

L. F. PARKHURST.
ELECTRIC HEATING UNIT.

APPLICATION FILED FEB. 15, 1911. RENEWED SEPT. 13, 1912.

1,043,029.

Patented Oct. 29, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

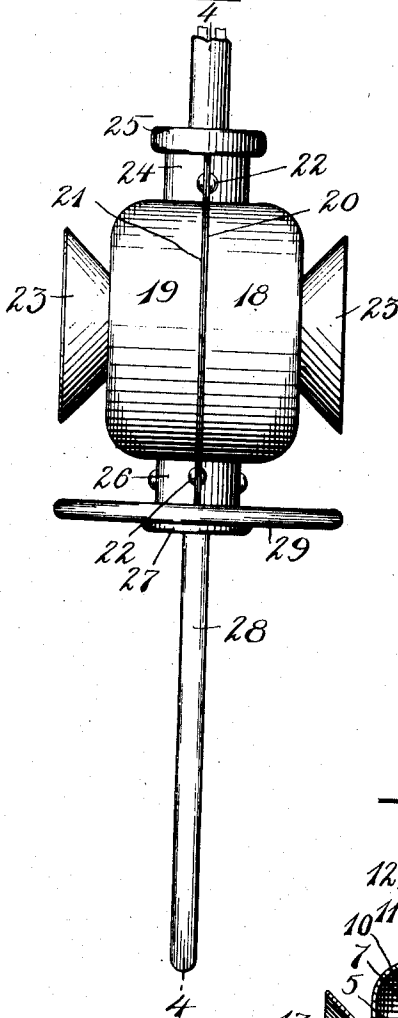


Fig. 2.

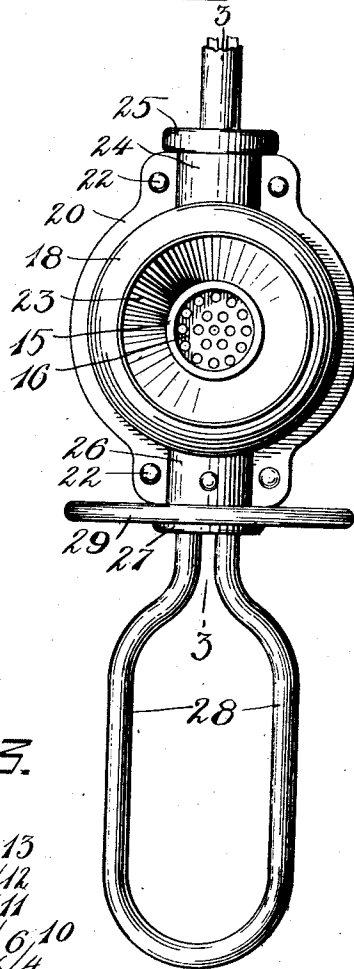
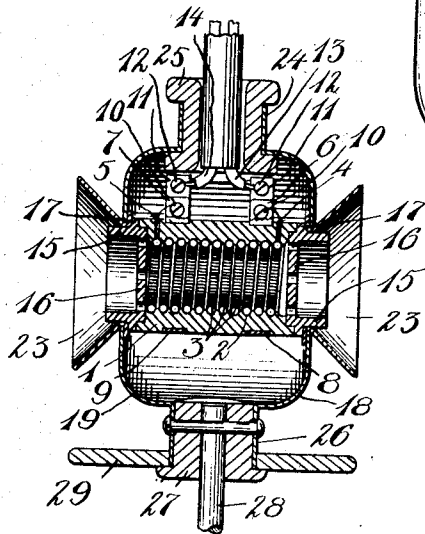


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

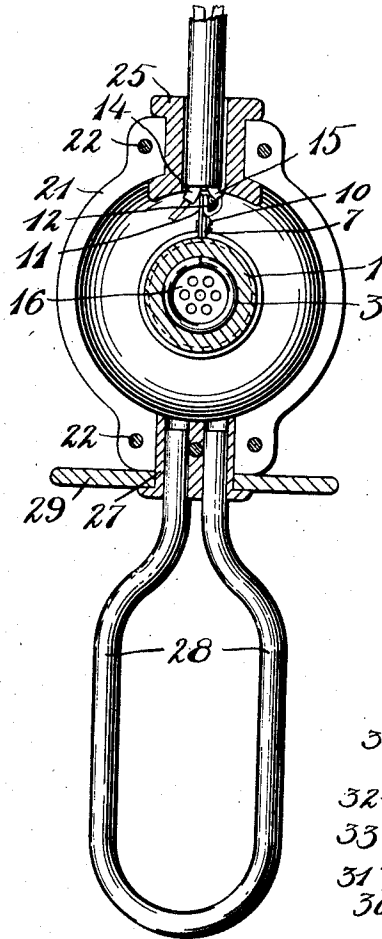


Fig. 5.

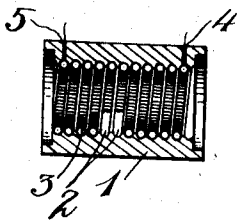


Fig. 6.

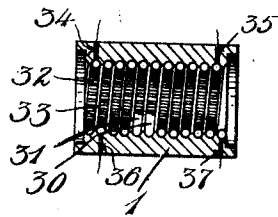
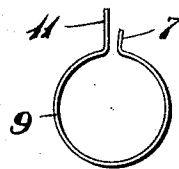


Fig. 7.



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UNITED STATES PATENT OFFICE.

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ELECTRIC HEATING UNIT.

1,043,029.

Specification of Letters Patent.

Patented Oct. 29, 1912.

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To all whom it may concern:

Be it known that I, LEON F. PARKHURST, a citizen of the United States, residing at Binghamton, county of Broome, State of New York, have invented certain new and useful Improvements in Electric Heating Units, of which the following is a full, clear, and exact description.

My invention relates to electric heating units and to an improved form of cigar lighter showing one specific application of said unit.

The invention has for its object a simple and compact form of heating unit of high efficiency, and one which is adapted for use in a large variety of applications.

A further object is the production of a compact and convenient form of cigar lighter in which said unit may be employed.

With these objects in view, the invention consists in the construction and arrangement of parts, a preferred embodiment of which is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a cigar lighter embodying the invention; Fig. 2 is a face view of the cigar lighter; Fig. 3 is a vertical sectional view on the line 3—3, Fig. 2; Fig. 4 is a vertical sectional view on the line 4—4, Fig. 1; Fig. 5 is a detail sectional view of the heating unit detached; Fig. 6 is a view similar to Fig. 5 of a modified form of the heating unit, and Fig. 7 is a detail view of a convenient form of connector for the terminals of the unit.

In the embodiment of my invention herein selected for illustration, and referring particularly to Fig. 3, 1 represents a short cylinder of lava or other highly refractory and insulating material, the interior of which is threaded as at 2 to receive the spirally arranged coil 3 of the resistance element. This element may consist of a small coil of fine wire of high resistance, which coil is, itself, arranged in a coil-within the spiral threads 2 of the cylinder. The terminals of the coil are led out at 4—5 and may be conveniently attached to the ends 6—7 of the metal bands 8—9 conveniently clamped around the periphery of the cylinder 1 by means of the binding screws 10 by which the terminals 4 and 5 are secured. One of the ends 11 of each of the bands 8

and 9 is extended to receive the binding screws 12 by which the circuit leads 13 and 14 are connected with the terminals of the resistance coil.

In the present embodiment of the invention I have shown this improved heat unit in connection with an improved form of cigar lighter. For this purpose the cylinder 1 preferably has cup-shaped caps 15—15 of similar construction seated upon either end of the cylinder. Each cap is provided with a perforated bottom 16 and an annular flange 17 which bears against the end of the cylinder. The casing for the unit consists of the similar shells 18 and 19 having flanges 20 and 21 respectively, by which said shells may be secured together by screws, or rivets, 22, as indicated. Each shell has a central aperture in alinement with the interior of the heat unit 1, through which the caps 15 project, and in order to conveniently guide the cigar to be lighted to proper position with respect to the heat unit, the funnel shaped members 23 may be seated within the side apertures of the shells and around the caps 15. The upper ends of the shells are reduced at 24 to receive and seat an insulating sleeve 25 through which circuit leads may be passed. The lower ends of the shells are also reduced at 26 to receive the sleeve, or bushing, 27, within which the handle 28 may be secured. In order to protect the user's hand from the heat of the device, a protecting disk 29 of asbestos board or other like material, may be interposed between the lighter proper and the handle.

In order to provide for different heats of the heat unit, I may employ two or more separate and distinct heating coils in the cylinder 1. By any well known form of switch, these coils may be connected in series, or in parallel, or, a single coil operated to the exclusion of the others. A unit of this construction is illustrated in Fig. 6, in which the cylinder 1 is provided with two separate and distinct spiral threads 30 and 31, in which the separate heating coils 32 and 33 are arranged, the terminals of the coil 32 being led out through lateral openings 34 and 35, and the terminals of the second coil being led out through lateral openings 36 and 37 in the walls of the cylinder. While I have shown herein the end caps 15

in connection with the heat unit, it is to be understood that these are merely employed for protection of the coils when unit ends are used for cigar lighting or similar purposes.

The above described construction of the heating unit is particularly well adapted for use in a cigar lighter as substantially described, for the reason that the interior of the cylinder forms in effect a heated chamber, through which air is drawn, in the act of lighting a cigar, into the open end of the cigar, thereby producing quick combustion by combining the heated oxygen of this heated air current with the combustible. This construction, therefore, has a great advantage over the usual form of electric cigar lighter, in which the cigar is usually brought into close contact with the protecting covering of the incandescent coils, with the result that the air must find its way with difficulty under the end of the cigar, and, furthermore, this air is not as effectively heated where it is drawn from all sides to the cigar end.

It is obvious, that while I have here shown this heating form as a cylindrical form, any form of inclosure about the resistance element, through which the air must necessarily pass, will effect substantially the same result.

While I have herein described a particular embodiment of my invention, it is to be understood that the same may be altered in details and in the relative arrangement of parts within the scope of the appended claims.

What I claim is:

1. An electric heating device comprising a hollow cylinder of refractory and insulating material having perforations at the ends thereof and having an internal spiral groove and a resistance element arranged in said groove, having terminals projecting to the exterior of said cylinder.

2. An electric heating device comprising a hollow cylinder of refractory and insulating material having perforations at the ends thereof and having a plurality of internal spirally arranged grooves and a separate resistance element arranged in each of said grooves, having terminals projecting to the exterior of said cylinder.

3. An electric heating device comprising a hollow cylinder of refractory and insulating material having a spirally arranged internal groove and a perforated end, and a resistance element arranged in said groove having terminals projecting to the exterior of said cylinder.

4. An electric heating device comprising a cylinder of refractory and insulating material, having a spirally arranged internal groove, a resistance element mounted in said groove, and having terminals projecting to

the exterior of said cylinder, and perforated caps mounted upon either end of said cylinder and inclosing said element.

5. An electric heating device comprising a hollow cylinder of refractory and insulating material having perforations at the ends thereof and having an internal spirally arranged groove, a resistance element arranged in said groove, and having terminals projecting through the walls of said cylinder, and a connector for each of said terminals comprising a conductor band extending around the periphery of said cylinder to which said terminals are attached.

6. An electric heating device comprising a hollow cylinder of refractory and insulating material having perforations at the ends thereof and having an internal spirally arranged groove, a resistance element arranged in said groove, and having terminals extending through the walls of said cylinder, connectors for said terminals consisting of conductor bands extending around the periphery of said cylinder, and clamping means for said bands, said clamping means serving as binding members for said terminals.

7. In a cigar lighter, the combination with electric heating unit consisting of a cylinder of refractory and insulating material having a resistance element spirally arranged in the interior thereof, a casing for said unit having an opening opposite the end of said unit, means carried by said casing for effecting electrical connection with said unit, and means for supporting said casing.

8. An electric cigar lighter comprising a heating unit consisting of a cylinder of refractory and insulating material internally threaded, a resistance element spirally arranged in said thread, a casing for said unit having openings alined with the opposite ends thereof, means on said casing for effecting electrical connection with said unit, and a support for said casing.

9. An electric cigar lighter comprising an electric heating unit, a casing therefor having openings opposite said unit, means on said casing for effecting electrical connection with said unit, a handle for said casing, and a shield interposed between said handle and said casing.

10. An electric cigar lighter, comprising an electric heating unit, a casing therefor having openings opposite said unit, funnel shaped guides surrounding said openings, means on said casing for effecting electrical connection with said unit, and a handle for said casing.

11. An electric cigar lighter comprising a cylindrical electric heating unit, a casing inclosing the same, and having openings opposite the ends of said unit, perforated caps overlying the ends of said unit, means on said casing for effecting electrical connection

tion with said unit, and a handle for said casing.

12. An electric cigar lighter comprising an electric heating unit, consisting of a resistance element, and a support therefor, forming a chamber inclosing the same, and presenting an opening at the side to which the cigar is applied, and a second opening to admit air to said chamber, whereby in the act of lighting the cigar, the current of heated air is drawn through said chamber and impinges against the end of the cigar.

13. In a cigar lighter, the combination of an electric heating unit consisting of a sup-

port of refractory and insulating material open at the ends, having a resistance element arranged in the interior thereof, whereby the end of the cigar may be applied to one of said open ends, and in the act of lighting a cigar, the current of air passes through said support is heated by said resistance element and impinges against the end of the cigar.

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