Aug. 19, 1924. 1,505,248

V. E. EXTROM

ELECTRIC CIGAR LIGHTER

Filed April 17, 1922

Fig. 1

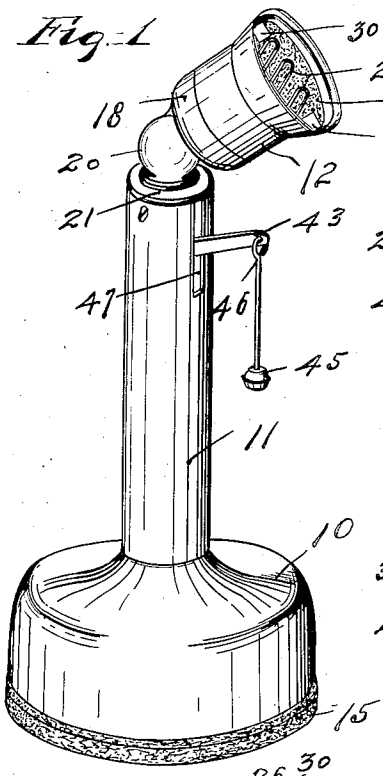


Fig. 6

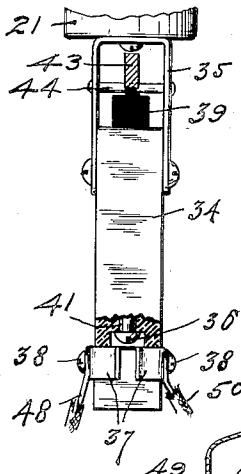


Fig. 2

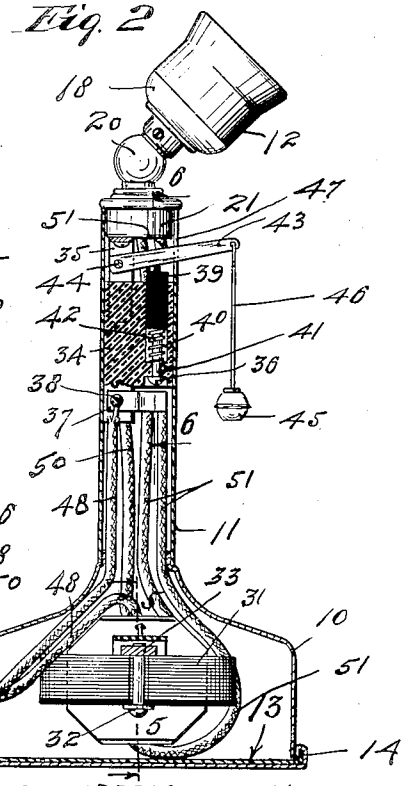


Fig. 4

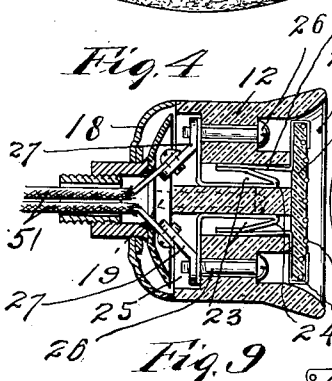


Fig. 3

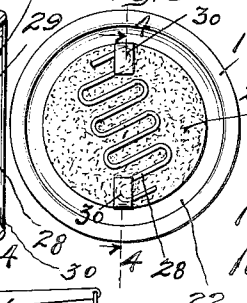


Fig. 5

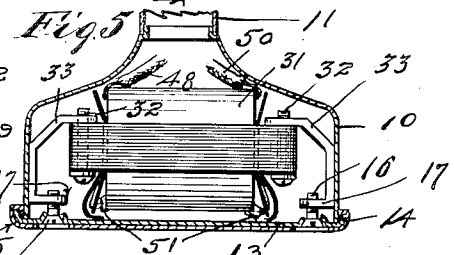


Fig. 9

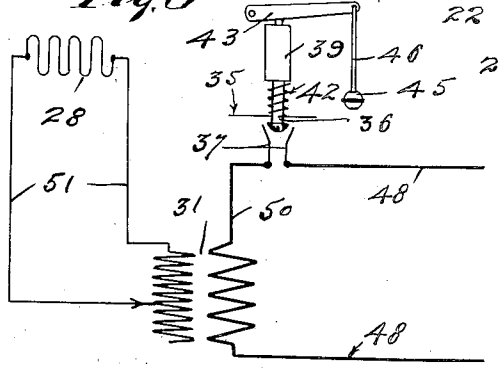


Fig. 7

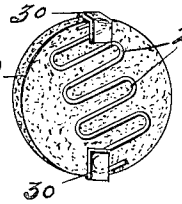
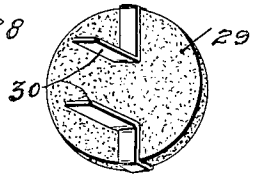


Fig. 8



Inventor
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Patented Aug. 19, 1924. 1,505,248

UNITED STATES PATENT OFFICE.

VICTOR E. EXTROM, OF MINNEAPOLIS, MINNESOTA.

ELECTRIC CIGAR LIGHTER.

Application filed April 17, 1922. Serial No. 553,869.

To all whom it may concern:

Be it known that I, VICTOR E. EXTROM, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Electric Cigar Lighters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to improvements in electric cigars lighters, and has for its primary object to provide therefor an extremely simple and inexpensive heating element and non-conducting bed therefor. This heating element, which forms a part of the electric circuit of the apparatus, has detachable engagement with a holder and certain contacts in the electric circuit, and when worn out, may be removed from the holder and circuit, together with its bed, and a new heating element and bed substituted therefor without the use of a tool or the adjustment of any part or parts of the apparatus.

To the above end, generally stated, the invention consists of the novel devices and combination of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a perspective view of the invention;

Fig. 2 is a view partly in side elevation and partly in central vertical section;

Fig. 3 is a front elevation of the heating element and its holder, on an enlarged scale.

Fig. 4 is a view principally in vertical section taken on the line 4—4 of Fig. 3;

Fig. 5 is a detail view with some parts sectioned on the line 5—5 of Fig. 2;

Fig. 6 is a fragmentary detail view with some parts sectioned substantially on the line 6—6 of Fig. 2, on an enlarged scale;

Fig. 7 is a perspective view of one of the heating elements;

Fig. 8 is a perspective view showing the back of the heating element; and

Fig. 9 is a wiring diagram for the improved cigar lighter.

The invention, as illustrated in the drawings, has the same general appearance as a portable telephone, and includes a hollow base 10 to which is rigidly secured a tubular standard 11 at the upper end of which is a heating element holder 12 shaped like the transmitter of a telephone. The bottom plate 13, of the hollow base 10, is provided with a capping flange 14 in which said base loosely fits. This bottom plate 13 is covered by a piece of felt 15, which extends over the capping flange 14 and is held in position by the base 10. A pair of screws 16 detachably secure the bottom plate 13 to the base 10, and have screw-threaded engagement with a pair of short radially disposed ears 17 secured to said base at diametrically opposite points.

The holder 12 is made of insulating material, preferably porcelain, and is seated on the rim of a disk-like member 18 and detachably secured thereto by screws 19. This member 18 is connected to the standard 11 by an elbow 20 having a flanged cap 21, which fits within the upper end of said standard. The mouth of the holder 12 is recessed at 22 and two diametrically opposite passageways 23 extend completely through said holder and have mounted therein two spring contacts 24, the lower end portions of which extend laterally outward into recesses 25, in the bottom of the holder 12, and are secured to said holder by screws 26. Terminals 27 in the recesses 25 are also secured to the holder 12 by the screws and bear upon the spring contacts 24.

The numeral 28 indicates a heating element in the form of a relatively heavy resistance wire bent back and forth on the face of a disk-like bed 29, and is secured thereto, at its ends, by a pair of diametrically opposite contacts 30. These contacts 30 are folded over the edges of the bed 29 into the front and back thereof, and, at the face of said bed, they overlap the end portions of the heating element 28 and are pressed, together with said heating element, into the face of the bed 29. The bed 29 is made of asbestos or other high refractory material. At the back of the bed 29, the contacts 30 are bent laterally rearward and arranged to enter the passageways 23 for engagement with the spring contacts 24 (see Fig. 4).

Within the base 10 is a transformer 31 secured by screws 32 to relatively long ears 33 which are formed with the short ears 17. Interposed in the standard 11, between

the heating element 28 and the transformer 31 is a block 34, of insulating material, held suspended by a yoke 35 from the cap 21.

Carried by the block 34 is a normally open switch, which comprises a vertically movable plunger 36, which, when depressed, engages and spreads a pair of laterally spaced spring fingers 37 secured to opposite sides of the block 34 by terminal screws 38. The plunger 36 is secured to the lower end of a stem 39, of insulating material. Said plunger 36 and stem 39 are mounted in upper and lower seats 40 and 41 formed, respectively, in the block 34. A coiled spring 42, encircling said plunger 36, is compressed between the stem 39 and the bottom of the seat 40, and yieldingly holds the plunger 36 raised and out of contact with the spring fingers 37.

To close the switch 36—37, there is provided a lever 43 pivoted, at 44, to the yoke 35 and loosely rests, at its intermediate portion on the stem 39. A finger piece 45 is attached by a link 46 to the free end of the lever 43, which extends outward of the standard 11 through a slot 47 therein.

The wiring illustrated is for an alternating current and includes a pair of feed wires 48, which extend into the hollow base 10 through a bushed opening 49. These wires 48 are connected, the one to one of the terminals of the primary coil of the transformer 31, and the other of said wires is attached to one of the switch fingers 37 by the respective terminal screw 38. The other terminal of the primary coil is connected by a wire 50 to the other switch finger 37 by the respective terminal screw 38. A pair of wires 51 connect the terminals of the secondary coil of the transformer 31 to the terminals 27 for the heating element 26.

To light a cigar, the switch 36—37 is closed, to complete the circuit, by pulling down on the finger piece 45 and pressing the cigar against the glowing surface of the heating element 28. As soon as the finger piece 45 is released, the spring coil 42 will lift the plunger 36 and thereby open the switch and return the lever 43 to normal position.

While the wiring shown in the drawings is for an alternating current, it is, of course, understood that the improved cigar lighter may be used in connection with a direct current. The invention is especially well adapted as a cigar lighter attachment for automobiles, in which case it will be connected to the batteries thereof.

When the heating element 28 is worn out, the same, together with its bed 29, may be lifted from the holder 12 by withdrawing the contacts 30 out of their frictional engagement with the spring contacts 24. A new heating element and its bed may be substituted therefor and attached to the holder 12 simply by inserting its contacts 30 into the passageways 23 which will cause the contacts 24 to yieldingly and frictionally press thereagainst.

What I claim is:

1. The combination with a holder, of an electric circuit including a pair of contacts in the holder, a non-conducting bed, a heating element, and a second pair of contacts secured to said bed, engaging the terminals of the heating element and holding said heating element onto the face of said bed, said second pair of contacts being adapted to engage the first noted pair of contacts and hold said bed in the holder.

2. The combination with a holder, of an electric circuit including a pair of contacts in the holder, a non-conducting bed, a heating element, and a second pair of contacts having laterally extended U-shaped ends into which the marginal edge portion of said bed extends, the terminals of the heating element being inserted between the outer prongs of said U-shaped ends and the face of said bed, said second pair of contacts and said heating element being secured to the bed by pressing the prongs of said U-shaped ends onto said bed, said second pair of contacts being adapted to engage the first noted pair of contacts and detachably secure said bed in the holder.

3. The combination with a standard having a hollow base and a displaceable cap provided with a holder, of an electric circuit including a heating element in the holder, a transformer in the base, and a normally open switch in the standard.

4. The structure defined in claim 3 in which the switch is held suspended in the standard from the cap and removable from said standard therewith.

5. The combination with a standard having a hollow base and a displaceable cap provided with a holder, said hollow base having a displaceable bottom and two pairs of ears, means for detachably securing the removable bottom to one pair of said ears, of an electric circuit including a heating element in the holder, a transformer in the base detachably secured to the other pair of ears, and a normally open switch in the standard.

In testimony whereof I affix my signature.

VICTOR E. EXTROM.