

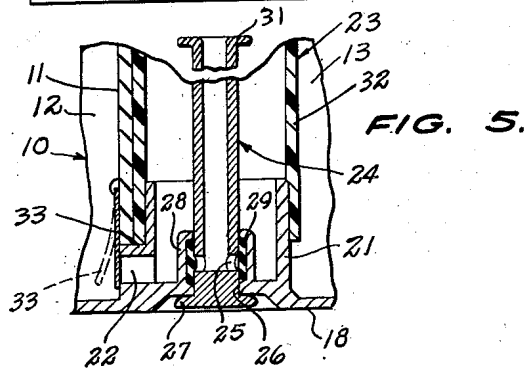
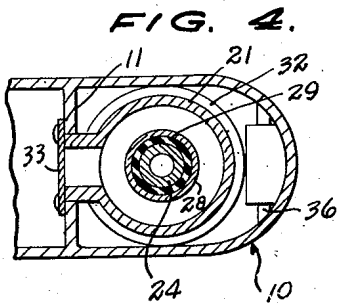
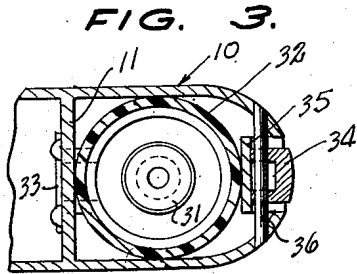
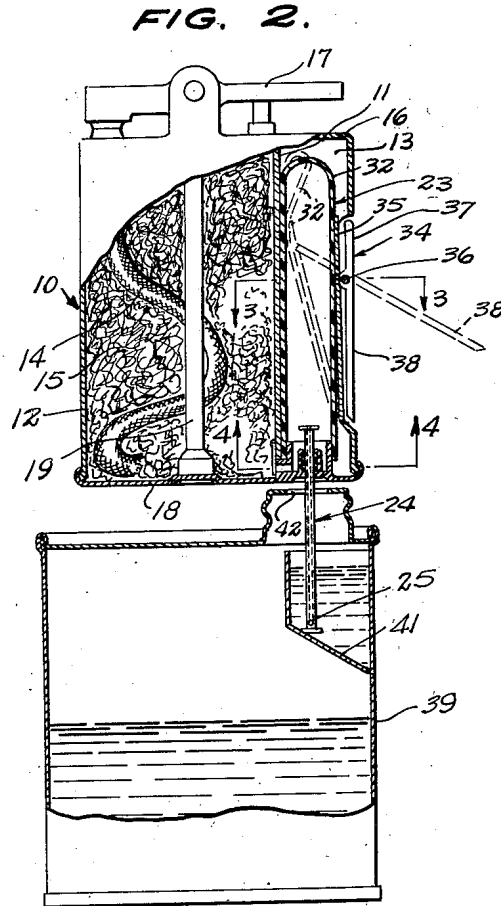
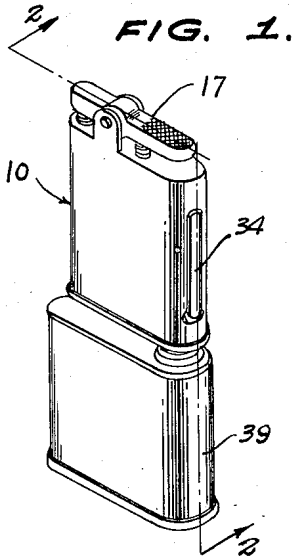
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2,818,717

CIGARETTE LIGHTER

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CIGARETTE LIGHTER

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3 Claims. (Cl. 67-7.1)

The present invention relates to cigarette or cigar lighters of the type having a flint-striking mechanism.

An object of the present invention is to provide a cigarette lighter which is self-filling.

Another object of the present invention is to provide a cigarette lighter which lends itself to a filling operation which is safe, there is no possibility of spilling the fuel over the sides of the lighter, without wastage of fuel, and without exposing excessively the supply of fuel to the atmosphere.

A further object of the present invention is to provide a cigarette lighter which is sturdy in construction, one simple in structure, economical to manufacture and assemble, and one which is highly effective in action.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in connection with the annexed drawing, in which:

Figure 1 is a perspective view of the lighter according to the present invention shown in a position above a fuel supply can;

Figure 2 is a sectional view on an enlarged scale taken on the line 2-2 of Figure 1;

Figure 3 is a sectional view on an enlarged scale taken on the line 3-3 of Figure 2;

Figure 4 is a sectional view on an enlarged scale taken on the line 4-4 of Figure 2; and

Figure 5 is an enlarged view of a portion of the assembly shown in Figure 2.

Referring in greater detail to the drawing, in which like numerals indicate like parts throughout the several views, the cigarette lighter, according to the present invention comprises an upstanding casing 10 having a vertically disposed partition 11 therein subdividing the interior of the casing 10 into a reservoir 12 and a pump chamber 13. The reservoir 12 is packed with a wick 14 and wadding 15 for absorbing a charge of liquid fuel.

The casing 10 has a top 16 on which is mounted a flint-striking mechanism 17 of conventional construction. The casing 10 has a bottom 18 which supports an upright hollow tube 19 within which is the conventional flint and spring for moving the flint into the mechanism 17.

A cup 21 rises from the bottom 18 within the pump chamber 13 and has an opening in one side thereof adjacent the partition 11 providing an outlet port for the chamber 13, the port being indicated by the reference numeral 22 and shown most clearly in Figure 5. The outlet port 22 connects the interior of the reservoir 12 in communication with the interior of the pump chamber 13.

A filler mechanism, indicated generally by the reference numeral 23, is positioned within the pump chamber 13 and comprises an upstanding hollow tube 24 normally within the chamber 13, the tube 24 having its upper end open and its lower end closed with ports 25 inwardly of the lower end of the tube 24, as shown most clearly in Figure 5.

The bottom 18 of the casing 10 is provided with an opening, indicated by the reference numeral 26, connect-

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ing the interior of the chamber 13 with the exterior of the casing 10. The tube 24 is mounted in the opening 26 for projectile and contractile movement from the position within the chamber 13, Figure 5, to a position projecting out of the opening, Figure 2.

The closed end of the tube 24 is provided with a flange 27 engageable with the sides of the opening 26, and with the adjacent portion of the tube 24, constituting means closing the opening 26 when the tube 24 is in the position within the chamber 13.

An upstanding sleeve 28, having an inwardly turned upper end, surrounds a resilient washer 29 which forms a seal about the tube 24 and closes the ports 25 when the tube 24 is in the position within the chamber 13, as shown in Figure 5. The upper end of the tube 24 is provided with an outwardly extending flange 31 preventing the movement of the tube 24 out of the opening 26.

A pump means is provided within the chamber 13 and has its outlet side connected in communication with the outlet port 22, such means embodying a resilient bag 32 having its open end portion surrounding the upper end of the cup 21 and connected in communication with the upper end of the tube 24.

A normally closed check valve 33 is positioned within the reservoir 12 and is attached to the partition 11 in such a way as to normally close the outlet port 22, as shown in full lines in Figure 5. The valve 33 is movable to the dotted line position shown in Figure 5 responsive to the pressure of fuel flowing through the outlet port 22.

Manually actuable means is provided by the present invention operatively connected to the bag 32, constituting the pump means for collapsing the bag 32 when the lower end of the tube 24 has been lowered into a supply of fuel and is submerged therein, as shown in Figure 2. Specifically, this last named means comprises a lever 34 pivotally connected intermediate its ends to the wall of the casing 10 and having a portion exteriorly of the casing, and another portion within the chamber 13, and operatively connected to the bag 32 for effecting the collapsing of the latter.

A vertically disposed spring 35, formed integrally with the casing 10, is arranged longitudinally of the bag 32 on one side of the latter intermediate the bag 32 and the lever 34. A pivot pin 36 has its ends journaled in the wall of the casing 10 and supports the lever 34 for movement from the full line position, Figure 2, to a dotted line position, in which the portion adjacent one end, indicated by the reference numeral 37, bears against the spring 35 and causes the spring 35 to collapse the bag 32 into the position in Figure 2 shown in dotted lines, causing the air to be expelled from the interior of the bag 32. This movement of the lever 34 is accomplished by inserting a fingernail underneath the free end of the portion 38 of the lever 34 and pulling it to the dotted line position shown in Figure 2.

A fuel supply can is indicated by the reference numeral 39 in Figures 1 and 2, and has a well 41 adjacent the discharge opening 42 for holding a charge of liquid fuel.

In use, the lighter, according to the present invention, is filled with liquid fuel by manually actuating the lever 34 to alternately compress the bag 32 to drive the air therefrom, and with the lower end of the tube 24 submerged in a supply of fuel, release of the lever 34, so that the natural resiliency of the bag 32 causes fuel to be drawn up into the interior of the bag 32. Upon compression of the bag 32, the fuel will be expelled from the open end of the tube 24 through the chamber outlet port and into the reservoir 12.

It will be seen, therefore, that the tube 24 can be manually withdrawn from the interior of the bag 32 and inserted in the well 41 of the can 39 with the bottom 18 of the casing 10 adjacent to and spaced above the dis-

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charge opening 42. This will permit filling of the reservoir 12 with fuel without spillage, wastage, and without excessive exposure of the contents of the can 39 to the atmosphere.

What is claimed is:

1. In a lighter, an upstanding casing having a reservoir and a chamber having an outlet port connecting said chamber in communication with said reservoir, there being an opening in the bottom of said casing connecting the interior of said chamber with the exterior of said casing, a filler mechanism mounted in said chamber, said mechanism comprising an upstanding hollow tube normally within said chamber and having the lower end provided with means normally closing said opening, said tube being mounted in said chamber for projectile and contractile movement into and out of said chamber and adapted when in the projected position to have the lower end thereof submerged in a supply of fuel, pump means positioned within said chamber and operatively connected to said tube, said pump means having its outlet side connected in communication with said chamber outlet port, and manually actuatable means exteriorly of said casing and operatively connected to said pump means for actuating the latter when said tube is in the projected position and has the lower end thereof submerged in a supply of fuel for conveying fuel from said fuel supply through said tube, said pump means outlet side, said chamber outlet port, and into said reservoir.

2. In a lighter, an upstanding casing having a reservoir and a chamber having an outlet port connecting said chamber in communication with said reservoir, there being an opening in the bottom of said casing connecting the interior of said chamber with the exterior of said casing, a filler mechanism mounted in said chamber, said mechanism comprising an upstanding hollow tube normally within said chamber and having the lower end provided with means normally closing said opening, said tube being mounted in said chamber for projectile and contractile movement into and out of said chamber and adapted when in the projected position to have the lower end thereof submerged in a supply of fuel, pump means

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positioned within said chamber and operatively connected to said tube, said pump means having its outlet side connected in communication with said chamber outlet port, a normally closed check valve in said outlet port, and manually actuatable means exteriorly of said casing and operatively connected to said pump means for actuating the latter when said tube is in the projected position and has the lower end thereof submerged in a supply of fuel for conveying fuel from said fuel supply through said tube, said pump means outlet side, said chamber outlet port, and into said reservoir.

3. In a lighter, an upstanding casing having a reservoir and a chamber having an outlet port connecting said chamber in communication with said reservoir, there being an opening in the bottom of said casing connecting the interior of said chamber with the exterior of said casing, a filter mechanism mounted in said chamber, said mechanism comprising an upstanding hollow tube normally within said chamber and having the lower end provided with means normally closing said opening, said tube being mounted in said chamber for projectile and contractile movement into and out of said chamber and adapted when in the projected position to have the lower end thereof submerged in a supply of fuel, a resilient bag having one end open positioned within said chamber with its open end connected in communication with the upper end of said tube and with said chamber outlet port, a normally closed check valve in said chamber outlet port, a hand actuatable lever having a portion adjacent one end thereof exteriorly of said casing and having a portion adjacent the other end operatively connected to said bag for collapsing the latter when said tube is in the projected position and has the lower end thereof submerged in a supply of fuel for conveying fuel from said fuel supply through said tube, said open end of said bag, said chamber outlet port, and into said reservoir.

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