United States Patent [19]

Senkewich

[11] **3,769,492**

[45] **Oct. 30, 1973**

[54] **AUTOMOBILE CIGARETTE CASE WITH AN AUTOMATIC ELECTRICAL LIGHTER**

[76] Inventor: **Alexander M. Senkewich**, New York, N.Y.

[22] Filed: **Aug. 29, 1972**

[21] Appl. No.: **283,266**

[52] **U.S. Cl.** **219/262**, 219/261, 219/267, 219/269

[51] **Int. Cl.** **F23q 7/00**

[58] **Field of Search** ..... 219/261, 262, 267, 219/269; 200/165, 61.41, 33 A

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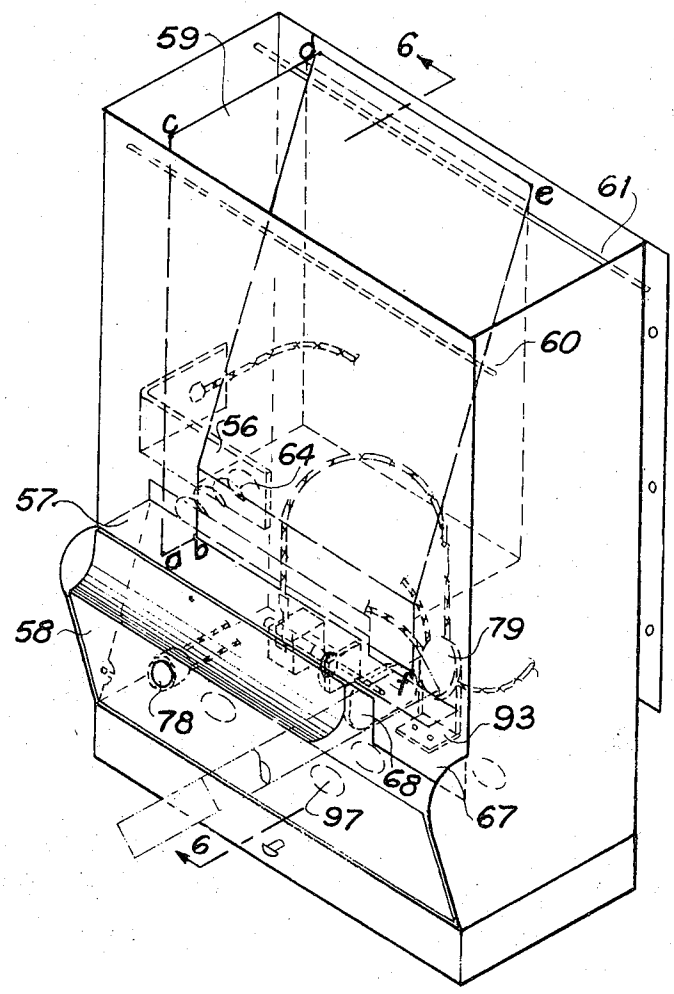
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Primary Examiner—Volodymyr Y. Mayewsky
Attorney—James M. Heilman

[57] **ABSTRACT**

An automatic cigarette lighter for use on automobiles including a storage case for cigarettes, an electrical heater for lighting the end of a cigarette, and circuit means for operating the lighter which are immune to mechanical vibration and centrifugal force.

3 Claims, 32 Drawing Figures



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SHEET 1 OF 3

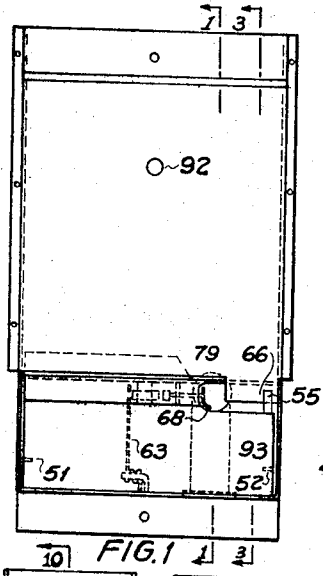


FIG. 1

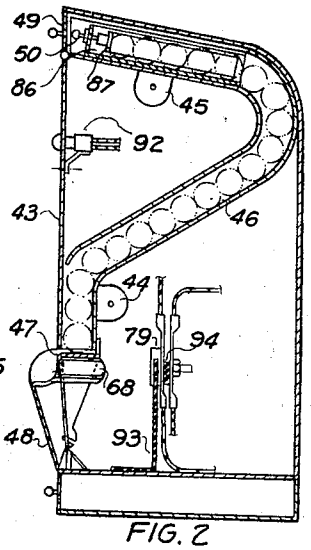


FIG. 2

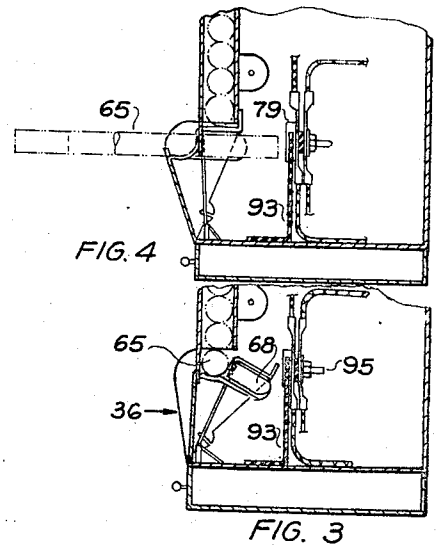
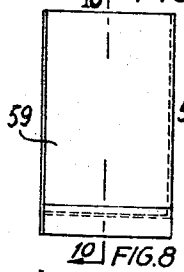


FIG. 3

FIG. 4



10 FIG. 8

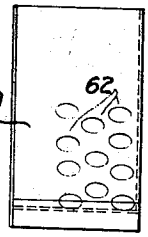


FIG. 11

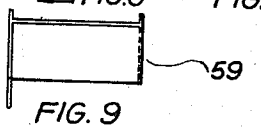


FIG. 9

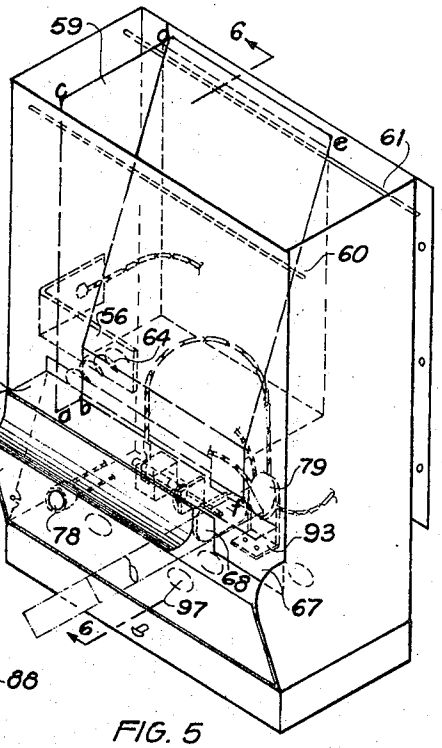


FIG. 5

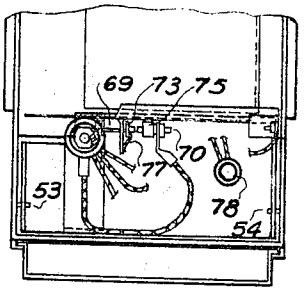


FIG. 7

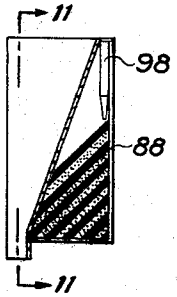


FIG. 10

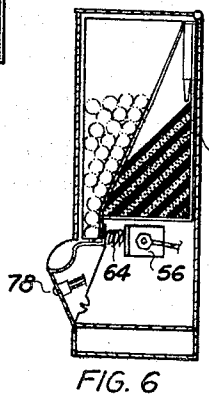


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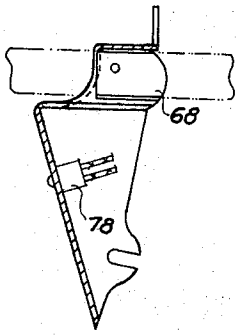


FIG. 14

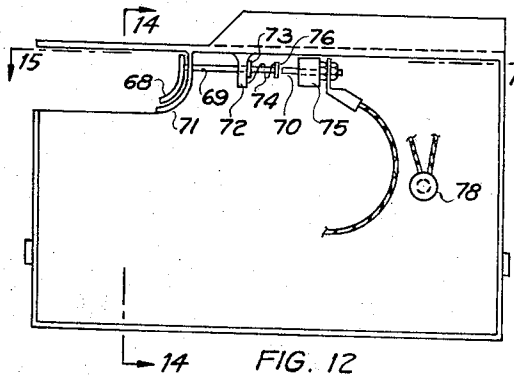


FIG. 12

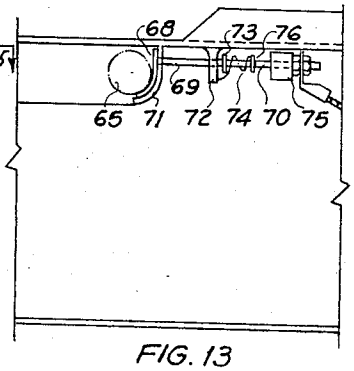


FIG. 13

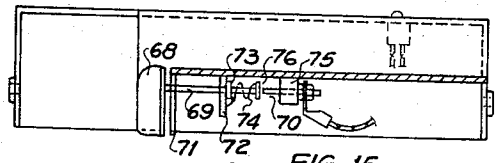


FIG. 15

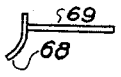


FIG. 16



FIG. 17

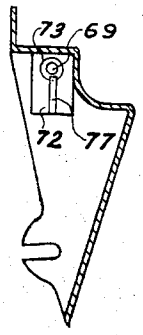


FIG. 20

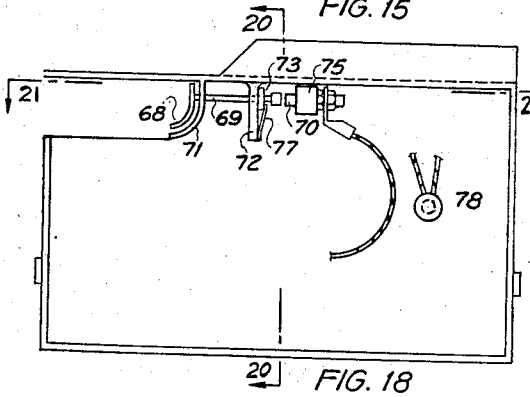


FIG. 18

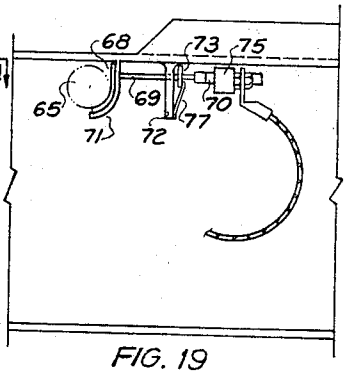


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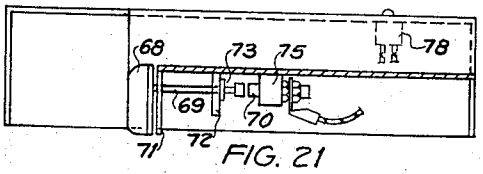


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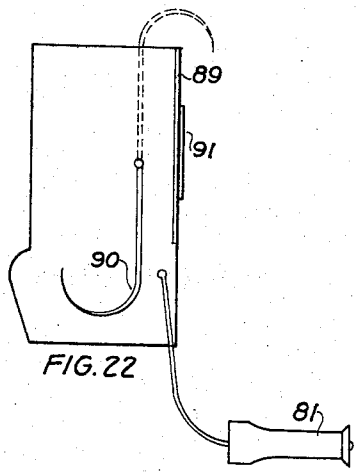


FIG. 22

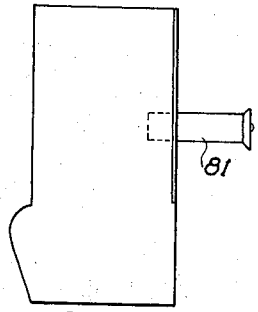


FIG. 23

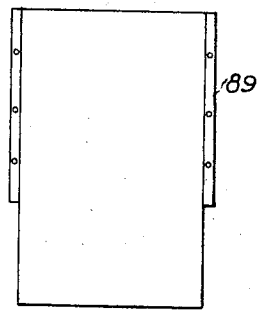


FIG. 24

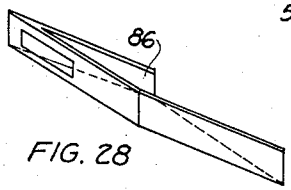


FIG. 28

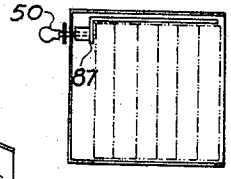


FIG. 31

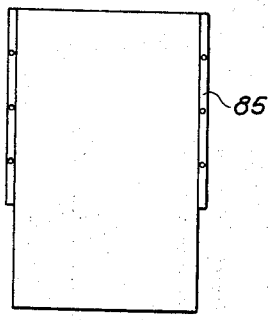


FIG. 25

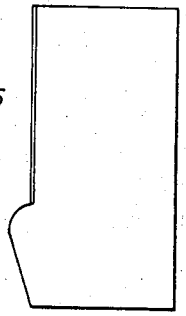


FIG. 26

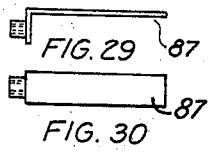


FIG. 29

FIG. 30

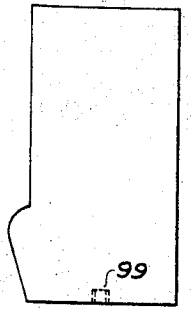


FIG. 27

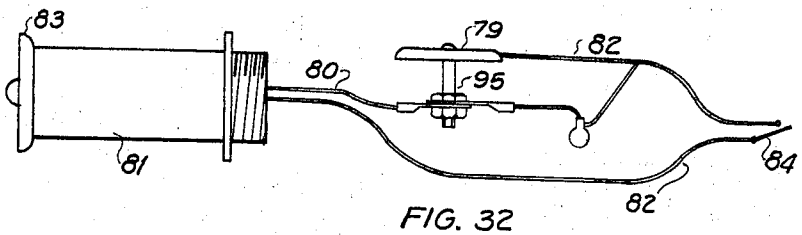


FIG. 32

AUTOMOBILE CIGARETTE CASE WITH AN AUTOMATIC ELECTRICAL LIGHTER

CROSS REFERENCE TO RELATED APPLICATIONS

This application is for an improvement on a prior application, Ser. No. 622,662, filed Mar. 13, 1967, now abandoned, and application Ser. No. 153,267, filed June 15, 1971, now U.S. Pat. No. 3,705,414, issued Dec. 5, 1972.

In these days many unhappy situations occur on the roadways by the fault of the driver who wants to smoke a cigarette. The driver has to look for the pack of cigarettes, then take out one, and get the existing electric lighter to light his cigarette and then put the cigarette lighter back in its place.

In this process of lighting a cigarette, the driver loses his attention from the road and creates a dangerous situation for himself, his passengers and other motorists on the road. The proposed type of cigarette case, with an automatic cigarette lighter, has a general purpose — for a driver who smokes cigarettes, it creates such conditions, in which he will not lose his attention from the road while driving and lighting a cigarette.

The proposed cigarette case contains 20 cigarettes. This cigarette case can be fixed on any convenient place for the driver. The driver who wants to smoke a cigarette has to make only two moves. The first move — to push at any place on the plate, which is on the moving part of the cigarette case. The second move — to take out automatically a lighted cigarette. Thus, the use of this type of cigarette case in automobiles gives some advantage of driving safety.

I propose two types of cigarette cases. In the first type, all cigarettes slide from their loading place down the slope of a channel, which is the inner part of the cigarette case. In the second type of cigarette case, the cigarettes are laid in a bunch, and only a few cigarettes, one after the other, move down to the exit of the cigarette case.

BRIEF SUMMARY OF THE INVENTION

The invention includes a cigarette case and automatic lighter for delivering a lighted cigarette to an operator and comprises a container for housing all the cigarettes, spaced sheets forming an enclosure within the housing, and a rockable plate which normally closes the bottom opening of the enclosure. A trough is positioned in front of the plate for receiving a single cigarette when the plate is moved away from the channel, and a mechanical stop is arranged for rotating the cigarette when the trough and plate are normalized. One end of the cigarette is lighted by means of an electrical heater mounted adjacent to the rockable plate, current being supplied to the heater through an electric switch and an external source of power. A signal lamp is connected in parellel with the heater for indicating when voltage is applied to the heater and a spring operated rod is coupled to the rockable plate for turning the switch on or off. A movable plate is mounted inside the box for accommodating cigarettes of differing lengths and an ashtry is secured to the bottom of the container.

DRAWINGS

FIG. 1. Front view of the cigarette case of the first variation.

FIG. 2. Vertical section of the same taken along line 2—2 in FIG. 1.

FIG. 3. Vertical section of the same taken along line 3—3 in FIG. 1. It is shown only the lower half of the section, in case when it is pushed by finger on the moving part of the cigarette case (it is shown by arrow 36) for receiving the cigarette.

FIG. 4. The same lower half of the section of the cigarette case that is in FIG. 3. But the moving part of the cigarette case has its former position FIG. 2, and the cigarette is in contact with the cigarette lighter.

FIG. 5. Perspective view of the cigarette case of the second variation.

FIG. 6. Vertical section of the same taken along line 6—6 in FIG. 5.

FIG. 7. Rear view of the same but without the rear wall.

FIG. 8. Front view of the adjuster of the length of the cigarette in the second type of cigarette case.

FIG. 9. Top view of the same.

FIG. 10. Vertical section of the same taken along line 10—10 in FIG. 8.

FIG. 11. Vertical section of the same taken along line 11—11 in FIG. 10.

FIG. 12. Rear view of the moving part of the cigarette case. Points here are in OFF position.

FIG. 13. Same, but points here are in ON position.

FIG. 14. Vertical section of the same taken along line 14—14 in FIG. 12.

FIG. 15. Horizontal section of the same taken along line 15—15 in FIG. 12.

FIG. 16. Side view of the moving plate with the rod of the electric contact.

FIG. 17. Front view of the same.

FIG. 18. The same as in FIG. 12. The only difference consists in the contact springs.

FIG. 19. Same as in FIG. 13. The only difference consists in the contact springs.

FIG. 20. Vertical section of the same taken along line 20—20 in FIG. 18.

FIG. 21. Horizontal section of the same taken along line 21—21 in FIG. 18.

FIG. 22. Side view of the cigarette case with plug contact, which is fixed to the flexible wire.

FIG. 23. Side view of the cigarette case, where the plug contact is fixed to the rear wall of the cigarette case.

FIG. 24. Rear view of the same.

FIG. 25. Front view of the cigarette case, which is fixed to the dashboard with front flanges.

FIG. 26. Side view of the same.

FIG. 27. Side view of the cigarette case, which is fixed to the ashtray for use in the house.

FIG. 28. Perspective view only of the box in which moves a plate which regulates the length of the cigarette.

FIG. 29. Side view of the plate which regulates the length of the cigarette.

FIG. 30. Top view of the same.

FIG. 31. Top view of the box with the plate, which regulates the length of the cigarette.

FIG. 32. Electrical scheme of the cigarette case.

DESCRIPTION

FIGS. 1 and 2 show the first type of cigarette case with a channel. This channel has a sliding slope on which the cigarettes move down one after the other.

The bottom of the channel is open, but the cigarettes are held by plate 47 of the moving part 48 of the front part of the cigarette case. The end of plate 47 is bent up and this bent part will serve as the stop for the moving details 48 or 58, when it will return to its original position.

To fill the cigarette case with cigarettes, the top door 49 is opened, and container 86 is removed. A plate 87 which regulates the length of the loaded cigarettes is positioned within container 86. After the cigarettes are loaded, plate 87 is adjusted to the length of the cigarettes, and secured to the container 86 with screw 50.

Flg. 5 is a perspective view of the cigarette case of the second type. In this type of cigarette case, the cigarettes are laid in a bunch, and only a few cigarettes at a time move down to the exit of the cigarette case one after the other.

The lowest cigarette lies on plate 57 of moving part 58 of the front part of the cigarette case (FIG. 5) as in the first variation. Inside the box of the cigarette case (FIG. 5), there is an enclosure 59 of the length of the cigarettes. This movable part 59 has two walls. The side wall (*a–b–c–d*) and the rear wall (*b–d–e–f*). The cigarettes are stored in between tbe rear wall of the enclosure and the front wall of the cigarette case. This enclosure 59 is secured to two thin bars 60, 61. The side wall of this enclosure limits the length of the cigarettes. Because of this, the cigarette case can be filled with cigarettes of different lengths. The rear wall of the enclosure is inclined as shown in FIG. 6. This gives the chance to move the cigarettes at the exit one by one. This enclosure has also another function. The rear wall is double; in between these walls there is stored a sponge 88, which absorbs water. From time to time this sponge is wetted with dropper 98. When the cigarettes close to the electric heater will get dry, the humidity in the sponge will vaporize, and the vapor will enter through holes 62 to give humidity to the tabacco in the cigarettes.

The front part of both variations of the cigarette case has a rockable member (48 for first variation and 58 for second variation). The upper part of the member is meant for the receiving of cigarettes; and for that purpose, it has a corresponding configuration. When the member 48–58 is pressed at any point (arrow 36, FIG. 3), it turns around shafts 51, 52 or 53, 54 on several angles and is held by stop 55 or 56. At that time, the rockable member takes the position as shown in FIG. 3. Plate 47 or 57 also moves, and cigarette 65 falls down on the oval surface of the member. When the finger is removed from the pressed part, then member 48 takes its original position (FIG. 4) with the help of spring 63 or 64. On the way back the member 48 with cigarette 65 to its original position, the short end of the cigarette meets stop 66 or 67 fixed to the body of the cigarette case. Around this stop, as around a fulcrum, the cigarette starts turning.

At the time of the turning of the cigarette, its short end will press on the end of moving plate 68, which through contact rod 69 will be in contact with contact bar 70 (FIGS. 13, 19). At this time, electric lighter 79 and signal lamp 78 are lighted automatically. In a few seconds it will be possible to take out the lighted cigarette. When the cigarette is taken out, then spring 74 or 77 will cut off the current (FIGS. 12, 18). In FIGS. 12, 13 and 15 side views of the moving parts of the cigarette case are shown. These springs return the contact bars from position ON to the position OFF.

Contact bar 69 is fixed to moving plate 68 and it moves freely through two brackets 71, 72. The second contact bar 70 is screwed to insulator block 75. Spring 74 is fastened to bracket 72 at one end and with the other end fastened to washer 76.

FIGS. 18 and 19 illustrate the operation of flat spring 77. The one end of this spring 77 is fixed to bracket 72, and the other end is fixed to washer 73. FIGS. 12, 15, 18 and 21 show the contacts in the position OFF; FIGS. 13 and 19 the contacts in the position ON. When the contacts are in the position ON, not only the electric lighter is lighted but also signal lamp 78 and 92.

For fastening the cigarette case on the automobile, the following is proposed. On the production lines, the cigarette case will be fastened on the automobiles the same way as the radio, the electric clock, etc. For this purpose, on the dashboard of the automobile a hole is cut, the required size of the cigarette case; the case is inserted and is fastened with flanges 85 to the dashboard. For the old automobiles, the fastening of the cigarette case can be done by other ways. From the electrical scheme shown in FIG. 32 it is evident that plug 81 is the same as is used at the present time in the automobile with electric lighter. In this plug 81, the only thing that is absent is the heat spiral, but ring 83 is left on the plug. The heat spiral is moved to position 79. In this case, if this plug 83 is put in the same socket where it is put now, the electric current passes along two wires. With one wire 80, the electric current will go to the center of lighter 81; and with the other wire 82, the electric current, through switch 84, will pass to the ring of lighter 79. Here pilot lamp 78 is parallel connected. Plug 81 can be on a flexible wire, then the cigarette case can be fastened in any place, either with hook 90, or with magnet 81, which is fastened to the rear wall of the cigarette case or with flanges 89 (FIG. 22). Plug 81 can be fastened on the rear wall of the cigarette case. In this case plug 81 is put in the socket which exists in every automobile for lighter. For more convenience, in the last case, the cigarette case can be fastened with one of the above mentioned methods.

At the bottom of the cigarette case is shown block 99 with thread (FIG. 27) by which this cigarette case can be fastened with screws to the room ashtray for use at home.

ELECTRIC LIGHTER

The fastening of the electric lighter is seen clearly from FIGS. 2, 3, 4, and 7. Electric lighter 79 is fastened on the insulating support 93. To the ring of electric lighter 79 is connected wire 82. On the axle of the electric lighter is put on insulating washer 24 and to the axle 95 is connected wire 80.

ASHTRAY

On the bottom of the cigarette case, there is built-in moving ashtray 96. This ashtray is used to collect ashes during smoking; but in it, through holes 98 in the bottom of the cigarette case, will fall also the ashes which are collected near the electric lighter.

I claim:

1. A cigarette case and automatic lighter for delivering a lighted cigarette to an operator comprising a container for housing all the operating components; a movable enclosure inside the container comprising two

walls for accommodating the cigarettes according to their lengths and forming a channel at the bottom thereof; a rockable plate normally closing the bottom opening of said channel and resiliently urged to remain in that position; a trough positioned in front of said plate for receiving a single cigarette when the plate is manually moved away from the channel opening; a stop secured to a portion of the container and extending to one end of said trough for rotating the cigarette about a substantially vertical axis when the trough and the rockable plate are normalized; an electric heater coil mounted adjacent to said rockable plate for lighting the end of the cigarette that remains in a vertical axis within the container; an electric switch connected in series between the electric heater coil and a source of electric power for supplying current to the heater coil; a signal lamp connected in parallel with the connection to the heater coil; a resiliently operated rod coupled to the plate formed with an oval portion for contact with the cigarette when in its rotated position; said rod for turning the switch on to light the cigarette is manually removed from the container; a wet sponge in between the rear wall of the container and the enclosure; a pair of bars along which said enclosure moves; and a stop with a spring which returns said rockable plate carrying a cigarette from the cigarette case.

2. A device as claimed in claim **1** wherein the said cigarette case includes an enclosure where the cigarettes are laid in a bunch.

3. A device as claimed in claim **1** wherein is a piece of wet sponge, which is wetted with a dropper.

* * * * *