

Feb. 14, 1950

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2,497,582

SEMI-AUTOMATIC TABLE LIGHTER

Filed Dec. 9, 1947

2 Sheets-Sheet 1

FIG. 3.

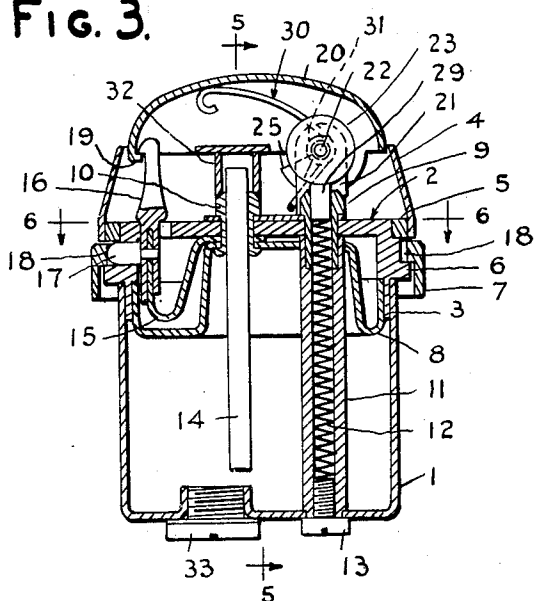


FIG. 1.

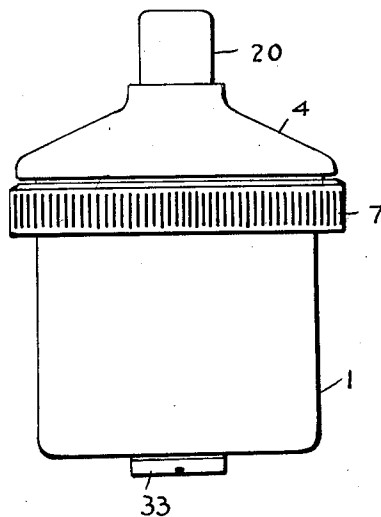


FIG. 4.

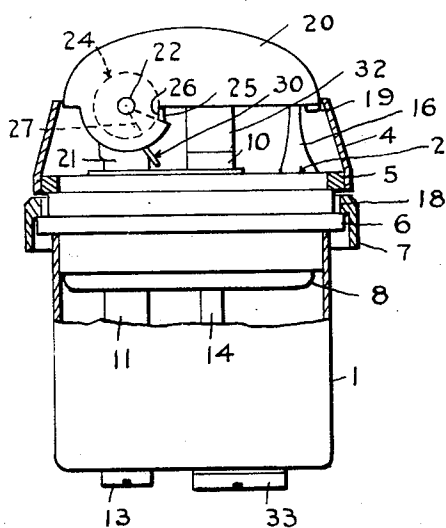
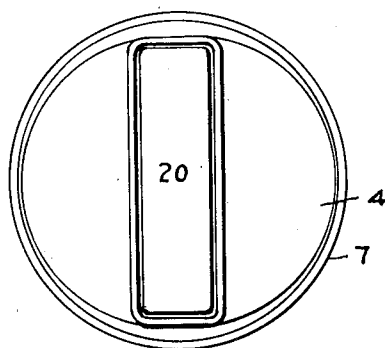


FIG. 2.



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2 Sheets-Sheet 2

FIG. 5.

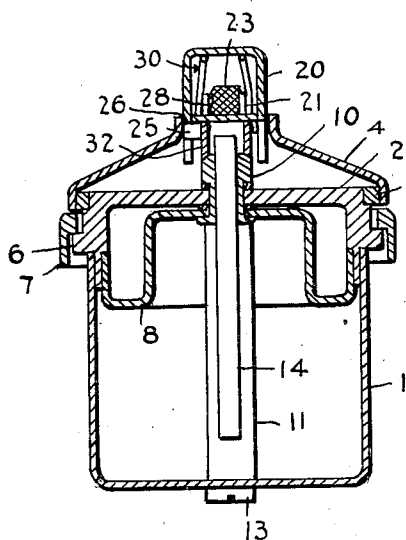


FIG. 7.

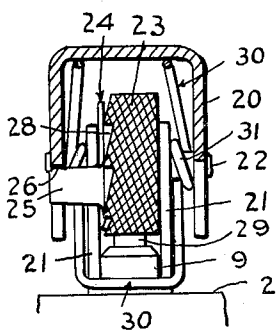


FIG. 8.

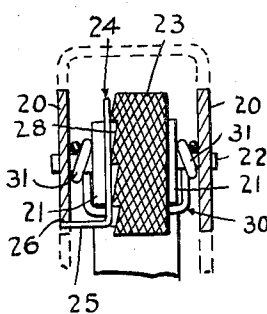


FIG. 6.

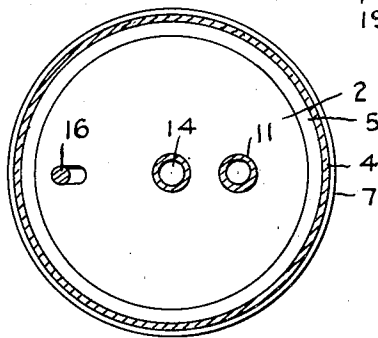


FIG. 9.

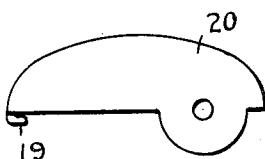


FIG. 10.

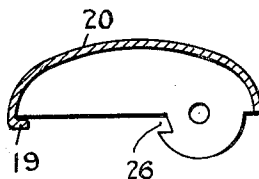


FIG. 11.

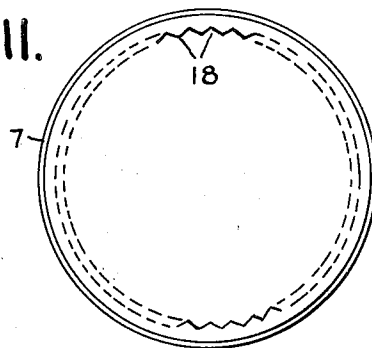


FIG. 12.

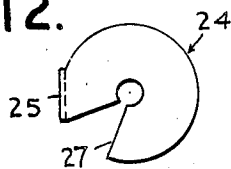


FIG. 14.

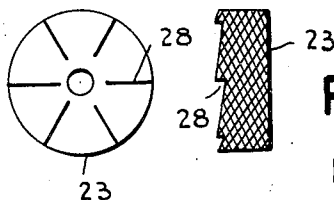


FIG. 13.

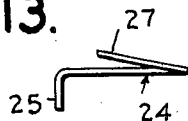


FIG. 15.

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SEMI-AUTOMATIC TABLE LIGHTER

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Application December 9, 1947, Serial No. 790,569

2 Claims. (Cl. 67-7.1)

1

This invention relates to cigar and cigarette table lighters and more particularly to the class of semi-automatic lighters.

The object of this invention is to eliminate all screws, knobs, buttons and/or pins in the mechanical function of the lighter.

A further object of this invention is to eliminate in the construction all screws, knobs, buttons, pins, rivets and/or levers from the assembly of the mechanical function of the lighter by using primarily the base and utilizing its special features for the assembly.

With these and other objects in view, the invention consists of certain novel features of construction as will be more fully described and particularly pointed out in the appended specifications and claims.

In the accompanying drawing:

Figure 1 is a view in side elevation of a device constructed in accordance with the present invention, while

Figure 2 is a top plan view of the same.

Figure 3 is a central, vertical, sectional view of the device.

Figure 4 is a view partly in side elevation and partly in vertical section of the device.

Figure 5 is a sectional view, taken on line 5-5, Figure 3, and looking in the direction of the arrows.

Figure 6 is a horizontal sectional view, taken on line 6-6, Figure 3, and looking in the direction of the arrows.

Figure 7 is an enlarged, fragmentary view, partly in section and partly in elevation, while

Figure 8 is a similar view looking down on the disclosure of Figure 7.

Figure 9 is a view in side elevation of the cover, while

Figure 10 is a longitudinal, vertical, sectional view of the same.

Figure 11 is a plan view of the rotary ring.

Figure 12 is a plan view of the ratchet spring.

Figure 13 is a view in side elevation of the ratchet spring.

Figure 14 is a plan view of the spark wheel, while

Figure 15 is a view in elevation of the edge of the spark wheel.

In the usual construction of semi-automatic lighters, it is necessary to use almost as many component parts in the assembly as there are actual major parts to the mechanical functions of the lighter. By this I mean a number of small screws, pins, rivets, springs, bushings, levers, etc., which have no other actual operating function

2

than to hold major parts of the assembly. In my invention all parts are self-containing as is shown in Figure 3.

Referring to the drawings, in which the preferred embodiment of my invention is illustrated, 1 is the fluid tank on which is positioned a cap-like base 2. The base 2 has a depending flange 3 within the tank 1; these parts fit tightly to make a perfect connection. The hood 4 is pressed upon a ring 5, which ring fits tightly on the cap-like base 2. An annular flange 6 extends outwardly from the base 2, and rotatably engaging said flange is ring 7.

A sealing cap 8 is tightly positioned upon flange 3. Mounted on base 2 is a flint nozzle 9 and a wick nozzle 10. A flint tube 11 extends from the bottom of tank 1 to the bottom portion of flint nozzle 9, upon which said tube 11 is positioned. This tube 11 contains coil flint spring 12. A screw plug 13 presses against the lower end of flint spring 12, holding said spring in position within tube 11. A wick 14 extends down into tank 1, and also extends up through wick nozzle 10, Fig. 3.

An angular spring 15 has its inner end positioned upon wick nozzle 10, between sealing cap 8 and base 2. The outer end of spring 15 extends into the lower part of lock hook 16, and is securely fastened in this position. A ball lock pin 17 is fastened to the lock hook 16. This pin 17 extends outwardly and engages the serrations 18 formed on the inner face of rotary ring 7, Fig. 11. The outer face of the ring 7 is suitably knurled, as shown in Fig. 1. When the ring 7 is rotated upon the device, the lock pin 17 will be actuated, to release the lock hook 16 from engagement with the lip 19, formed on the pivoted cover 20.

A pair of parallel supports 21 is fixedly supported at their lower ends upon the base 2. A pin-like shaft 22 extends through these supports 21. The cover 20 is pivotally mounted on shaft 22. A spark wheel 23 is loosely mounted on shaft 22. A ratchet spring 24 is also mounted upon shaft 22. This ratchet spring 24 has a right angled extension 25 that is fixedly mounted at its outer end in the nest or notch 26 of cover 20. Therefore, the ratchet spring 24 is rotated upon shaft 22 with the movement of the cover 20. The ratchet spring 24 is provided with a flared out portion 27, which normally engages one of the teeth 28 on the spark wheel 23. Therefore, it will be seen that with the upward movement of the cover 20, while it is being opened, the spark wheel 23 will be rotated, causing a spark to jump

from flint 29 to the top of the wick 14, whereby the wick is ignited.

A substantially U-shaped cover spring 30 is employed, the spring having coils 31 extending around the shaft 22, Figs. 7 and 8. The inner end of the U-shaped spring 30 presses against the pair of supports 21 near their bottom, and the upper free ends of said U-shaped spring 30 press against the inner face of the cover 20, Fig. 3. Therefore, the spring 30 provides the means for quickly opening the cover 20 as soon as the lock hook 16 is moved from engagement with the lip 19 of the cover 20.

On the cover 20 is a suitable snuffer 32, which smothers the flame on wick 14 when the cover 20 is closed.

In the fluid tank is placed suitable absorbent material, such as cotton, which receives the fluid used for saturating wick 14.

When it is desired to place the fluid in tank 1, the operator turns the device upside down and removes screw plug 33, whereupon the tank can be suitably filled.

Since all the aforementioned component parts are of a tight pressfit into each other, they automatically seal themselves from the lighter fluid compartment of the tank, which is pressed onto the outside lower section of the base and to the bottom of tube.

While I have described the preferred embodiment of my invention and illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates during the extensive manufacture of the same, and I, therefore, reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claims.

What I claim is:

1. In a device of the class described, the combination with a fluid tank, of a base fitted tightly into the top of said fluid tank, said base provided with wick means and flint means, said base provided with an annular flange, a rotatable ring resting on said flange, said ring provided with serrations on its inner face, a hinged cover and means mounting same on said base, a lock hook for said cover, means yieldably mounting said hook on said base, said mounting means provided with a ball lock pin engaging the serrations on said ring, and said base and cover provided with means for actuating said flint means, whereby a spark therefrom will jump over said wick means.

2. In a device of the class described, the combination of a fluid tank, a movable cover over said tank, a hollow annular base having a portion set down into the top part of said tank, and interiorly toothed ring rotatably mounted on said base, a hood provided therein with an annular ring, said ring pressed upon and surrounding the upper portion of said base, a sealing cap having its edges within portions of said base and pressed into tight engagement with said base, a wick nozzle and a flint nozzle extending through said sealing cap and said base, a wick extending from said fluid tank through said wick nozzle and above said base, a flint tube extending from the bottom of said fluid tank up to and positioned on said flint nozzle and terminating at its upper end against said base, a spring pressed flint in the upper end of said flint tube and flint nozzle, a pivoted cover above said hood and mounted on said base, a spark wheel engaging said flint, a ratchet spring fixedly secured to said cover and having an end engaging said spark wheel, an angular spring having a portion between said base and said sealing cap, a lock hook straddling a portion of said angular spring and normally engaging said cover for holding same in a closed position, a locking pin mounted on said angular spring, said locking pin normally having a portion extending beyond the side of said base, and a rotatable ring on said base, having teeth on its inner face adapted to actuate said locking pin when said ring is rotated.

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