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[54] **ELECTRICAL DEVICE FOR LIGHTING CIGARS AND CIGARETTES**

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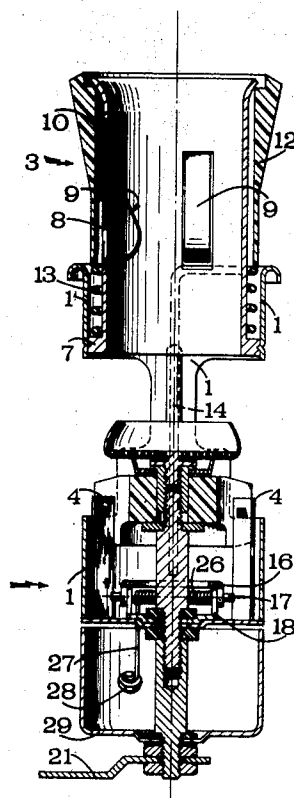
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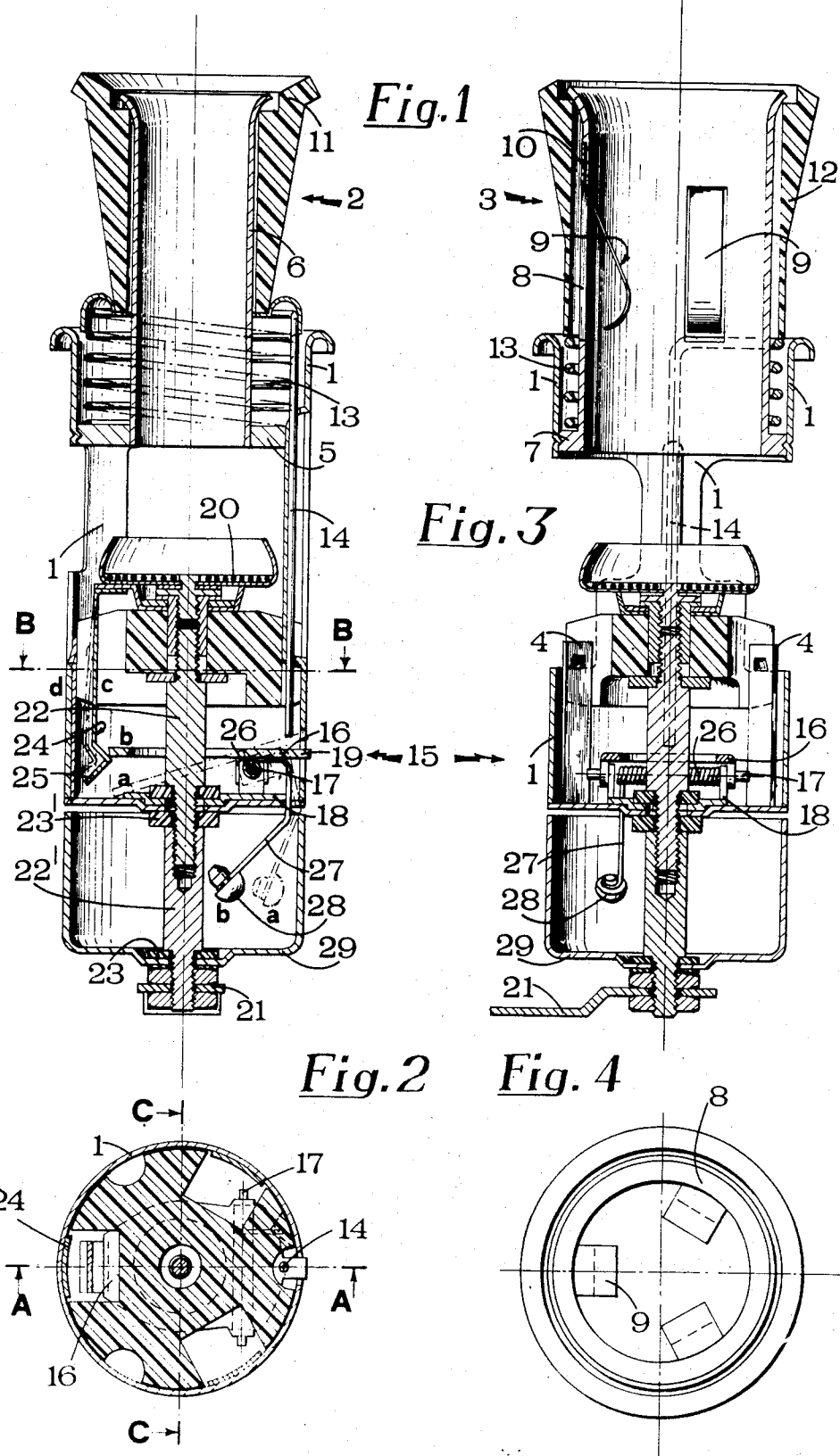
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[57] **ABSTRACT**

An electrical device for lighting cigars and cigarettes, particularly for mounting on the dashboard of motor vehicles, comprising a cylindrical casing, an electrical heating resistance mounted within the casing so as to be engaged by a cigarette or cigar when the latter is introduced into the casing to light it, switch means permitting the feeding of electric current to the heating resistance to make it red-hot, means for mounting the switch means within the casing, said switch means ensuring the automatic interruption of the feed circuit of the electric heating resistance when the cigarette or cigar has been lit, means for giving an audible indication of such interruption of the feed circuit, and an exchangeable holder at one end of the cylindrical casing for holding the cigar or cigarette to be lit.

12 Claims, 4 Drawing Figures





ELECTRICAL DEVICE FOR LIGHTING CIGARS AND CIGARETTES

This invention relates to an electrical device for lighting cigars and cigarettes, particularly for mounting on the dashboard of motor vehicles.

Such electrical devices for lighting cigars and cigarettes, for mounting on the dashboard of motor vehicles, are already known in the art. They are provided with an electric heating system in the form of an electrical heating resistance which is energized manually by the insertion of the cigar or cigarette in the device and is automatically abruptly de-energized when the heating element is red-hot. While the heating element is so de-energized a sound is emitted which indicates to the smoker, who may be the driver of the vehicle, that the cigar or cigarette has been lit.

It is an object of the present invention to provide further improvements to the single components of such a device to render its construction more simple and efficient.

One of such improvements relates to the holder in which the cigar or cigarette is inserted and which, as in the conventional holder, carries the manually operable control mechanism, but differs from the conventional holder in that it is exchangeable to permit the use of holders either for cigars or cigarettes with the same device containing the electrical heating resistance and the switch means.

According to another feature of the present invention the holder for holding cigars is internally provided with flat spring metal tongues for softly gripping and holding cigars of smaller than standard diameter or cigarettes, so that the same holder can be used for lighting both cigars and cigarettes.

According to a modification of such cigar holder, this possibility of lighting cigarettes in the cigar holder can also be achieved by inserting in the cigar holder a sleeve having an internal diameter permitting the insertion and retaining of a cigarette.

According to another feature of the present invention, the control knob on the holder, which serves to actuate the switch for energizing the electrical heating resistance, may be provided with a mark such as an annular disc of phosphorescent material which permits the device to be recognized and used also when it is dark.

According to another feature of the invention, the helical spring surrounding a sheath in the holder and serving to return the control knob to its initial position after its actuation for lighting a cigarette, has a straightened end extending longitudinally into the device and serving as a control rod for actuating the switch for energizing the electrical heating resistance. In the known devices this control rod forms a separate element acted upon by said helical spring.

A further improvement concerns the switch for energizing and de-energizing the electrical heating resistance. In a known device the movable member of this switch moves axially within the cylindrical casing of the device upon actuation of the control knob to close an electrical contact. According to the invention this switch has a flat electrical contact mounted in the manner of a first class lever for pivotal movement about a pivot pin and exerting a resistance on the control rod during the ignition of the device due to the ac-

tion of a conventional resilient bimetal tongue secured to the electrical heating resistance and urging against one end of the flat electrical contact, the useful force exerted by the operator on the control knob and transmitted through the aforementioned control rod to the other end of said flat electrical contact being further counteracted by the pressure exerted by a coil spring surrounding the pivot pin of the pivotally mounted electrical contact, which spring tends to hold said electrical contact open in its inoperative position.

As in the known device, the movable member of the switch will return abruptly to its inoperative position when it is released by said resilient bimetal tongue which will curve outwardly when it expands due to the heat produced by the electrical heating resistance when it becomes red-hot.

According to another feature of the invention the coil spring surrounding the pivot pin has an extended straightened end carrying a clapper or striker arranged to strike against a bell emitting a sound when the pivot pin and the coil spring surrounding it return to their initial position after the cigarette has been lit.

As the device is mounted on the dashboard of the vehicle and projects therefrom with its control knob and part of the cigar or cigarette holder, arrangements are made according to the invention to ensure that the device will be retracted into the recess accommodating it in the dashboard, in the case of a crash or violent shock of the vehicle. For this purpose the end of the cylindrical casing of the device, which projects from the dashboard, is detachable from the cylindrical casing by a pressure corresponding to the pressure which would be exerted on the control knob by the body of the person in front of it, in the case of an accident or crash.

For this purpose the projecting end of the cylindrical casing is preferably provided with a bent-round annular flange which, to make it detachable as described above, may have a circumferentially weakened portion by providing an annular groove therein, or may be secured to the cylindrical casing by welding only in some places around its circumference, or may be secured by some cramps.

A preferred embodiment of the invention will now be described by way of example and with reference to the accompanying drawing, in which:

FIG. 1 is a longitudinal section taken on the line A—A of FIG. 2 and showing a device for lighting cigarettes according to the invention;

FIG. 2 is a section taken on the line B—B of FIG. 1;

FIG. 3 is a longitudinal section taken on the line C—C of FIG. 2 and showing the device provided with a holder for insertion and lighting cigars as well as cigarettes, and

FIG. 4 is a schematic top plan view of FIG. 3, in which for greater clearness the electric heating resistance and other details have been omitted.

Referring now to FIG. 1, a cylindrical tubular casing 1 of the device according to the invention designed to be mounted on the dashboard of the motor vehicle (not shown) and carries a holder 2 for cigarettes only or a holder 3 (FIG. 3) for cigars as well as cigarettes, the casing 1 being the same for two types of holders which can thus be exchanged after the lower portion of the casing 1 has been brought into engagement with elastic strips 4 and coupled therewith.

The cylindrical casing 1 has secured therein a disc 5 supporting a cigarette holding tubular sheath 6 in the holder 2 in FIG. 1. In FIG. 3 the disc 7 is secured to a sheath 8 having a larger diameter than the sheath 6 as it serves to receive cigars. The sheath 8 is different from conventional constructions in that it is provided with three spring metal tongues 9 which are held by an elastic ring 10 and permit the holder 3 of FIG. 3 to be used both for cigars and cigarettes.

According to a modification, not shown, a conventional holder for holding cigars may also be used for holding cigarettes by inserting in the cigar holder a sleeve having an internal diameter permitting the insertion of a cigarette and retaining it.

The cylindrical casing 1 may be upwardly provided with a bent-round annular flange as shown in FIGS. 1 and 3. The outer edge of this bent-round annular flange may be provided inwardly or outwardly with projections to engage in recesses provided in an adjacent annular flange on the dashboard.

To make this bent-round annular flange detachable, it may be provided with a circumferentially weakened portion, by providing an annular groove therein, or it may be secured to the cylindrical casing 1 by welding only in some places around its circumference. or it may be secured to the cylindrical casing 1 by some cramps.

Knobs 11 and 12 are longitudinally slidably mounted around the sheaths 6 and 8 and are outwardly provided with a mark, preferably a ring of phosphorescent material (not shown) to permit the device to be recognized and used also when it is dark. The knobs 11 and 12 are intended to be manually actuated and when so actuated their translating movement will cause a compression of a helical spring 13 which with its opposite end bears against the disc 5 or 7, respectively. One end of the helical spring 13 is straightened and bent longitudinally to act as a control rod 14 for a thermostatic switch 15.

The thermostatic switch 15 comprises a flat electrical contact 16 mounted in the manner of a first class lever for pivotal movement about a pivot pin 17 supported by two lugs formed by cutting out and bending the material of a base plate 18. The contact 16 has an extension 19 engaged by the control rod 14 when the knob 11 or 12 is actuated manually during operation of the device. Such actuation will shift the flat electrical contact 16 from its inoperative position *a* to its operative position *b* to close the electric feed circuit for a conventional coiled electrical heating resistance 20 inserted between a plate 21 and a resilient bimetal tongue 24 with the interposition of metal supports 22 and 22' insulated by insulating washers 23. The free end of the bimetal tongue 24 is provided with a projecting portion 25 which is engaged by the ground contact 16 in the position *b*. When the electric circuit is energized the electric heating resistance 20 becomes red-hot so that a cigar or cigarette introduced into the holder 2 or 3 can be lit thereon. Simultaneously the bimetal tongue 24 is heated and will gradually pass from the position *c* to the position *d* thereby releasing the contact 16 which will abruptly return to its inoperative position *a* being pulled back by a coil spring 26 surrounding the pivot pin 17.

One end 27 of the coil spring 26 is straightened and carries a clapper or striker 28 which when the contact 16 returns to the position *a* will strike a bell 29 which

will emit the sound indicating that the cigarette has been lit.

Although a preferred embodiment of the invention has been described in detail herein and illustrated in the accompanying drawing, it is to be understood that the invention is not limited to this precise embodiment and that various changes and modifications may be effected therein without departing from the scope or spirit of the invention.

I claim:

1. An electrical device adapted for mounting on a dashboard of a motor vehicle for lighting smoking elements comprising cigars and cigarettes, said device comprising a cylindrical casing having an open end, an electrical resistance heating element mounted within the casing for engagement by said smoking elements, thermostatically operated switch means mounted within the casing for controlling the supply of current to said heating element, a holder mounted with a portion thereof within said open end of the casing, a movable control knob mounted on that portion of the holder extending outwardly of the open end of the casing, and a return spring mounted in relation to said knob for compression of said spring upon movement of said control knob from a normal to an operative position and for return of said knob to its normal position from its operative position upon release thereof, said spring having one end formed as an elongate control rod extending proximate a movable contact of said switch means, said knob upon movement to its operative position sufficiently compressing said spring to move said control rod directly into engagement with said movable contact of switch means for activation thereof.

2. A device as claimed in claim 1, wherein the inside of the holder is provided with spring means for softly gripping and holding smoking elements.

3. A device as claimed in claim 1, wherein the holder is internally provided with a tubular sheath of a diameter suitable to hold a cigarette.

4. A device as claimed in claim 1, wherein said control rod is slidably mounted in a suitable seat in said cylindrical casing and is arranged to act upon a pivotally mounted electrical contact of said thermostatic switch to close the electric circuit of said heating element.

5. A device as claimed in claim 1, wherein the control knob on said holder is outwardly provided with a mark of phosphorescent material permitting the device to be located and used also when it is dark.

6. A device as claimed in claim 1, wherein the heating element has secured thereto a resilient bimetal tongue and the thermostatic switch has a flat electrical contact mounted in the manner of a first class lever for pivotal movement about a pivot pin surrounded by a coil spring arranged to hold said flat electrical contact in the open or inoperative position, said resilient bimetal tongue being provided with a projecting portion adapted to be urged against and engage one end of said flat electrical contact, the other end of said flat electrical contact being engaged by said control rod when the thermostatic switch is actuated by the control knob against the pressure exerted by said resilient bimetal tongue and said coil spring.

7. A device as claimed in claim 6, wherein the resilient bimetal tongue is arranged to abruptly release

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said flat electrical contact to allow the latter to return to an inoperative position when the heating element is sufficiently hot, said abrupt release being caused by expansion and bending of the resilient bimetal tongue upon heating of said heating element.

8. A device as claimed in claim 6, wherein one end of said coil spring is straightened and carries a striker, said casing defining a bell housing portion surrounding the striker, the latter being arranged to be actuated as a function of the pivotal movement of said flat electrical contact when the latter is being released by said resilient bimetal tongue to give an audible signal related to the de-energization of said heating element.

9. A device as claimed in claim 1, wherein the cylindrical casing is provided at one end with a bent-round annular flange for mounting the device on the dashboard of a motor vehicle.

10. A device according to claim 11, wherein said cooperating means comprises a control knob and a return spring, said spring terminating in a rod-like section extending toward said switch means, said rod like section upon movement of said cooperating means into said operative position thereof engaging the pivotally mounted contact of said switch means.

11. An electrical device adapted for mounting on a dashboard of a motor vehicle for lighting smoking ele-

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ments comprising cigars and cigarettes, said device comprising a tubular casing having at least one open end, a tubular holder for said smoking elements extending into said casing open end and having a portion fixedly mounted in said casing, an electrical resistance heating element mounted within said casing for engagement by said smoking elements when carried by said holder, switch means within said casing for controlling the energization of said heating element and having a pivotally mounted contact biased into a first open current position from which it is movable into a closed current position in which it engages a fixedly mounted contact of said switch means, and manually operable cooperating means mounted about said holder for movement relative thereto between a normal outward and an operative inward position related to said open end of the casing, said cooperating means in said operative position thereof directly engaging said pivotally mounted contact for pivoting the same into engagement with said fixedly mounted contact.

12. A device according to claim 1, wherein means is included and carried by a movable contact of said switch means for providing an audible signal upon opening of said switch means after closure thereof by said control rod.

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