July 8, 1969 R. O. O'BRIEN 3,454,742

CIGARETTE LIGHTER

Filed May 10, 1967

FIG. 1

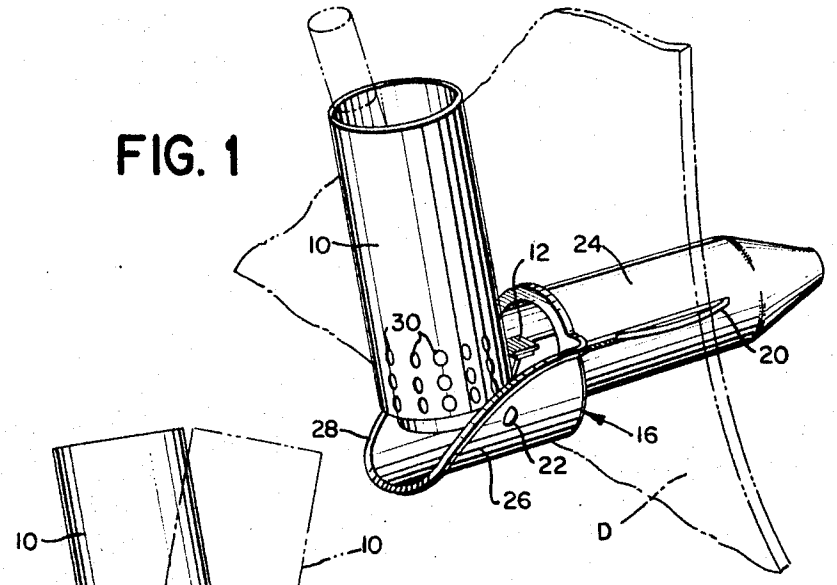


FIG. 2

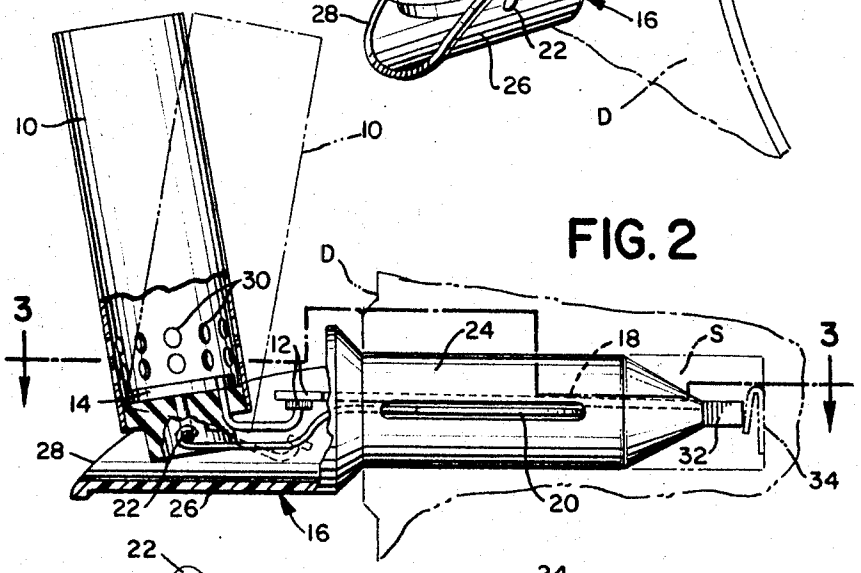
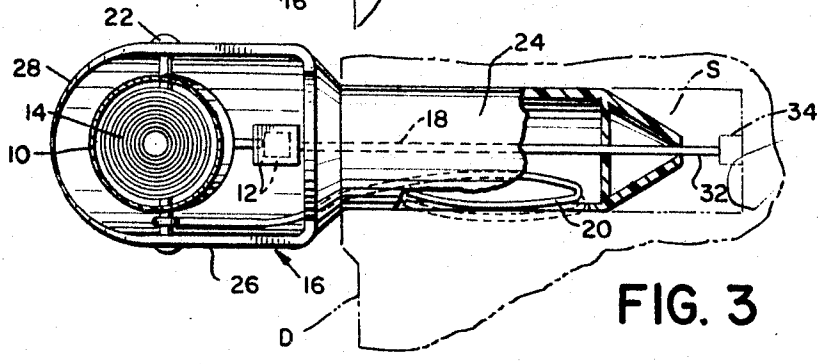


FIG. 3



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CIGARETTE LIGHTER

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ABSTRACT OF THE DISCLOSURE

This invention is concerned with providing an improved automobile dashboard cigarette lighter which can be energized and deenergized by simple movement of a chimney element of said lighter, in which the cigarette to be lighted is placed, back and forth using a mere fingertip touch, and without necessitating the removal of said lighter from said dashboard.

This invention relates to a motor vehicle cigarette lighter. More particularly this invention relates to a new and improved automobile dashboard cigarette lighter which can be plugged into any existing vehicular lighter socket.

It is indeed well known that the conventional "pop-out" automobile cigarette lighter, hereinafter referred to as "lighter," an accessory in the vast majority of cars and trucks today is an extremely hazardous device to use when the vehicle is in motion. Of necessity, either the driver removes his eyes from the road in order to light his cigarette or he waves the red-hot element around in his face until he finds the cigarette in his mouth. Often times the driver is burned by the element. It can be seen that this conventional lighter is and can be a major cause of traffic accidents. Considerable thought has been given by various people to the problem of improving the automobile dashboard cigarette lighter.

The use of more or less vertical chimneys has been tried in which the cigarette is lighted; however, these have had disadvantages in that either the circuit to the ligher has been completed at all times (i.e. "hot") or that some sort of pumping action has been necessary to simulate puffing.

It is, therefore, an object of this invention to provide an improved lighter that can be safely operated while the motor vehicle is in motion without the necessity of the driver taking his eyes off the road.

It is another important object to provide an improved lighter that can be very simply actuated to provide heat for the cigarette without the necessity of puffing action.

It is still a further important object to provide a lighter whose heating element will remain dormant until actuated for its intended use.

These and other objects will flow from and become apparent from the structures and combination of parts hereinafter more fully described with reference to the accompanying drawing in which:

FIG. 1 is a perspective view of the lighter, constructed according to the teaching of the invention, inserted into an auto lighter dashwell;

FIG. 2 is a side view of the improved lighter, constructed according to one embodiment of the invention and shows the lighter both in the actuated and dormant positions, with rear portion cut-away, as shown by cross-hatching.

FIG. 3 is a cross-sectional view of FIG. 2 taken along lines 3—3, and also shows a cut-away portion as denoted by cross-hatching.

Referring now to the figures of the drawing the lighter comprises a chimney element **10** piovtally engaged with a dashboard plug-in element **16**, whose forward portion **24** is shaped substantially to conform, to conventional

lighter socket S (phantom lines) present in most conventional motor vehicle dashboards.

For purposes of illustration, FIG. 1 depicts an automobile dashboard D (shown by phantom lines) with the entire device as it would appear, when inserted into a lighter socket (not shown) on said dashboard, with a cigarette (also shown by phnatom lines) resting therein.

The rear portion **26** of plug-in element **16** extends parallel to and is displaced downwardly from forward portion **24**, ending in a curved portion **28**, so curved to allow free movement of chimney element **10** around pin **22** so that said element **10** is pivotally engageable with said element **16**. The "hot" lead **18** extends rearwardly from hot center contact **32** through portion **24** to contact **12**. Another contact, also **12**, extends from resistance heating coil **14**. A ground wide **20** extends forward from pin **22** through portion **24**, being looped outside of said element **16** for part of the way, so as to ground at the inside rim of the dash socket S (as shown by phantom lines). The relaxed position for ground **20** is shown by dotted lines. When the chimney element **10** is normally tilted forward as denoted by phantom lines in FIG. 2, i.e. toward the dashboard D, the contacts **12** are open (as shown by dotted lines in FIG. 2) and the heating coil **14** is dormant or cold. When the driver wishes to light a cigarette, it is dropped vertically into chimney element **10**, and the latter is then tilted back with a light finger touch closing the contacts **12**. The cigarette is lighted automatically by the resistance heating coil **14** without the necessity of puffing. Holes **30** in said element **10** provide draft to aid in such lighting. Tracing the electrical circuit, we follow it from hot center contact **32** on power source **34** through "hot" lead **18** to make (and break) contact at contacts **12**, to coil **14**, thence down to pin **22**, from pin **22** to ground wire **20** sprung under pin **22** and grounded at the inside rim of the dash socket S. It is to be noted that the ground wire **20** is tempered and also serves to (a) hold the plug-in element **16** in the dash socket S and (b) to hold pin **22** under tension so it is held firmly in place. While said elements **10** and **16** may be any suitable size easily accommodated in conventional automobiles, or other vehicles, they are preferably about ½ to ¾ inch in diameter and about 2 inches long, respectively. While pin **22** pivotally engages said elements **10** and **16** so that the chimney element **10** is easily pushed forward or back, it is to be understood that the fit is snug enough so as to prevent jarring back and forth by bumpy roads or up (or down) grades, yet it is easily moved by the fingers without distracting the driver's attention whenever he wants to open or close contacts **12** by moving chimney element **10**.

The many advantages of the invention described above are readily seen. For example, the chimney is large enough so that it can be seen and operated by peripheral vision by a touch of the finger tips without distracting the driver's attention from the road. Another advantage is that in the event of an emergency calling for immediate action by the driver, he is not called upon to drive the vehicle with a hot lighter element in his hand. A still further advantage is that in the event of an emergency stop, the rapid deceleration of the motor vehicle will tend to throw the chimney element forward to the "off" position, de-energizing the circuit.

Having thus described the invention, what is claimed is:

1. A motor vehicle cigarette lighter comprising a chimney element and a plug-in element, said plug-in element having a forward portion shaped substantially to conform to a motor vehicle cigarette lighter socket, heating means located within said chimney means for lighting the tip of a cigarette resting on said heat means, first contact means and second contact means electrically connected to said heating means, said second contact means being mounted within said plug-in element and engageable with

electrical supply contact means of said cigarette lighter socket, third contact means electrically connected to said first contact means, said chimney element, said heating means and said first contact means being movable relative to said plug-in element and said third contact means between a first position wherein said first contact means is disengaged from said third contact means and said heating means is thereby de-energized and a second position wherein said first contact means is engaged with said third contact means and said heating means is thereby energized, wherein said chimney element is pivotally connected to said plug-in element and said chimney element is pivotally movable relative to said plug-in element from a first position wherein said heating means is de-energized to a second position wherein said chimney element is more remote from sad lighter socket and said heating means is energized.

2. A lighter according to claim 1, wherein said chimney element is provided with ventilating means to facilitate vertical air flow through said chimney element, thereby facilitating ignition of said cigarette tip.

3. A lighter according to claim 2, wherein said ventilating means comprises an array of perforations in said chimney element in the vicinity of said heating means.

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