Jan. 25, 1949. H. KNOX 2,460,180

FUEL RESERVOIR FOR CIGARETTE LIGHTERS

Filed Oct. 8, 1945

Fig. 1.

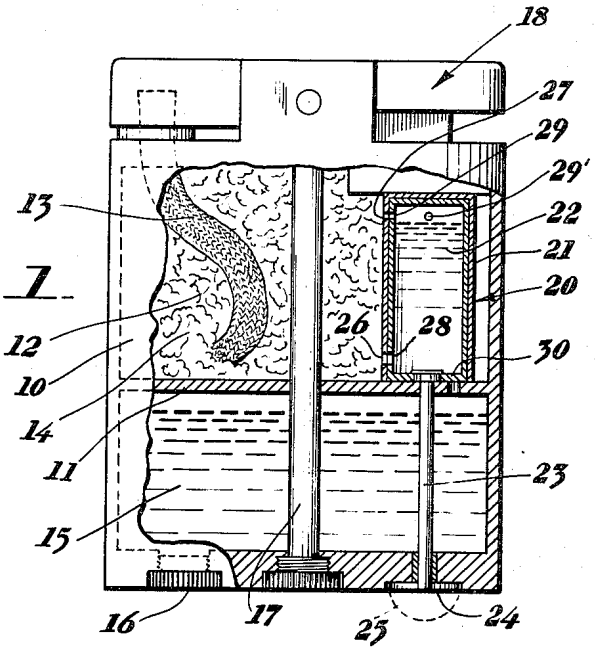


Fig. 2.

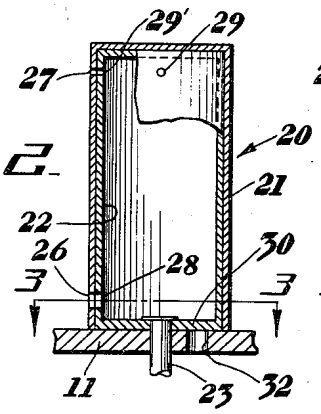


Fig. 4.

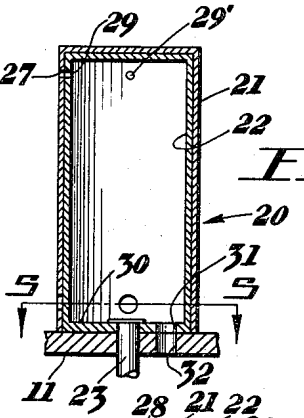


Fig. 3.

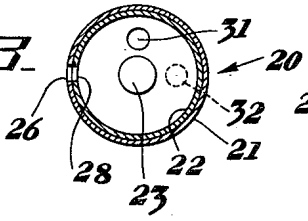
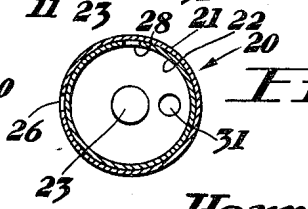


Fig. 5.



Inventor

Harry Knox

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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2,460,180

FUEL RESERVOIR FOR CIGARETTE LIGHTERS

Harry Knox, Mechanicsburg, [illegible].

Application October 8, 1945, Serial No. 620,973

3 Claims. (Cl. 67—81)

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This invention relates to a fuel reservoir for cigarette lighters.

A primary object of this invention is the provision of an improved cigarette lighter having contained therein an auxiliary reservoir for fuel, to supplement the supply of fuel normally carried in the wick compartment of such a lighter.

An additional object of the invention is the provision of such a lighter provided with an improved valve means establishing communication between the auxiliary reservoir and the wick compartment, whereby additional fuel may be admitted to the wick compartment as desired.

Other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawings, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a side view, partially in elevation and partially in section, disclosing the lighter of the instant invention,

Figure 2 is an enlarged fragmentary sectional view of the rotary valve mechanism in one position of adjustment,

Figure 3 is a sectional view taken substantially along the line 3—3 of Figure 2 as viewed in the direction indicated by the arrows,

Figure 4 is a view similar to Figure 2 but showing certain of the parts in a different position of adjustment, and

Figure 5 is a sectional view taken substantially along the line 5—5 of Figure 4, as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawing, the lighter of the instant invention is comprised of a receptacle 10, provided with a horizontally extending partition 11 forming a wick-containing compartment 12, within which is a wick 13, and the customary cotton batting 14. The partition 11 also defines the upper extremity of a reservoir compartment 15, adapted to be filled with fuel through an inlet closed by a cap 16. The customary flint-containing tube 17 extends upwardly from the base of the receptacle 10 through the tube compartments 12 and 15 to the upper extremity of the lighter where a flint is exposed to the customary ratchet wheel (not shown). The operating mechanism of the lighter, including the ratchet and flint, may be of any

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desired conventional design, operated by any desired type of conventional trip or release 18.

Positioned in the wick-containing receptacle 12 is a cylindrical valve generally indicated at 20, and comprised of a fixed outer cylinder 21 and a rotatable inner cylinder 22. A rod 23 secured to the base of the inner cylinder 22 extends outwardly through the base of receptacle 10 and terminates in a transverse member 24 forming a portion of a D-ring schematically indicated at 25, adapted to seat in a suitable recess in the base, which D-ring may be rotated outwardly to the position indicated in dotted lines in Figure 1 for rotation of the shaft 23, and consequent rotation of the inner cylinder 22.

The outer cylinder 21 is provided with two ports 26 and 27, vertically aligned. The larger port 26 located adjacent the base of the cylinder provides a fuel outlet, while the smaller port 27 provides an air inlet to preclude the formation of a vacuum in the valve.

The inner cylinder 22 is provided in the horizontal plane of the fuel outlet 26 with a port 28, adapted under certain conditions to register with the port 26 to permit the flow of fuel from the interior cylinder 22 into the wick-containing compartment 12. Two ports 29 and 29' are also provided in the upper portion of the cylinder 22, adapted to register with the air vent port 27. The base 30 of the cylinder 22 is also provided with an inlet port 31, adapted, under certain conditions, to register with port 32 extending through the partition 11.

In the use and operation of the device, the inner cylinder 22 is normally positioned, as shown in Figure 4, with ports 31 and 32 in alignment, and with the vent port 29 in alignment with the port 27. With the parts in this position, when it is desired to supply additional fuel to the wick-containing compartment, the lighter is inverted permitting fluid to flow from the fluid-containing chamber 15 through the ports 32 and 31 into the inner cylinder 22. When the inner cylinder 22 is filled, it is turned by means of the D-ring 25 to the position shown in Figure 2, closing the port 32, to preclude the passage of fuel from the cylinder back into the receptacle 15 when the lighter is reinverted, and aligning the ports 26 and 28. In this position, the vent port 29' is placed adjacent the port 27 to preclude the formation of a vacuum. Obviously, the liquid in the inner cylinder will now flow out through the ports 28 and 26 into the wick-containing chamber 12.

From the foregoing, it will now be seen that there is herein provided an improved lighter char-

acterized by relatively great fuel-carrying capacity, which fuel may be readily applied to the wick as necessary, which accomplishes all the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In a cigarette lighter, a hollow body including sides, a top and a bottom, a partition in said body dividing the interior into a wick-containing compartment and a fuel reservoir, said partition having a port therein, and valve means controllable from the exterior of the body governing the admission of fuel from said reservoir to said wick-containing compartment, said valve means comprising coaxial inner and outer cylinders having ports in the sides thereof, and means attached to said inner cylinder extending through said partition, fuel reservoir and the bottom of said housing for rotating said inner cylinder to align said ports, said inner cylinder having a base with an opening therein aligned with said first mentioned port when said last mentioned ports are in non-alignment.

2. In a cigarette lighter, a hollow body, a partition in said body dividing the interior into a wick-containing compartment and a fuel reservoir, said partition having a port therein, and valve means controllable from the exterior of the body governing the admission of fuel from said reservoir to said wick-containing compartment, said valve means comprising coaxial inner and outer cylinders having ports in the sides thereof, and means for rotating said inner cylinder to align said ports, said inner cylinder including a base having a port therein adapted to be aligned with said port in said partition to admit fuel to said inner cylinder, said base being adapted to close said port and said partition when said ports in the sides of said cylinder are aligned.

3. In a cigarette lighter, a body member, a partition in said body member defining a fuel tank and a wick compartment, a rotary valve in said wick compartment, said valve comprising a second fuel tank journaled on said partition, an aperture in said partition, an aperture in said second fuel tank adapted to be selectively aligned with said partition aperture upon rotation of said second tank, a housing encasing said second tank, a port therein and a port in said second tank adapted to be aligned with said housing port upon rotation of said second tank.

HARRY KNOX.

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