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L. W. KOLTER, SR., ET AL

2,469,507

CIGARETTE LIGHTER

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Fig. 1.

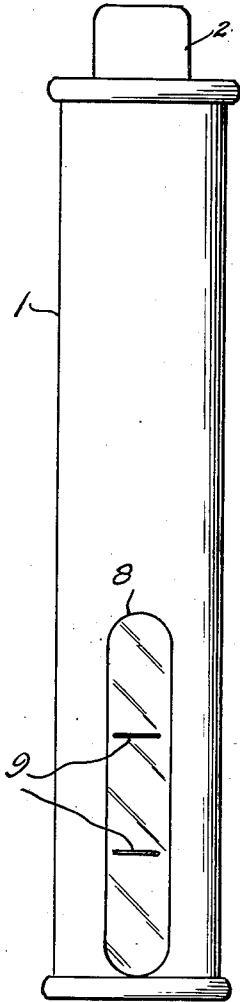


Fig. 2.

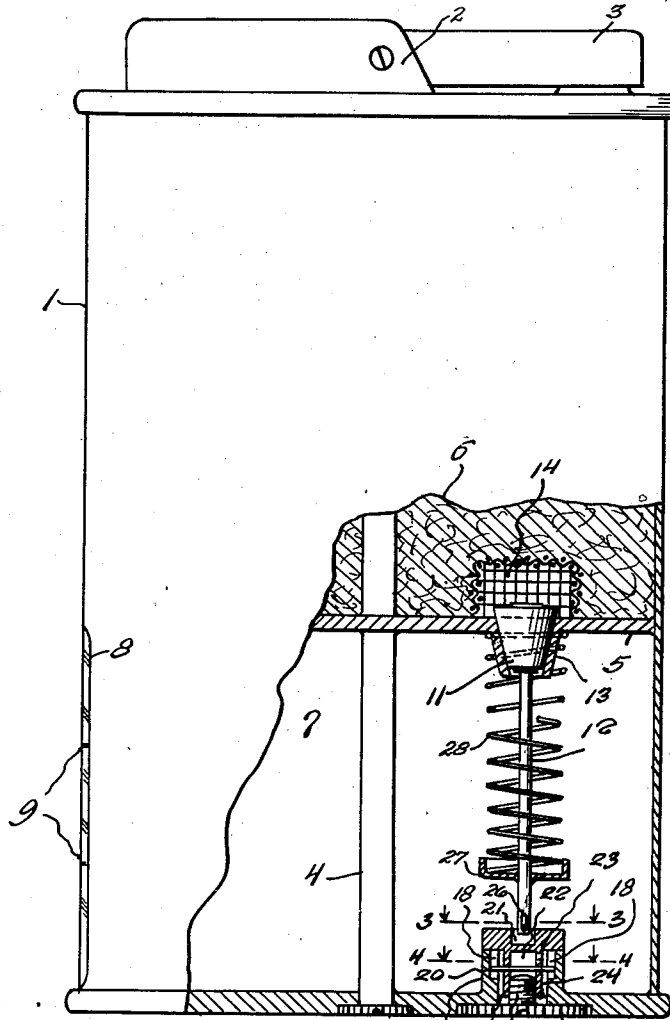


Fig. 3.

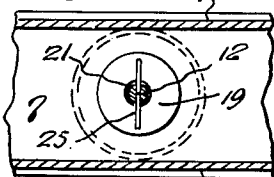
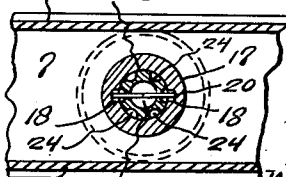


Fig. 4.



Inventors
Louis W. Kolter, Sr.
William G. Kolter,

By *McNarrow, Brown & Richardson*
Attorneys

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CIGARETTE LIGHTER

Louis W. Kolter, Sr., Knoxville, and William G.
Kolter, Oak Ridge, Tenn.

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1 Claim. (Cl. 67—7.1)

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The present invention relates to pocket lighters and is more particularly concerned with a pocket lighter which can be quickly refilled.

One of the objects of the invention is to provide a pocket lighter which will hold enough extra fluid to service it longer and in one which the storage tank can be inspected to determine how much fluid should be used to saturate the cotton.

Another object of the invention is to provide a pocket lighter of simpler and more compact construction than is disclosed in prior devices.

With the foregoing and other objects and advantages in view, the invention consists of the novel construction and arrangement of parts hereinafter described and claimed.

In the accompanying drawing illustrating the invention:

Figure 1 is a front elevation, showing the inspection window.

Figure 2 is a side elevation partly broken away and in section to show the interior assembly.

Figure 3 is a transverse section on line 3—3 of Figure 2.

Figure 4 is a transverse section on line 4—4 of Figure 2.

Like numerals in the description and drawing designate the same parts of construction.

The lighter case 1 is somewhat longer than the conventional type but is similar in regard to the striker 2, snuffer 3 and flint assembly 4.

Case 1 is divided by horizontal partition 5 into upper and lower chambers. Upper chamber 6 is for the cotton, which is saturated with lighter fluid, and lower chamber 7 is the tank which holds the lighter fluid.

In the rear end of the case is a vertically disposed viewing window 8 covered by an elongated glass or plastic pane having two hair lines 9 or other marks suitably spaced apart to indicate fluid levels in the tank. This window approximates the full distance between top and bottom thereof. The tank, chamber 7, is extra large to contain an ample supply of fluid and to that end the case 1 is longer than that of conventional types. The flint assembly 4 is soldered where it passes through the top and bottom of the case.

The filling assembly comprises a conical valve 11, inverted on the end of a vertical rod 12 and operating in a conical valve seat 13 secured in any suitable manner to the under side of the tank partition 5. The valve or stopper 11 may be constructed of synthetic rubber, either brazed or hard soldered to the shaft. Valve seat 13 may be a separate piece and soldered in place or it may be stamped as an integral part of partition

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5, or pressed onto or cast onto the partition. The valve 11 is secured in place by means of top and bottom washers, made fast to the shaft. A metal grid 14, over the valve, prevents cotton from getting in.

The screw cap 15 for the assembly has a grooved head and a threaded stud 16 and is located in the bottom of the case, where an opening is surrounded interiorly of the case by an annular sleeve 17, with oppositely disposed, vertical grooves 18. A vertically slidable, annular member 19, seated in sleeve 17, has a fixed transverse pin 20, which engages the grooves 18 and is provided with an upper recess 21 and a lower circular recess 22. The lower recess threads on stud 16 and has a vent 23 at the top (the bottom when the tank is inverted) to drain off fluid. This vent communicates with one of a plurality of vertical grooves 24 in the outer wall of member 19, which serve as conduits or channels for the fluid in the refilling operation.

Member 19 at its top is formed as a flange to seat on top of sleeve 17 and a transverse pin 25, secured on top of 19 crosses the recess at its center. This pin engages a vertical slot 26 in the lower extremity of rod 12, thus connecting the two elements but permitting a slight vertical play between them, for the purpose hereinafter disclosed.

Above its slotted end, the rod 12 is provided with an annular, flanged collar 27 which is fixed and forms an abutment for a coil spring 28, surrounding the rod. The spring, at its other end, encircles the valve seat 13 and is retained there by partition 5. This spring serves to keep the valve in closed position.

The foregoing completes the description of the components of the filling assembly and the operation thereof is as follows:

Inspection through the viewing window 8 will advise how much fluid is needed to saturate the wick. To fill the storage tank 7, the lighter may be inverted and screw cap 15 removed. After the tank has been filled, the screw cap is replaced and screwed down until the top of head is a short distance above the bottom (now the top) of lighter. With the thumb or finger the screw head may be pushed down until the valve 11 is opened; through the viewing window the level of the fluid may be observed to determine when the latter has reached the first mark 9, (about one-third of contents). The pressure on the screw cap is then released and the latter is screwed home. This closes the valve 11 and the lighter is

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ready for use. The lighter will hold enough extra fluid for several refills.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

In a cigarette lighter including a case having a side wall, a bottom end wall, a top end wall, a flint holder, striker, and snuffer mounted on said top end wall, and a transverse partition in said case spaced from and substantially parallel to said end walls dividing the interior of said case into a wick compartment and a fuel tank, an apertured cup on said partition extending into said tank, a valve in said cup normally closing said aperture, an internal sleeve on said bottom wall having a longitudinally-extending bore and a pair of opposed longitudinally-extending grooves therein, an internally screw threaded annular member slidably mounted in the bore of said sleeve and having on its inner end an annular flange overlying the inner end of said sleeve, a pin extending transversely through said annular member with its ends guided in said grooves to restrain said annular member against rotation in said sleeve while providing freedom of relative longitudinal movement between said annular member and said sleeve, a screw plug threaded into said annular member and having a head overlying said bottom end wall around said sleeve bore, a valve rod secured at one end to said valve and having a longitudinally-extending slot near its opposite end, a pin extending transversely through said annular member

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and the slot in said valve rod to provide a lost motion connection between said annular member and said valve rod, a collar secured on said valve rod, and a compression spring surrounding said valve rod between said collar and said transverse partition to resiliently urge said valve into closing relationship with said cup aperture, said valve being moved to open position by threading said screw plug out of said annular member to provide space between the bottom end wall of said case and the head of said plug and then forcing said screw plug, said annular member and said valve rod inwardly against the force of said spring.

LOUIS W. KOLTER, Sr.
WILLIAM G. KOLTER.

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