

July 4, 1950

R. D. LLOYD
CIGARETTE LIGHTER

2,513,500

Filed Jan. 7, 1948

3 Sheets-Sheet 2

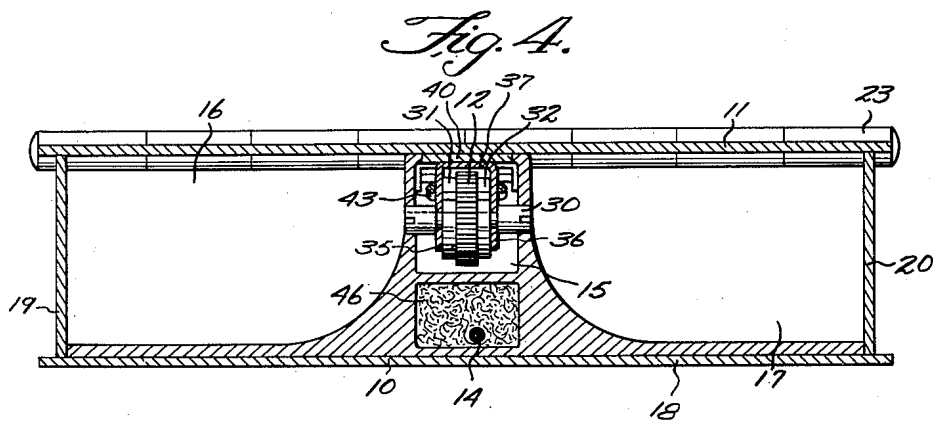


Fig. 5.

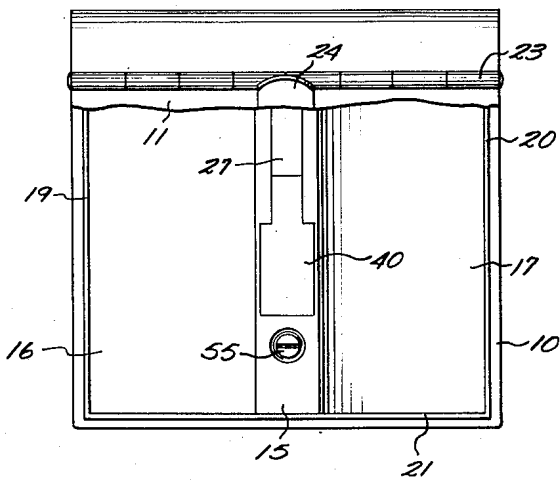


Fig. 6.

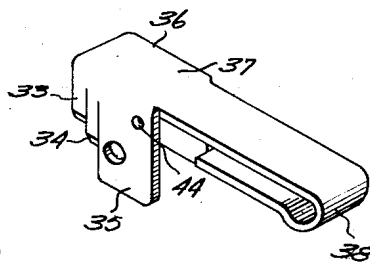


Fig. 7.

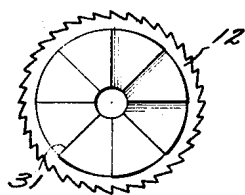
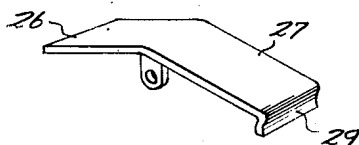


Fig. 8.



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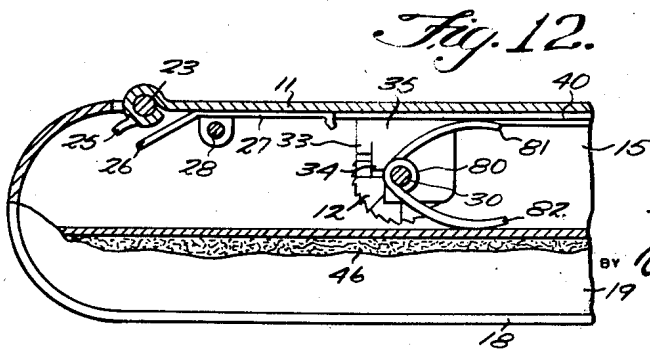
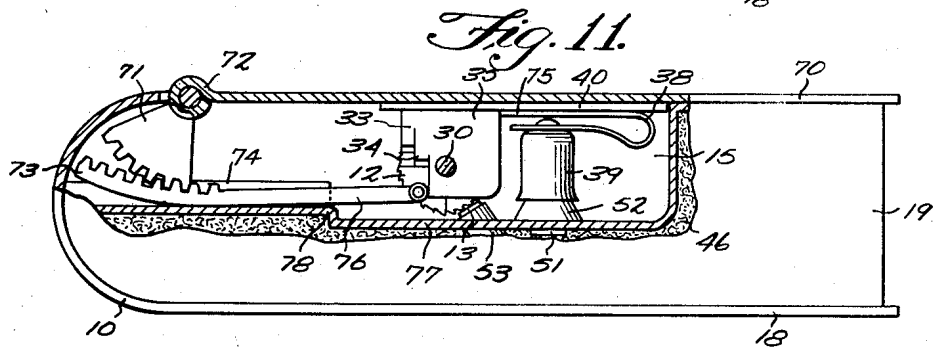
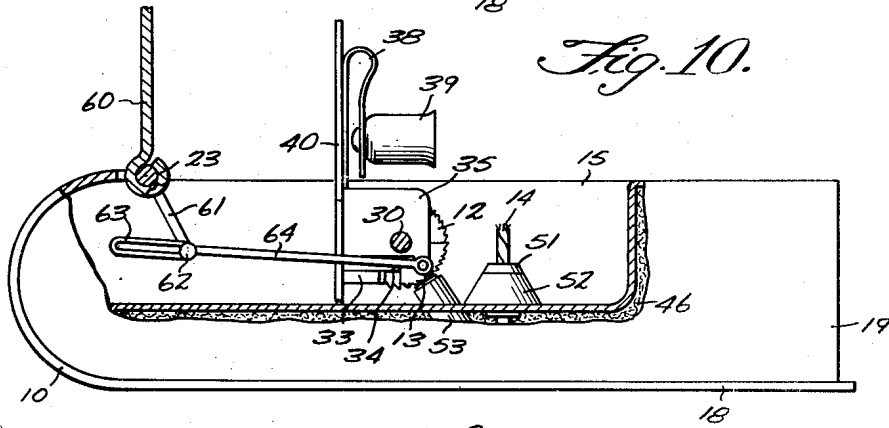
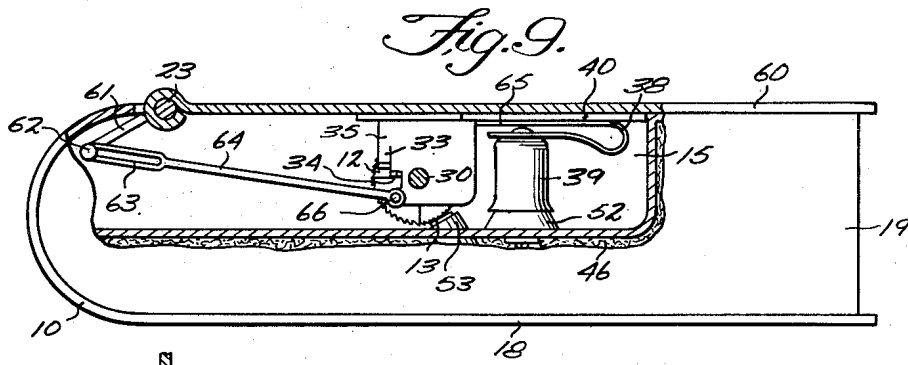
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UNITED STATES PATENT OFFICE

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CIGARETTE LIGHTER

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2 Claims. (Cl. 67—7.1)

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This invention relates to a cigarette case and lighter combination having a compartment or compartments for storing cigarettes, cigars and the like and a mechanical lighter with a wick, flint, and fuel storage chamber, and in particular the invention includes a case in the form of a book with one of the sides providing a hinged cover which when opened exposes cigarette compartments and causes a lighter to light.

The purpose of this invention is to provide a combination cigarette case and lighter which automatically provides a light as the case is opened and extinguishes the light as the case is closed in which a seal is provided around the lighting means to prevent escape of fumes into the interior of the case.

Various combinations of cigarette lighters and cases have been provided and these have been made in numerous designs but where lighters are snuffed out in cases containing cigarettes, cigars, and the light the tobacco of the cigarettes or the like is impregnated with fumes from the lighter and objectionable tastes result.

With this thought in mind this invention contemplates a case for cigarettes and the like in the form of a book which when closed snuffs out a light therein and provides a seal around the light.

The object of this invention is, therefore, to provide an improved cigarette case and lighter in which the parts may be formed in the flat side of a case and wherein as the case is opened lighter instrumentalities will actuate to provide a light, and when the case is closed a snuffer will extinguish the light and seal the area therearound.

Another object of the invention is to provide a lighter for cigarettes and the like in the form of a book wherein the lighter operates with a delayed action so that the cover is substantially open before the light is provided.

A further object of the invention is to provide a combination case and lighter for cigarettes and the like that is in the form of a book which is of a simple and economical construction.

With these and other objects and advantages in view the invention consists of the new and novel combination, construction, and arrangement of parts as hereinafter more fully described, set forth in the claims appended hereto, and disclosed in the accompanying drawings, forming part hereof, wherein:

Figure 1 is a longitudinal section through the lighter section of the cigarette case showing the case closed.

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Figure 2 is a similar section showing the case in the open position.

Figure 3 is a detail showing a plan view of the lighter elements with the casing shown in section and with parts broken away.

Figure 4 is a cross section through the case showing the lighter section in the center with compartments for cigarettes and the like at the sides.

Figure 5 is a plan view of the case with the cover open.

Figure 6 is a detail showing the ratchet and snuffer actuating arm.

Figure 7 is a detail showing the abrading wheel.

Figure 8 is a detail showing the actuator retaining lever.

Figure 9 is an end elevation of the case with part broken away illustrating a modification wherein the lighter mechanism is operated by a slotted lever.

Figure 10 is a view similar to that shown in Figure 9 showing the case open.

Figure 11 is also a view similar to that shown in Figure 9 showing another modification wherein the lighter mechanism is actuated by a ratchet and gear segment.

Figure 12 is a section similar to that shown in Figure 1 with parts broken away illustrating another modification wherein a different type of spring is used.

Referring now to the drawings wherein like reference characters indicate corresponding parts the combination case and lighter of this invention includes a book-like case 10 with a cover 11, an abrading wheel 12, flint elements 13, and a wick 14.

The case 10 is provided with a lighter section 15, which in the design shown, is positioned in the center of the case, and cigarette storage compartments 16 and 17 at the sides. The case is formed with a base 18, ends 19 and 20, a front 21, and a back 22 which is semi-circular in shape to represent the back of a book, and the cover 11 is hinged to the upper edge of the back by a hinge 23. The cover 11 is provided with a clip 24 by which it may readily be opened and which also provides a stop limiting the opening movement and holding the cover in the open position as shown in Figure 2. The cover is also provided with a projection 25 that engages the end 26 of an operating lever 27 as the cover is opened, as illustrated in Figure 2, and as the lever 27, which is pivotally mounted on a pin 28 is engaged by the projection the end 26 is moved downward

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and the opposite end which carries a flange 29 is moved upward.

The abrading wheel 12 is rotatably mounted on a shaft 30 in the section 15 of the case and the sides of the wheel are provided with ratchets 31 and 32 having radially extending teeth that are positioned to be engaged by pawls 33 and 34 formed in downwardly extending sides 35 and 36, as shown in Figures 4 and 6, of an actuator 37 which is also mounted on the shaft 30. The actuator is provided with a spring 38 on which a snuffer cup 39 is mounted and the cup is positioned to cover the wick 14 as the cover 11 is closed. The actuator is mounted on a bar 40 that assumes a horizontal position, as shown in Figure 1, when the cover is closed, and the inner end of the bar is held by the flange 29 of the lever 27 until the lever is raised by the projection 25 of the cover. As soon as the bar 40 is released by the lever 27 a spring 41 moves the actuator from the position shown in Figure 1 to the position shown in Figure 2, and in this movement the pawls 33 and 34 rotate the wheel 12 which is in surface contact with the flint 13 so that sparks 42 light the wick 14. The spring 41 is connected to the actuator 37 through a link 43, one end of which is held in the spring and the other in an opening 44 in the side of the actuator, and the other end of the spring is held on a lug 45 on a fuel tank 46.

The tank 46 is formed as illustrated in Figures 1 and 2, and the lower surface is provided with a filling opening 47 having a screw plug 48 therein, the head 49 of which is positioned in an opening 50 in the base 18 of the case. The tank is also provided with a sleeve 51 in which the wick 14 is held and a conical-shaped washer 52 of rubber or the like is positioned around the sleeve so that it will be engaged by the cup 39 to provide a seal preventing fumes from the wick entering the compartments for the cigarettes.

An arcuate flint holding tube 53 is also provided in the tank 46 and one end of the tube is positioned to hold a flint in engagement with the abrading wheel while the other end is mounted in a recess 54 and provided with a screw plug 55. The tube is also provided with a compression spring 56 that holds the flint against the wheel and as one flint is used another may be urged against the wheel.

In the design shown in Figure 9 the parts are similar except that the case 10 is provided with a cover 60 that has an arm 61 with a pin 62 at the end thereof which is positioned in a slot 63 in a rod 64, the opposite end of which is connected to an actuator 65 by a pin 66. As the cover is opened the actuator remains in the closed position, as shown in Figure 9, until the pin 62 arrives at the inner end of the slot 63, and then the rod snaps the actuator to the open position as shown in Figure 10. By this means the cover is substantially open before the wick is lighted so that the abrading wheel is operated with a quick movement for causing good sparking.

In the design shown in Figure 11 a cover 70 is provided which has a gear segment 71 extending from the hub 72 of the hinge and the gear segment meshes with a rack 73 between side plates 74, and with the rack attached to an actuator 75 by a bar 76 the actuator will be operated as the cover is opened. It will, therefore, be understood that the actuator may be connected to the cover by different means, and any suitable means may be employed.

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The lighter illustrated in Figure 11 is also provided with a fuel tank 77 which has an offset 78 in the upper surface, and it will be understood that the tank may be of any suitable shape in order to increase the capacity thereof.

In Figure 12 the spring 41, of Figure 1, is replaced by a coil spring 80 that is positioned on the shaft 30 and provided with arms 81 and 82 that contact the bar 40 and upper surface of the tank 46, and as the bar 40 is released by opening the cover this spring will snap the actuator in the operative action wherein a spark will be provided.

With the parts arranged in this manner a unique lighter for cigarettes, cigars, and the like is provided in the form of a book and as the cover is opened cigarettes are exposed in storage compartments therein and a light is provided. The lighter section is shown in the center of the case and it will be understood that it may be located in any suitable position. After a cigarette is lighted the cover may be closed and as the cover engages the end of the bar 40 as shown in Figure 2, the actuator will be moved downward to the closing position and the light will be extinguished and the area therearound sealed so that fumes will be confined to the cup and will not penetrate the storage compartments.

It will be understood that other modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. In a lighter for cigarettes and the like, a book-like case having a hinged cover with a finger clip on the outer surface of the cover and a projection on the inner surface adjacent the hinge, a fuel tank positioned in the case, an abrading wheel having ratchet teeth in the ends thereof, a shaft on which the abrading wheel is rotatably mounted, an actuator having pawls thereon and a U-shaped spring extending therefrom rotatably mounted on said shaft with the pawls positioned to engage the ratchet teeth of the abrading wheel, a snuffer cup carried by the U-shaped spring, a wick in the tank having an end extending therefrom with the said extending end positioned to register with the snuffer cup, an arcuate flint tube positioned in the tank also having an end extending from the tank with the said extending end positioned to hold flints in engagement with the said abrading wheel, a spring in said flint tube, a spring with one end mounted in the case and the other connected through a link to the actuator for operating the actuator to rotate the said abrading wheel, and a lever pivotally mounted in the case and positioned to hold the actuator in inoperative position, said lever adapted to be operated to release the actuator by the projection of the cover as the cover is opened.

2. In a lighter, the combination which comprises a book-like case having a base with end walls, one straight side wall and one arcuate side wall simulating the back of a book and having a hinged cover with a projection on the inner surface thereof, a fuel tank L-shaped in cross section in said case and positioned to provide a cavity in the upper part of the case, a wick tube having a resilient conical shaped collar thereon positioned in said cavity, a transversely positioned shaft extended through the said cavity, a bar having downwardly extended wings at one end thereof and having a U-shaped spring on the other positioned in the cavity and rotatably

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mounted on the said shaft through the wings thereof providing an actuator, an abrading wheel mounted on said shaft and positioned between the wings of the actuator, a bell like snuffer carried by the said U-shaped spring of the actuator and positioned to coact with the said conical shaped resilient collar of the wick to seal the area around the wick whereby fumes are prevented from filling the case as the case is closed, a spring attached to the actuator and case for snapping the actuator to an operative position for actuating the abrading wheel and removing the snuffer from the wick as the actuator is released, and a locking lever pivotally mounted in the case for holding the actuator and positioned to be engaged by the projection of the cover as the cover opens whereby the lever is actuated to release the actuator.

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