also for the motor inclosed within the casing 21 of the blast machine.

The pyramidal or conical shape of the
 10 heating element is very desirable, as it presents the maximum amount of heating surface to the air blast with the minimum amount of impediment to its passage and also insures substantially uniform tempera-
 15 ture throughout the length of the heating coil, since all of its surface is uniformly exposed to the air blast from end to end, which would not be true if the heating element were cylindrical, or the convolutions
 20 of the coil arranged parallel with the walls of the exhaust tube 22 of the blast machine.

It is manifest that this structure lends itself to the forming of square or angular heating elements as well as the round form
 25 illustrated, and straight resistance wire may be wound on the insulating unit instead of the spiral form shown, although the latter form will permit a greater area of heating surface in a given space, and makes the ele-
 30 ment more nearly round than straight windings could.

Having thus described my invention what I claim and desire to secure by Letters Patent is:

1. An electrical heating element includ- 35
 ing a base having inturned slotted lugs; strips having their ends in said slots notched to engage said lugs; means for joining the opposite ends of said strips; and a heating coil encircling said strips.

2. An electrical heating element includ- 40
 ing a base having slots therein; strips in said slots having notches therein engaging said base; a transverse flat notched head engaging notches formed in the converging 45
 ends of said strips; and a heating coil encircling said strips.

3. An electrical heating element including an annular base head having an inturned flange with slotted lugs; a transverse flat 50
 apex head having peripheral slots therein; a plurality of strips having notches therein engaging said heads within said slots therein; and a heating coil encircling said plu-
 55 rality of strips.

In testimony whereof, I have hereunto set my hand at San Francisco, California, this 8th day of September, 1917.

HENRI G. LEVY.

In presence of—
 BALDWIN VALE,
 LINCOLN V. JOHNSON.