Jan. 22, 1935. R. SCHIAVULLI 1,989,064

CIGARETTE AND CIGAR LIGHTER

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Fig. 1.

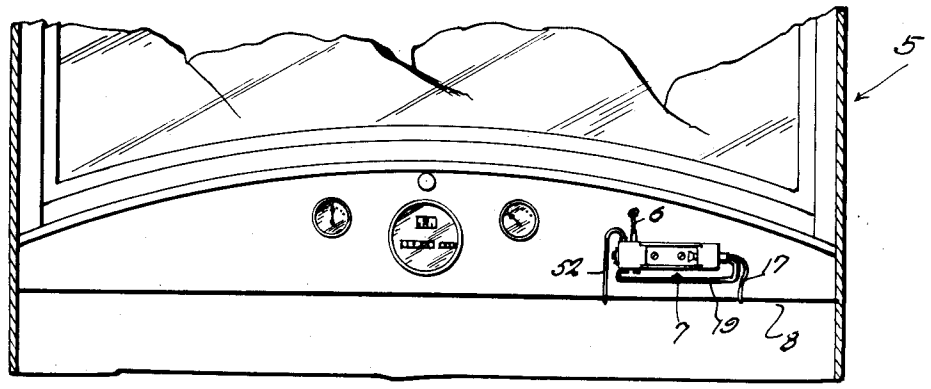


Fig. 2.

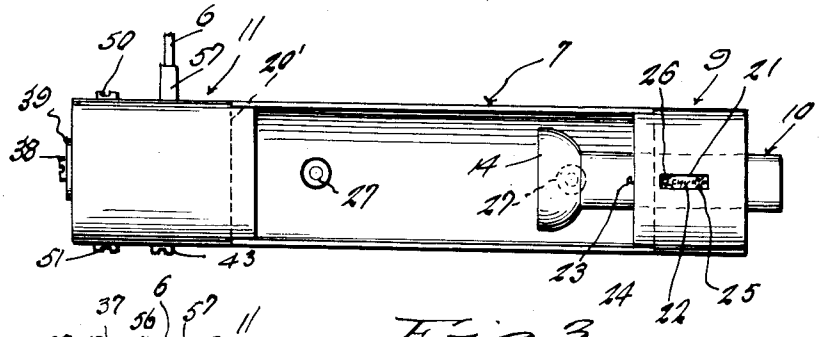


Fig. 3.

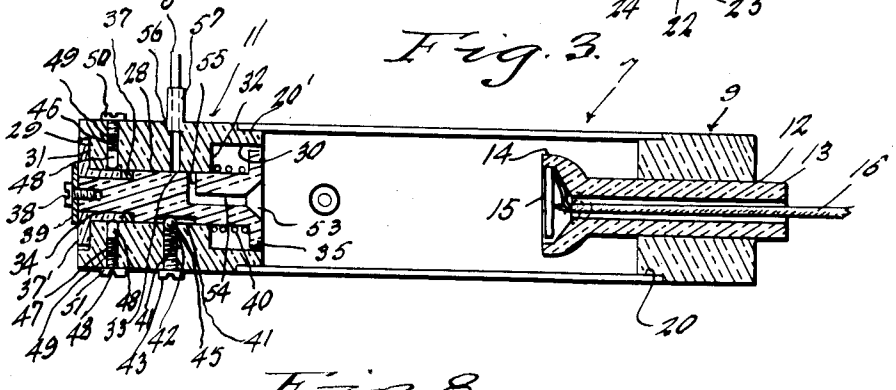
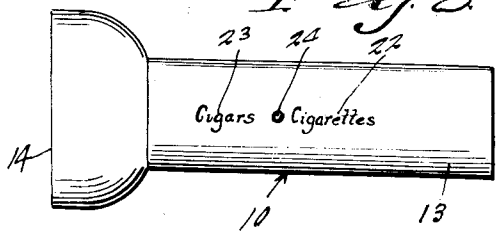


Fig. 8.



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Fig. 4.

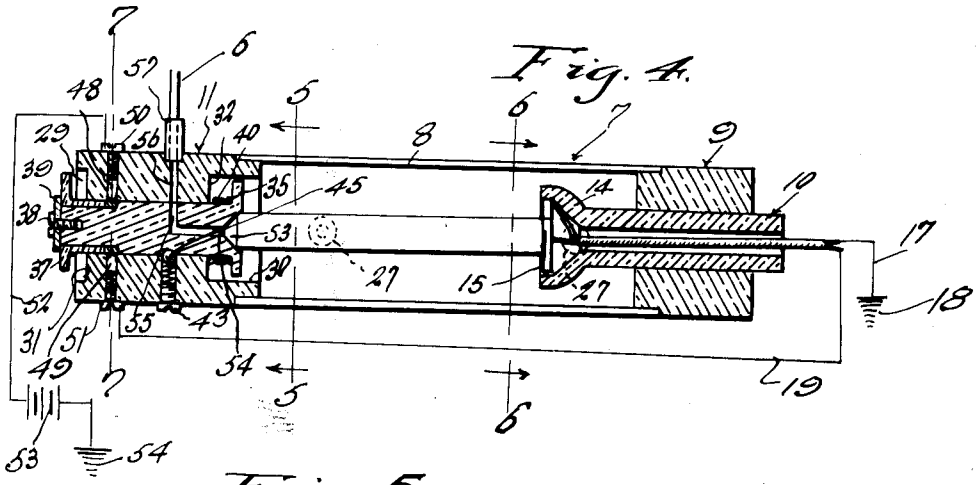


Fig. 5.

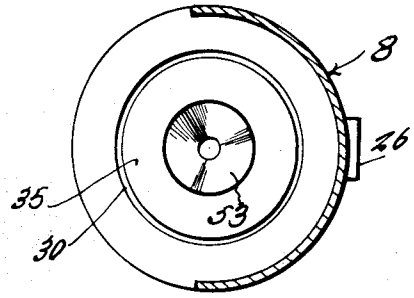


Fig. 6.

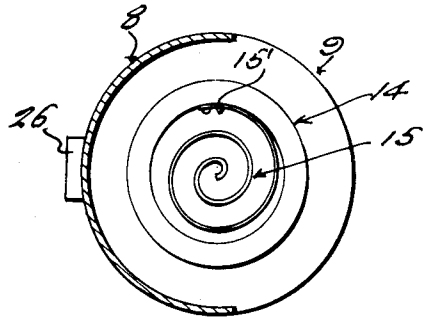
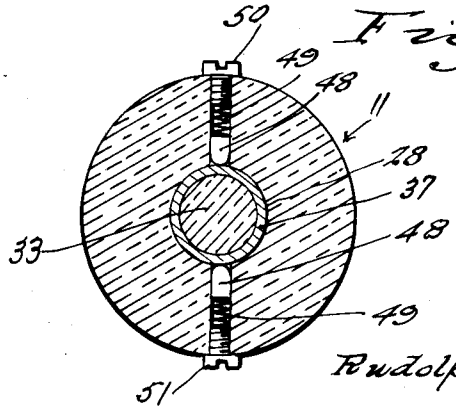


Fig. 7.



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UNITED STATES PATENT OFFICE

1,989,064

CIGARETTE AND CIGAR LIGHTER

Rudolph Schiavulli, Providence, R. I., assignor of twenty-five per cent to Ralph Di Luglio, Providence, R. I.

Application February 18, 1933, Serial No. 657,426

2 Claims. (Cl. 219—32)

My invention relates generally to electrical igniting devices, and particularly to an electrical cigar and cigarette lighter.

It is an important object of my invention to provide a lighter of the class described which enables sanitary lighting of cigars and cigarettes by a person other than the person for whom the cigars or cigarettes are intended.

It is also an important object of my invention to provide novel structure and arrangement of parts and unique operation in a device of this character, so that the lighting of a cigarette or cigar may be efficiently and easily accomplished with one hand, and which is automatic in operation once the cigar or cigarette has been applied thereto.

It is also an important object of my invention to provide means in a lighter of the type described which is adjustable to efficiently accommodate either a cigar or a cigarette.

It is also an important object of my invention to provide a device of the character described which is especially adapted for mounting upon a stationary support, such as the instrument panel of a motor vehicle.

Other objects and advantages of my invention will be apparent from a reading of the following description in connection with the drawings, wherein for purposes of illustration I have shown a preferred embodiment of my invention.

In the drawings:—

Figure 1 is a sectional view through the forward part of a motor vehicle showing an embodiment of the invention installed upon the instrument panel thereof.

Figure 2 is a front elevational view of the embodiment.

Figure 3 is a longitudinal vertical sectional view through Figure 2, showing the parts in inoperative relation.

Figure 4 is a longitudinal vertical sectional view through Figure 2 similar to Figure 3, but showing the operating parts in operative position.

Figure 5 is a transverse vertical sectional view through Figure 4 taken approximately on the line 5—5 looking in the direction of the arrows.

Figure 6 is a transverse vertical sectional view taken through Figure 4 approximately on the line 6—6 and looking in the direction of the arrows.

Figure 7 is a transverse vertical sectional view taken through Figure 4 approximately on the line 7—7.

Figure 8 is an elevational view of the igniter element.

Referring in detail to the drawings, the numeral 5 generally designates a part of a motor vehicle having the suction line 6 connected to the embodiment of the invention which is generally designated 7 and is mounted upon the instrument panel 8. Mounting of the embodiment of the invention upon any other stationary part of the vehicle is equally feasible. The mounting upon the instrument panel is chosen for illustration herein as demonstrating a mounting which affords an easily recognizable convenience to vehicle operators who smoke cigars or cigarettes.

The suction line may have suction communicated thereto by connection to the vehicle propelling means, such as the intake manifold of an internal combustion engine, but any means of supplying suction to the suction line 6 will satisfy the requirements of the invention. I do not claim the broad combination of the mounting of a cigarette or cigar lighter upon a motor vehicle and the energization or motivation thereof by agencies present in the motor vehicle, nor even the mounting of the igniter upon the instrument panel.

The embodiment of the invention generally designated 7 comprises the metal half cylinder 8, the dielectric block 9 in which is adjustably mounted the igniter unit 10, the dielectric block 11 in which is operatively mounted the circuit closing means and suction applying means, and the suction input means to be connected to the suction line 6, and the necessary electrical connections.

The dielectric block 9 is a cylindrical solid block having an axial bore 12 therethrough in which is slidably mounted a dielectric tube 13 having at its inward end a hollow hemispherical head 14. Within the head 14 is a spiral or other suitable type electrical igniter element 15 to which appropriate conductors contained within the conduit 16 are connected. One of the conductors, which is designated 17, is suitably grounded as indicated at 18 while the remaining conductor 19 is connected to the circuit closing means to be described.

The inward end of the block 9 has a semiannular groove 20 in which the adjacent end of the half cylindrical shell 7 is received for connecting the block 9 to the shell.

The outer side of the block 9 has an elongated opening 21 extending to the bore 12 which is arranged to expose the word "Cigarette" or "Cigar" designated 22, 23, respectively, which are arranged on the side of the tube 13 and exposed through the opening 21 according to the position of the igniter element in the block 9. Means for sliding the igniter element 10 in the block 9 com-

prises a pin 24 projecting from the side of the tube 13 and extending into the opening 22. Suitable lock means of any desired conventional type indicated at 25, and 26 may be provided in the opening 21 for catching and holding the pin 24 so as to maintain the igniter element, when it is adjusted by sliding it by means of the pin 24, in either the cigarette or the cigar igniting position.

For conveniently mounting the device on a supporting medium such as the instrument panel 8, the back of the shell 8 may be provided with a suitable block 26 which is traversed by a screw or bolt receiving opening 27 or a plurality thereof, enabling passing a bolt through the shell and the block 26 and securing the device in place.

The block 11 is, like the block 9, generally cylindrical in form and traversed by an axial bore 28 which has in its outward end a shallow communicating concentric recess 29 and at its inward end a deep concentric communicating recess 30. The recess 29 defines the shoulder 31, while the recess 30 defines the shoulder 32.

Slidable in the bore 28 is a dielectric rod 33 which has its outward end portion reduced in diameter as indicated at 34; and its inward end portion provided with a lateral flange 35 which is slightly smaller in diameter than the recess 30. The portion 34 of reduced diameter defines a shoulder 36 on the rod 33. On the reduced portion 34 and abutting the shoulder 36 is a conductor ring 37 which is of the same exterior diameter as the rod 33 or approximately the same.

For holding the conductor ring 37 in engagement with a shoulder 36 a flanged dielectric sleeve 37 is fitted on the reduced portion 34 of the dielectric rod 33. A screw 38 urges a washer 39 against the flanged end portion of the sleeve 37 through its engagement in a threaded opening in the outer end of the rod 33. The flange portion of the sleeve 37 works against the shoulder 31 in the outer end of the block 11. A coiled spring 40 circumposed about that portion of the rod 33 which is between the shoulder 32 and the flange 35 at the inner end thereof normally pulls the rod inwardly. The flange of the flanged sleeve 37 engages the shoulder 31 to limit the inward movement of the rod 33 under the influence of the spring 40.

For limiting and guiding the movement of the rod 33 in the block 11 there is provided a spring pressed ball detent 41 urged into the bore 28 by a spring 42 adjusted by a screw 43 threaded into a radial opening 44 through the block 11 and communicating with the bore 28. The rod 33 is provided with a recess or groove 45 into which approximately half of the ball detent 41 seats.

Diametrically opposite and aligned radial openings 46, 47 communicate with the bore 28 and in these openings are seated contact members 48 urged by springs 49 inwardly, the springs being adjusted by screws 50, 51 which also act as binding posts. The screw 51 acts to connect the conductor 19 from the igniter element, while the screw 50 is used to connect conductor 52 which leads through the battery 53 to the ground 54. When the rod 33 is pushed outwardly sufficiently to bring the conductor ring 37 into engagement with the contact elements 48, a circuit will be completed through the ground 18 to the igniter element 15, through the conductor 19 and through the conductor ring 37 and the contact elements 48 to the battery 53 and return through the ground 54.

The inward end of the rod 33 is provided with a concentric conical opening 53 which is in communication with a short, axial passage 54 which has a lateral branch 55 communicating through the side of the rod 33, in such a position that when the rod 33 is pushed outwardly so that the conductor ring 37 is engaged by the contact elements, the branch 55 of the passage 54 will be in communication with the inward end of the radial suction passage 56 which is formed through the block 11. A tube connector 57 is set into the side of the block 11 in communication with the suction passage 56 for connecting the suction tube 6.

When the igniter unit 10 has been adjusted to such a position that the word "Cigarette" is exposed through the opening 21 in the block 9, it is necessary to move the rod 33 outwardly in order to get an unused cigarette in end to end relationship between the igniter element 15 and the inner end of the rod 33. The placing of a cigarette in such relationship brings into action the spring 40 which holds the cigarette in position between the igniter 15 and the inner end of the rod 33, the rod 33 being pushed sufficiently outwardly to bring into engagement the conductor ring 37 and the contact elements 48, and communication between the branch 55 and the suction passage 56, so that ignition of the igniter element 15 is simultaneous with the application of suction to the opposite end of the cigarette, whereby lighting of the cigarette is quickly accomplished. The spring 40 will be adjusted so that only a light push, such as could be exerted without imposing too much pressure upon a cigarette, will be sufficient to operate the circuit closing and suction applying movement of the rod 33.

A similar relationship of a cigar to the igniter 15 and the inner end of the rod 33 is accomplished when the igniter element sliding pin 24 is pushed to the outward end of the opening 21, so that a cigar may be quickly and easily lighted and made ready for smoking simply by placing the cigar in the stated relationship and withdrawing the same therefrom.

Although I have shown and described herein a preferred embodiment of my invention, it is to be definitely understood that I do not desire to limit the application of the invention thereto, and any change or changes may be made in material and structure and arrangement of parts, within the spirit of the invention and the scope of the subjoined claims.

It will be observed that the spring, pressing the ball detent 41 acts also to push the rod 33 against the opposite side of the bore 28, so as to more surely close the inner end of the suction passage 56 when the rod is in the inoperative position, and to more surely communicate and prevent the escape of suction outside of the suction passage 56 and the branch 55, when the rod 33 is in the operative position.

What is claimed is:—

1. A cigarette lighter of the type described consisting of a normally stationary igniter, a slidable member supported in axial alignment with said igniter, spring means supported adjacent to and engaging said slidable member and normally urging said member toward said igniter, said member being provided with a suction passage opening at one end at the inward end of said member and at its opposite end through the side of said member, a body slidably supporting said member and provided with a second suction passage registrable with the side opening of the first men-

tioned suction passage only while said member is outwardly pressed by a cigarette disposed axially between said igniter and the inner end of said member whereby the cigarette is held in position by the spring tension of said member and suction applied to the outer end thereof.

2. A cigarette lighter of the type described consisting of a normally stationary igniter, a slidable member supported in axial alignment with said igniter, spring means supported adjacent to and engaging said slidable member and normally urging said member toward said igniter, said member being provided with a suction passage opening at one end at the inward end of said member and at its opposite end through the side of said member, a body slidably supporting said member and provided with a second suction passage registrable with the side opening of the first mentioned suction passage only while said member is outwardly pressed by a cigarette disposed axially between said igniter and the inner end of said member whereby the cigarette is held in position by the spring tension of said member and suction applied to the outer end thereof, and electrical contact means carried by said member and engageable with other contact means on said body only while the cigarette is held by and between the igniter and the inner end of said member, whereby said igniter is energized only while suction is being applied to the outer end of the cigarette.

RUDOLPH SCHIAVULLI.