

# PATENT SPECIFICATION

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## COMPLETE SPECIFICATION.

### Cigarette and Cigar Lighter.

I, ARCHIBALD WARREN DIACK, Chemical Engineer, of 15, Geddes Heights, Ann Arbor, State of Michigan, United States of America, a citizen of the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to cigarette and cigar lighters and particularly to automatic electric lighters.

It has been recognized by users of automobiles that any projection on the face of the instrument board was undesirable because of interfering with movement of driver and passenger. Also in the case of the ordinary types of cigar and cigarette lighters mounted thereon, the igniting element projects in front of the instrument board and is a definite source of danger as a short circuit may occur and cause the igniting element to become heated and its exposure on the front of the instrument board is liable to burn the person or the clothes of the passenger. Among the objects of the present invention therefor is the elimination of such projections and the placing of the igniting element behind the instrument board so that accidental contact therewith is substantially impossible.

Another object of the invention is a lighter that is simple, cheap and effective.

Another object is a lighter which, when used as an automobile accessory, requires the use of only one hand and does not distract the attention of the driver from the road.

Still other objects will readily appear to those skilled in the art upon reference to the following description and accompanying drawings, in which:—

Fig. 1 is a side view of the lighter mounted upon, for example, the instrument board of an automobile.

Fig. 2 is similar view showing a cigarette in position to be lighted and the parts in operating position.

Fig. 3 is a longitudinal section through the device.

Fig. 4 is a section on line 4—4 of Fig. 3, somewhat enlarged.

[Price 1/-]

Fig. 5 is a rear view of the device on the scale of Fig. 4. 55

Fig. 6 is a view similar to Fig. 2 showing a modified method of locating the device.

Fig. 7 is a view similar to Fig. 2 showing a slightly modified form. 60

As indicated in the drawings, the device comprises broadly a holder within which the cigar or cigarette may be thrust, a retaining means for holding the cigar or cigarette in position, and an igniter in the end of the holder with means for automatically completing an electric circuit through the igniter. 65

In the drawings, an automobile instrument board is represented at 20 and is shown as provided with an opening 21. Behind opening 21 is a short tubular holder 22, which may be closed at its rear end by suitable means such as cap 23. Within the rear end of holder 22 is a small piece of refractory insulating material 24 upon which is mounted a resistance heater element 25 facing toward the open end of the holder. Element 25 will be grounded at one end when the device is used on automobiles, and at its other end will be connected electrically to a contact member 26. It is preferred to make the latter of a piece of flexible conducting wire as shown for reasons to be given later. This contact preferably extends outward and is bent over at an angle as shown to provide a longitudinally extending portion. In the form shown, the wire 26 protrudes from the holder 22 through an opening 28. 70 75 80 85 90

This opening 28 is of considerable area and mounted in it is a wide flat spring member 30 preferably fixed to holder 22 at the forward end as at 31 in any suitable manner. I prefer to solder this spring member in position so that, should a short circuit occur, having this member 30 as a portion of such circuit, the solder will melt and open the circuit. Spring 30 is preferably bent in about the form shown to produce a curved portion 32 which in rest position lies near the opposite side of holder 22. Spring member 30 carries at its free end a small piece of insulating material 33 and this in turn carries a small metal conducting plate 34 connected 95 100 105

with a suitable source of electric current (not shown) by a flexible lead 35. It is preferred to make plate 34 rather wide and to curve inwardly the outer edge as shown at 36 in Fig. 4, so that it will always contact readily with wire 26 and the latter not readily shake off laterally. The electric circuit will, of course, be through lead 35, contacts 34 and 26, through element 25 to the ground or other return.

The operation of the device would seem obvious from the above and from the drawings. A cigarette 50, for example, is inserted in holder 22 to contact with element 25 and in so doing lifts spring 30 so as to bring contacts 34 and 26 together and thereby complete the circuit through element 25. The latter reaches kindling temperature and ignites the end of the cigarette 50 after a short interval.

Fig. 6 shows a form of the device which is the same as that of Figs. 1 and 2 except that it is mounted somewhat differently and the electrical connection is reversed. In this form the holder 22 extends downwardly instead of horizontally, and instead of leading in current to an insulated contact 34, the lead in is to a binding post 134 connected with the rear end of igniting element 25. In this case the post 134, element 25 and contact 26 are all insulated from holder 22, and the spring 132, being grounded at 31, forms the return lead. Otherwise the action of the device is the same as with the first forms.

Fig. 7 shows a form of the device for mounting in a table top 120 or portable holder, the active parts being identical with those of Figs. 1 to 6. In this form, of course, the return lead will be the usual flexible wire. This form of the device may, of course, be designed to use the usual house lighting current.

It will be understood that the angle at which the device is mounted is immaterial and may be changed to meet conditions of service.

As mentioned above, it is preferred to make contact member 26 of flexible material so that the movement of spring 30 will not be too restricted. With sufficient flexibility of member 26 and the proper size holder 22 the device may be made to accommodate either cigarettes or cigars, although primarily intended for the former.

Such access of air is provided for by forming the igniting element 25 in the

form of a fine coil as shown in the drawings and mounting it upon the face of the insulation 24. This arrangement allows air to pass up between and around the flights of the coil into contact with the heated combustible material of the cigar or cigarette. Also, when the device is applied to automobiles, the jarring of the machine automatically clears the ashes and carbonized particles from the heating unit.

Having now described the invention and the preferred forms of embodiment thereof, it is to be understood that the said invention is to be limited not to the specific details herein set forth and illustrated but only by the scope of the claims which follow.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A cigar or cigarette igniting device, comprising a cigar or cigarette retaining means, an electrical igniting element adapted to contact with one end of said cigar or cigarette when the latter is in igniting position, and means actuated by placing the cigar or cigarette in the device to close an electric circuit through said element and to open said circuit, upon withdrawal of said cigar or cigarette.

2. A device of the type specified in Claim 1, in which the retaining means is tubular with one end open and with the igniting element in the other end thereof.

3. A device according to Claim 2, in which the tubular retaining means is mounted in a suitable supporting wall with the open end substantially flush with said wall.

4. A device according to Claim 1, in which the igniting element permits free access of air to the end of a cigar or cigarette retained by said device.

5. An automatic electrical igniting device for cigars and cigarettes substantially as described and with reference to the accompanying drawings.

Dated this 19th day of January, 1928.

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[This Drawing is a reproduction of the Original on a reduced scale.]

