June 26, 1951 'B. T. JONES 2,558,441

ELECTRICAL CIGAR OR CIGARETTE LIGHTER

Filed March 14, 1950

Fig. 1

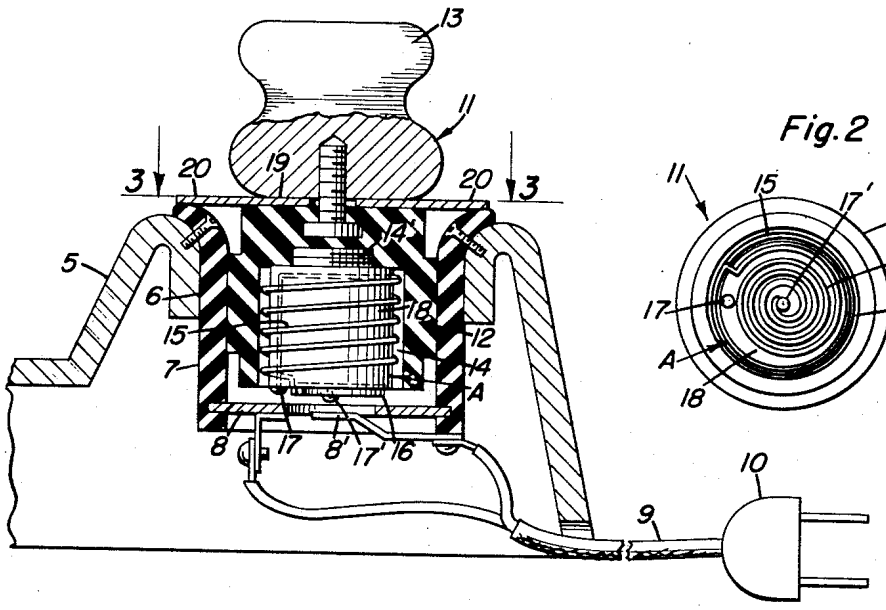


Fig. 2

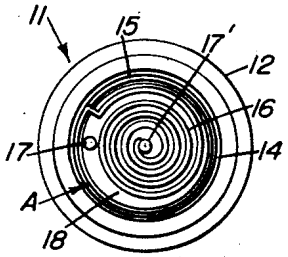


Fig. 4

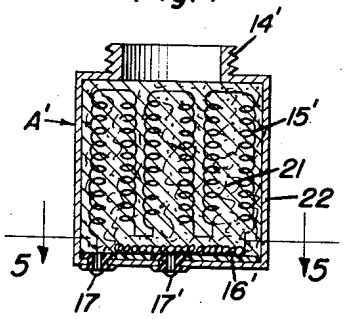


Fig. 3

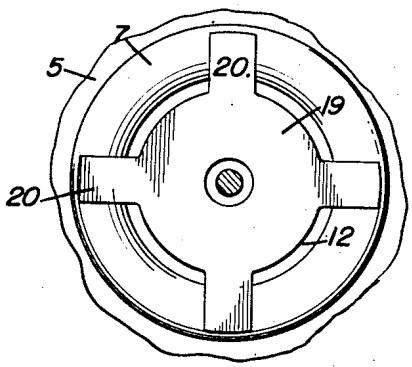
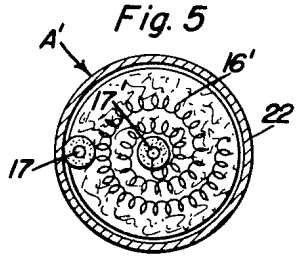


Fig. 5



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ELECTRICAL CIGAR OR CIGARETTE LIGHTER

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1 Claim. (Cl. 219—32)

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This invention relates to electrical cigar or cigarette lighters of the type including a housing having spaced contacts therein, and a lighter member removably positioned in the housing and having an incandescent wire at its inner end provided with spaced terminals adapted to be engaged with said contacts for causing said incandescent wire to be heated upon pressing said lighter member inwardly of the housing.

The primary object of the present invention is to provide a lighter of the above type which is adapted to use the relatively high voltage current of a house wiring system without danger of readily "burning out" the incandescent wire, and which may be made relatively small and manufactured at a relatively low cost.

In accordance with the present invention, a resistance element is included in the lighter circuit in series with the incandescent wire, said resistance element being such that the voltage drop across the same is much greater than that across the incandescent wire. The resistance element may be carried by the lighter member and connected at one end to one of its terminals and at the other end to an end of the incandescent wire whose other end is connected to the other terminal of the lighter member. Current for the lighter is derived from the house wiring system by means of an attachment cord whose wires may be connected at one end of the cord to the housing contacts and at the other end of the cord to a plug connector adapted for reception in an outlet receptacle of the wiring system.

Other objects and features of the invention will be apparent from the following description when considered with the accompanying drawing, in which:

Figure 1 is a fragmentary longitudinal sectional view showing a lighter embodying the present invention mounted in a support.

Figure 2 is an end elevational view of the lighter member, looking at the inner end thereof.

Figure 3 is a fragmentary transverse section taken on the line 3—3 of Figure 1.

Figure 4 is a longitudinal sectional view of a modified form of resistance wire and incandescent wire unit for the lighter member.

Figure 5 is a transverse section taken on the line 5—5 of Figure 4.

Referring in detail to the drawing, 5 indicates a support which may be the hollow base or stand of an ash tray. This support has an opening 6 in which is fitted and secured the outer or upper end of the insulating housing

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7 of the present lighter. The housing 7 carries within its inner or lower end spaced contacts 8 and 8' to which are connected the wires of an attachment cord 9 provided with a plug connector 10.

The lighter also embodies a lighter member 11 which is removably fitted in the housing 7 and includes an insulating body 12 having a knob 13 attached to the outer or upper end thereof and formed with a central recess or socket 14 which opens through the inner or lower end thereof. Removably mounted in the recess 14, as at 14', is a unit A which carries a resistance element 15 and an incandescent wire 16 which are connected in series. The wire 16 is provided at the inner end of member 11, and the same is true of spaced terminals 17 and 17', which are adapted to be moved into engagement with the contacts 8 and 8', by pressing the member 11 inwardly of the housing 7, to heat the wire 16. One end of resistance element 15 is connected to terminal 17, and one end of wire 16 is connected to terminal 17', the other ends of element 15 and wire 16 being connected to each other. In the form of Figures 1 to 3, inclusive, the unit A includes an insulating body 18 having the wire 16 set in its inner end, the element 15 comprising a wire helically wound about said body 18.

Spring means is provided to normally yieldingly hold the lighter member in a partially withdrawn position relative to the housing, with the terminals 17 and 17' disengaged from the contacts 8 and 8' so that the lighter circuit is open. This means may consist of a disk 19 secured between the body 12 and the knob 13 and having radial resilient fingers 20 engaging the outer end of housing 7. The element 15 is such that the voltage drop across the same is much greater than that across the wire 16, so that the latter will not readily "burn out" when the lighter is operated on the relatively high voltage current of a house wiring system. It will be seen that the lighter may be made small and compact and manufactured at a relatively low cost. Also, it will operate efficiently without the use of a troublesome or costly voltage regulator or step-down transformer.

In use, the lighter member is pressed inwardly to heat the wire 16, whereupon the pressure is released and the lighter member is removed from the housing to light a cigar or cigarette in a manner generally well known in the art in connection with lighters commonly used in automobiles

but operated on relatively low voltage battery current.

In the modification of Figures 4 and 5, the unit A includes a resistance element 15' which is contained within and insulated as at 21 from a metallic casing 22 along with the incandescent wire 16'. The wire 16' is a flat volute coil or coiled wire disposed close to the bottom wall of casing 22 for heating and rendering the latter incandescent. The casing is adapted at 14' for mounting in the recess 14 of body 12, and the terminals 17 and 17' are insulated from said casing.

From the foregoing description, the construction, operation and advantages of the invention will be apparent to those skilled in the art. Changes in construction and other modifications are contemplated within the spirit of the invention as claimed.

Having described the invention, what is claimed as new is:

An electrical cigar or cigarette lighter comprising an insulating housing having spaced contacts therein, a lighter member removably positioned in the housing and having an incandescent wire and spaced terminals at its inner end, said terminals being engageable with said contacts for causing the incandescent wire to be heated when the lighter member is pressed inwardly of the housing, yieldable means normally holding the lighter member positioned with the terminals out of engagement with the contacts, an attachment cord connected to the contacts for supplying current thereto from a house wiring system, and a resistance element connected in series with the incandescent wire, said resistance element being of greater electrical resistance than said incandescent wire so that the voltage drop across the same is much greater than that across the incandescent wire, said lighter member including an insulating body having a recess which opens through its inner end, and a unit removably mounted in said recess and carrying the resistance element, the incandescent wire and the terminals, said unit including a metallic casing having the resistance element and the incandescent wire disposed therein and insulated therefrom, the incandescent wire being disposed adjacent the bottom of the casing for heating the latter.

BENJAMIN T. JONES.

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