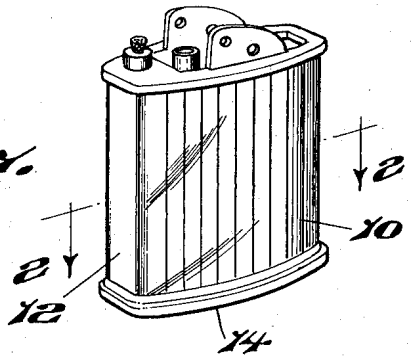
Jan. 1, 1952 A. F. REILLY 2,580,463

FILLING FOR THE FUEL COMPARTMENT OF LIGHTERS

Filed Nov. 10, 1948

Fig. 1.



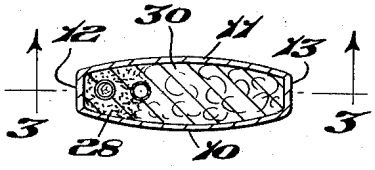


Fig. 2.

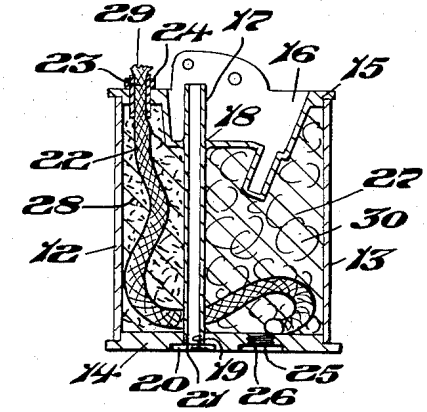


Fig. 3.

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FILLING FOR THE FUEL COMPARTMENTS OF LIGHTERS

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2 Claims. (Cl. 67—7.1)

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This invention relates to a lighter having a compartment for containing a readily volatile liquid fuel within the compartment.

In the use of lighters it is usual that the fuel compartment be filled with cotton in order to absorb and give off the liquid fuel which is loaded into the compartment. The fuel is of such a nature that it will readily volatilize and in its liquid state will be absorbed and transmitted by the wick from the fuel compartment to a point where ignition occurs. A tube usually extends through the fuel compartment in which there is housed the pyrophoric element and a spring for forcing it upwardly against the friction wheel. An opening for loading the fuel into the lighter is usually adjacent the bottom opening through which the pyrophoric tube extends. The cotton which is loaded into the lighter and acts as an absorbent for the fuel is forced inwardly through this opening into which the fuel is loaded, and it is difficult, if not impossible, to force the cotton through this small opening and have it pack around the wick which is on the opposite side of the tube from this loading opening. Consequently, there is often a void in the compartment where the fuel is housed, and this void occurs at a location about a wick where it is desired that most of the fuel be located.

One of the objects of this invention is to position an absorbent material about the wick in the location between the pyrophoric tube and the end of the casing or compartment which houses the fuel.

Another object of this invention is to provide an absorbent material which may be shaken into place, such, for instance, as a granular material.

Another object of this invention is to provide a material which, although in granular form such as sawdust, will have a quality of absorbing fuel and releasing the same in such quantities as may be desired to be supplied to the wick.

Another object of this invention is to provide an absorbent material which will be of low specific gravity.

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 claims.

In the accompanying drawings:

Figure 1 is a perspective view of the fuel compartment or tank of a lighter with the operative parts omitted.

Figure 2 is a sectional view on line 2—2 of Figure 1 showing the two different materials which fill the fuel compartment; and

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Figure 3 is a sectional view on line 3—3 of Figure 2 illustrating the granular material on one side of the pyrophoric tube, while the cotton is on the other side thereof.

In proceeding with this invention, I utilize an absorbent material which will readily release the fuel used and is in a granular form such as sawdust. Then I load this into the fuel compartment and shake the compartment so that the granular material will settle about the wick and between the pyrophoric tube and the end of the lighter; thus, encasing the wick within this filling material. Thereafter, cotton is stuffed into the fuel compartment and positions itself so as to fill the remainder of the compartment which serves to keep the granular material in the location to which it has been shaken so that the wick is nicely housed or contained within the filling material.

With reference to the drawings, the fuel compartment of the lighter comprises side walls 10 and 11, and end walls 12 and 13. A bottom wall is indicated at 14 and a top wall at 15 having a recess or well 16 therein. A pyrophoric tube extends vertically through the fuel compartment and is indicated 17. It passes through and is held in secure relation by the top wall as at 18 and passes through a bottom wall 14 as at 19 where there is provided a recess 20 into which a closure cap may be secured such as by being threaded as at 21 into the lower end of the tube.

A wick 22 is located between the tube 17 and the end wall 12 and passes upwardly through the top wall 15 as at 23 where it is held in position by a sleeve 24.

An opening 25 is also located in the bottom wall 14 and is threaded as at 26 to receive a closure plug therein. A liquid fuel of a readily volatile nature is used within the fuel compartment comprising the hollow portion 27, and in order that this fuel may be absorbed and held in place, I have provided a granular fibrous or cellular material indicated at 28 which is of such a nature that it readily absorbs and readily releases the fuel so as to transmit it to the wick 22 which feeds the fuel upwardly to its exposed end 29 to be there ignited. This material is loaded through the opening 25 in the bottom wall and by shaking the lighter in a horizontal position, this granular filling material may be shaken to a location between the pyrophoric tube 17 and the end wall 12 so as to closely lodge about the wick 22. After an amount of granular material which will fill this location of the fuel compartment has been provided, then cotton designated 30 is loaded into the compartment through the

opening 25 to fill the rest of the space and this cotton assists in maintaining the granular material 28 in place.

This granular material may be of any suitable form which will be absorbent and have releasing qualities for the fuel to give it up to the wick. I have found that cellulosic materials are preferable and especially those with a low specific gravity. A material which has been found satisfactory of this nature is ground up corncobs which are something in the nature of sawdust. These seem to provide a satisfactory absorbent quality and a satisfactory releasable quality so that the fuel which is absorbed by them may be transferred to the wick 22 to be delivered from the fuel compartment for ignition.

In some cases, a sulphur flock has also been found satisfactory.

I claim:

1. In a lighter, a fuel compartment having top, bottom and end walls, a flint containing tube extending from top to bottom across the compartment and through the top and bottom walls, a wick located between said tube and one end wall of the compartment, said bottom wall having an opening between the tube and the other end wall of the compartment for insertion into the compartment of granular cellulosic material first

and then cotton material, a finely divided granular cellulosic material located between said tube and the first said end wall of the compartment and about and in circumferential contact with said wick along the longitudinal extent thereof for holding and transfer of fuel to the wick, and cotton filling the remainder of the fuel compartment to hold the granular material in place between the tube and the first said end wall.

2. In a lighter as in claim 1 wherein said granular material is ground corncobs.

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