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J. H. HOMRIGHOUS

2,419,402

CIGARETTE LIGHTER

Original Filed May 16, 1939

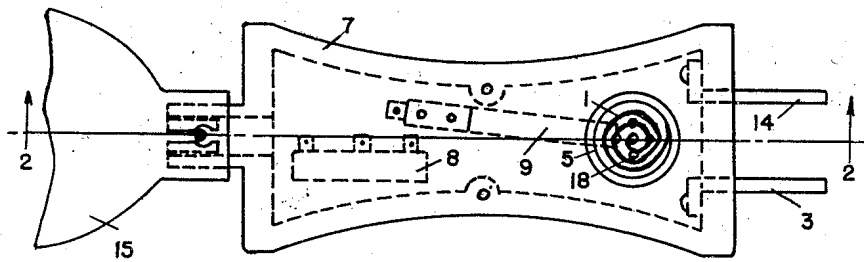


FIG 1

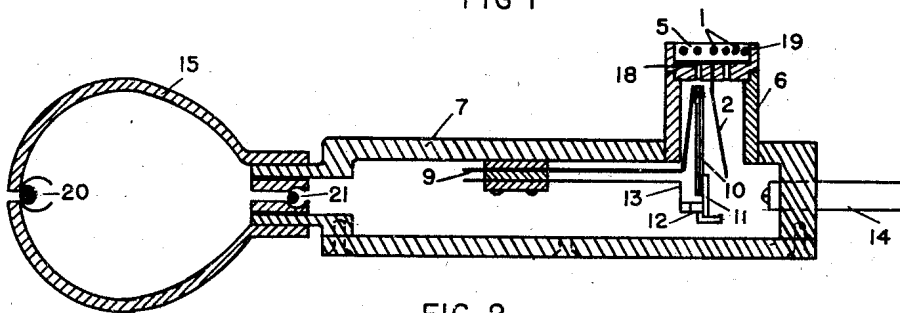


FIG 2

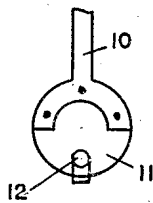


FIG 3

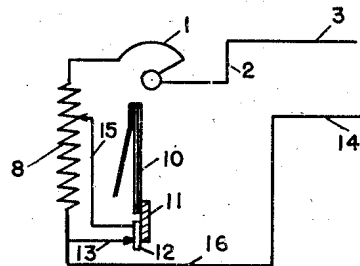


FIG 4

INVENTOR.

John H. Homrighous

UNITED STATES PATENT OFFICE

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CIGARETTE LIGHTER

John H. Homrighous, Oak Park, Ill.

Original application May 16, 1939, Serial No. 273,911. Divided and this application August 20, 1942, Serial No. 455,468

2 Claims. (Cl. 219—32)

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This application is a division of application Ser. No. 273,911, filed May 16, 1939.

This invention relates in general to electrical cigarette, cigar and pipe lighters and more in particular to devices of this character in which air is blown through the igniter unit to expedite combustion.

Several forms of electrically heated lighters have been devised; certain ones require the smoker to draw air through the cigarette while applying it to the igniter; other devices blow or draw the air through the cigarette from the time the igniter starts to heat until the cigarette is lighted.

Accordingly one of the main objects of my invention is to provide a simple and convenient lighting device wherein the igniter may be sufficiently heated to glow properly before applying the end of the cigarette and thereafter puffs of air may be forced onto the lighted end of the cigarette to light the same.

A further object of the invention is to provide a pass-around lighter having means for forcing air through the cigars, cigarettes, or pipe fulls of tobacco, when applied to the igniter.

It is a further object of the invention to provide a quick heating electrical lighter, which, upon reaching predetermined temperatures, will automatically reduce the current flowing through the heating element, which lighter is also provided with a standard size male plug, which may be used with the regular outlet receptacles in house lighting circuits.

Other objects and advantages of this invention will appear from the following detailed descriptions and by the claims appended thereto: reference being had to the accompanying drawings in which:

Figure 1 is a plan view of the pass-around lighter.

Figure 2 is a sectional view of lighter taken on line 2—2 of Figure 1.

Figure 3 is a detail of a part shown in Figure 2.

Figure 4 is a schematic of circuit used in the pass-around lighter shown in Figures 1 and 2.

The electric lighter shown in Figures 1 and 2 is adapted to be used on the common lighting circuits in a building and may be plugged into any receptacle or it may be made to fit any desired type of receptacle.

Referring to Figure 1, the heating element of resistance wire 1 is in the form of a helical coil with the center connected through conductor 2 to terminal 3, shown in Figure 4; the outer end of coil 1 is connected to the cup 5 which is

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secured in the end of tube 6, projecting from the top side of the handle or frame 7. The cup is preferably of a small diameter in order that it may be inserted into a pipe bowl.

Referring to Figure 2, inside the hollow housing or frame 7 is a resistance 8, also flat spring 9, extending upward into tube 6, and having riveted at its top a bimetal strip 10, which may extend across the top of the tube; secured to the lower end of the bimetal strip is a piece of insulating material carrying the contact point 12 shown in Figure 3. The contact spring 13 is connected by conductor 16 to the terminal 14, as shown in Figure 4. The handle is provided with an air tight cover and the terminals are sealed, forming an air chamber. The end of handle, farthest from the heating element, is equipped with an air pressure device or bulb 15 for forcing air through a cigarette or the tobacco in a pipe placed against the hot heating element to quickly ignite the same.

The operation of the pass-around lighter shown in Figures 1 and 2 is as follows: the terminals 3 and 14 are inserted into any convenient outlet, whereupon the heating element will become very hot and glow, and when a certain temperature is reached the bimetal spring will flex and open the circuit through contact 12 and spring 13. By referring to the schematic shown in Figure 4 the circuit may be traced as follows: terminal 3, conductor 2, heating element 1, a small portion of resistance 8, conductor 15, contact 12, spring 13, conductor 16, to the terminal 14. After a predetermined temperature is reached, the bimetal springs 10 open the contact 12 with the spring 13 and the heating element is included in series with the entire resistance 8, through conductor 16 to terminal 14, keeping the element hot, with less possibility of burning out, and also preventing an excessive arc, when pulling the lighter from the receptacle. Squeezing or pressing the bulb 15 forces air out through the apertures 18 in the heating element support 19. Air is forced out, but not permitted to re-enter through the apertures 18 by the action of valves 20 and 21. It will not be necessary to use forced air each time the lighter is used, but only at the pleasure of the operator.

I do not intend that the present invention shall be restricted to the arrangement of parts, or to the particular forms as herein set forth, but contemplate all modifications and changes therein within the terms of the appended claims.

Having thus described my invention, I claim:
1. In an electric cigarette lighter, a hollow air

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tight housing, a collapsible bulb disposed at one end of said housing and having an aperture communicating with the interior of the housing, an electric heating element mounted on a tubular member projecting from said housing and over apertures communicating with the interior of the housing, an energizing circuit for said heating element including a pair of male plug terminals secured to the opposite end of said housing and adapted to be inserted into a current supply receptacle, said circuit also including a bimetallic switch mounted on the inner walls of the housing and adapted to be flexed by heat from the heating element, a resistor mounted on the inner walls of said housing and inserted in series with said heating element by said switch when the heating element becomes heated to the desired heat and the switch is in open circuit position, said bulb adapted for hand compression to force a current of air through said apertures and a cigarette pressed against said heating element.

2. In an electric cigarette lighter comprising an air tight casing, an electric heating element mounted on said casing over apertures communicating with the interior of the casing, an energizing circuit for said heating element including male plug terminals secured to one end of said

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casing and adapted to be inserted into a current supply receptacle, a resistor arranged to be included in said circuit, said circuit also including a heat responsive switch mounted in close proximity to said heating element and under control of heat therefrom to cause its actuation, thereby including said resistor in series with said heating element to control the current through said heating element, and a hand collapsible rubber bulb disposed at the opposite end of said casing having an aperture communicating with the interior of said casing to force air through said apertures and a cigarette pressed against said heating element.

JOHN H. HOMRIGHOUS.

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