July 15, 1952 A. F. FUKAL 2,603,076

CIGARETTE LIGHTER

Filed Jan. 18, 1951 2 SHEETS—SHEET 1

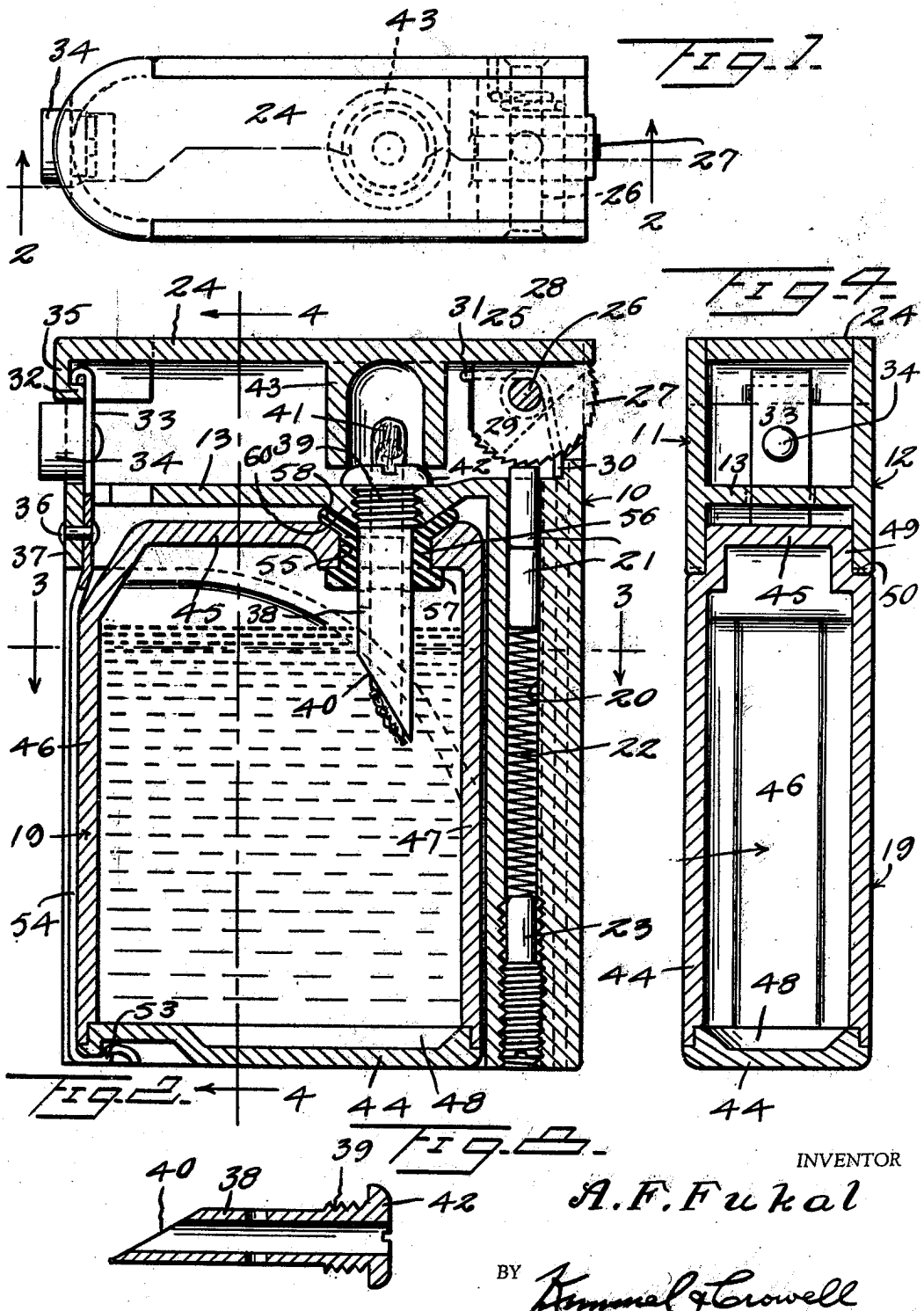

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Fig. 3.

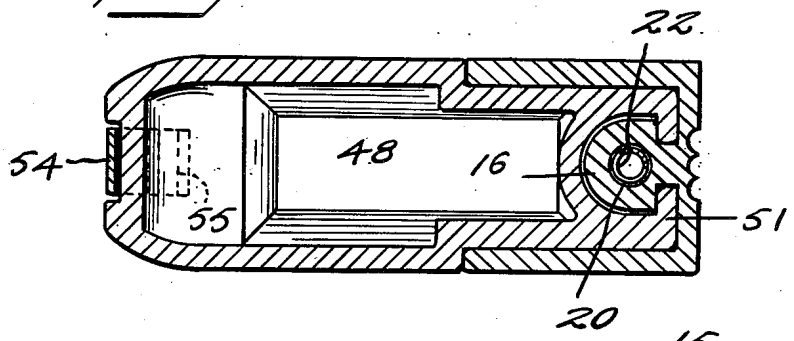


Fig. 5.

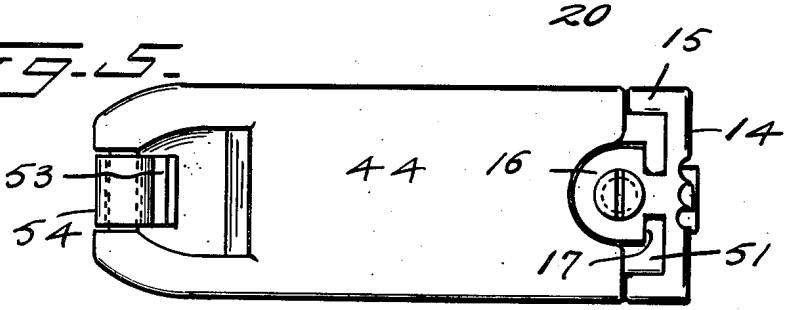
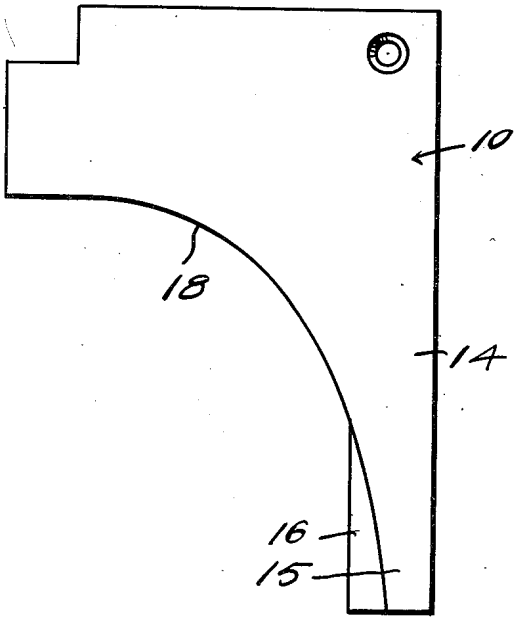


Fig. 7.



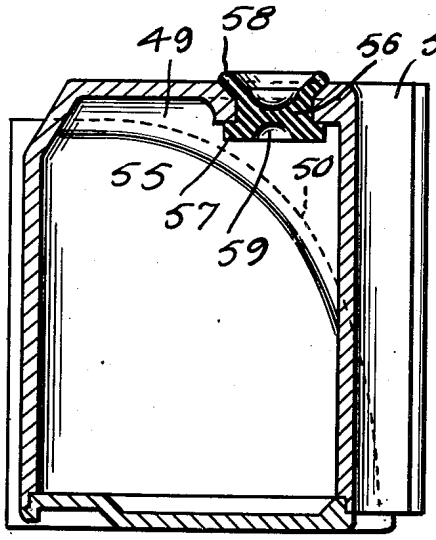


Fig. 6.

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Patented July 15, 1952

2,603,076

UNITED STATES PATENT OFFICE

2,603,076

CIGARETTE LIGHTER

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Application January 18, 1951, Serial No. 206,707

2 Claims. (Cl. 67—7.1)

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This invention relates to cigarette lighters.

An object of this invention is to provide an improved cigarette lighter embodying the use of liquid fuel.

Another object of this invention is to provide a cigarette lighter embodying liquid fuel wherein the fuel is mounted in a replaceable supply reservoir.

Another object of this invention is to provide a cigarette lighter embodying a replaceable fuel reservoir wherein the latter is provided with a plug having a relatively thin diaphragm which is adapted to be pierced by the wick holder as the reservoir is inserted within the body of the lighter.

A further object of this invention is to provide an improved cigarette lighter of this type wherein the spark is generated by raising of the lid or closure with the abrading wheel fixed against movement relative to the closure.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a plan view of a cigarette lighter constructed according to an embodiment of this invention.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a sectional view taken on the line 4—4 of Figure 2.

Figure 5 is a bottom plan view of the device.

Figure 6 is a vertical section taken through the replaceable supply reservoir removed from the holder.

Figure 7 is a detail side elevation of the body of the lighter.

Figure 8 is a longitudinal section taken through the wick guiding tube.

Referring to the drawings, the numeral 10 designates generally the body of the lighter which is formed of a pair of substantially L-shaped side walls 11 and 12 connected together by a horizontal upper wall 13. The body 10 also includes a vertical long side 14 which is formed with a pair of forwardly projecting flanges 15 and an inwardly projecting flint guide 16. The flint guide 16 is forwardly offset from the wall or long side 14 so as to thereby form a pair of oppositely disposed vertical grooves 17. The lower edges of the side walls 11 and 12 are formed on a concave curvature as indicated at 18 so as to thereby ex-

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pose a substantial portion of a fuel supply reservoir generally designated as 19. A flint guide member 16 is provided with a vertical bore 20 within which one or more flints 21 are adapted to be engaged, and the flints 21 are constantly urged upwardly by means of a spring 22 which is tensioned by means of a screw plug 23 threaded into the lower end of the guide member 16.

The body 10 has pivoted on the upper end thereof between the side walls 11 and 12 a closure 24 which is provided with a pair of depending ears 25 through which a pivot member 26 engages. An abrading wheel 27 is mounted on the shaft or pivot member 26 and is provided with at least one flat surface 28 which in the present instance is the upper surface disposed in substantially abutting relation to the lower side of the closure 24 so that the abrading wheel 27 will be held against rotation relative to the closure 24. A spring 29 engages about the shaft or pivot member 26 having one end 30 thereof fixed relative to the body 10 and the other end 31 thereof fixed relative to the closure 24.

The spring 29 is adapted to constantly urge the closure 24 upwardly and rearwardly to an open position. The closure 24 also includes a keeper 32 at its forward end which is engaged by a resilient latch or locking member 33. A release button 34 is fixed to the locking member 33 and projects slightly beyond the forward wall 35 of the closure 24. The locking member 33 is constructed in the form of a flat spring which is fixed by fastening means 36 to the inner side of the front wall 37 of the body 10.

A wick guiding tube 38 is threaded as indicated at 39 through the top wall 13 of the body 10 and is provided with a bevelled lower end 40 constructed in bayonet shape, the purpose for which will be hereinafter described. A wick 41 is disposed within the wick tube 38 and projects slightly above the flanged head 42 of the wick tube 38. A cup-shaped fire extinguishing member 43 is fixed to the lower side of the closure 42 and is adapted to encompass the projecting upper end of the wick 41 so as to snuff out the fire when the closure 24 is swung downwardly to a closed position.

The fuel reservoir 19 is constructed of a pair of side walls 44, a top wall 45, opposite end walls 46 and 47, and a bottom wall 48. The side walls 44 as shown in Figure 4 are provided with inwardly offset upper portions 49 thereby forming a shoulder 50 so that the curved lower edges 18 of the side walls 11 and 12 of body 10 may engage on the shoulders 50 with the outer sides of the

side walls 11 and 12 substantially flush with the outer sides of the reservoir side walls 44. The end wall 47 is the rear end wall of the reservoir 19 and is constructed with a pair of L-shaped locking tongues 51 which are adapted to engage about the flint guide member 16 and engage within the vertical grooves 17 as shown in Figures 3 and 5.

The bottom wall 48 of the reservoir 19 is provided with a keeper 52 within which a resilient latch or locking member 53 is adapted to releasably engage. The latch or locking member 53 is formed integral with an elongated spring bar 54 which extends upwardly along the forward side of the front wall 46 and is formed integral with the locking member 33. The top wall 45 of the reservoir 19 is provided with an opening 55 within which a rubber or resilient sleeve 56 is positioned. The sleeve 56 is formed with a lower annular flange 57 and with an upper flared flange 58 engaging on the upper side of the top wall 45.

At the time the reservoir 19 is initially filled with lighter fluid the opening 55 is closed by the sleeve 56 which initially includes a diaphragm 59 extending across the sleeve 56 which is adapted to be pierced or punctured by the bayonet shaped lower end 40 of the wick tube 38. The flared flange 58 as shown in Figure 2, is adapted at the time the reservoir 19 is in operative position within the body 10 to bear tightly against a tapered seat 60 which is carried by the top wall 13.

In the use and operation of the lighter the reservoir 19 is connected with the body 10 by sliding the body upwardly over the flint guide member 16 with the L-shaped tongues 51 slidably engaging in the grooves 17. The reservoir 19 is pushed upwardly until the wick tube 38 punctures the diaphragm 59 and until the latching member 53 is engaged with the keeper 52 formed on the bottom wall 48 of the reservoir 19.

When the release button 34 is pushed inwardly, spring 29 will raise the closure 24 thereby causing abrading wheel 27 to generate a spark from the upper end of the flint 21, and this spark will be projected forwardly to lighting engagement with the moist wick 41. In the event the supply of liquid in the reservoir 19 extends below the lower end of the wick 41, the latter can be moistened by turning the lighter to a horizontal position so that the smaller amount of liquid will contact with wick 41.

It will be understood that the reservoir 19 may be formed out of any suitable material which may be of a transparent or translucent characteristic so that the user will be able to determine at a glance how much liquid is remaining in the reservoir.

What is claimed is:

1. A cigarette lighter comprising an inverted L-shaped housing open at the bottom, a spring-pressed closure hingedly carried by the upper side of said housing and constantly urged to open position, releasable latch means for holding said closure in closed position, a spring-pressed flint carried by said housing, an abrading wheel fixed relative to said closure and engaging said flint, a wick tube carried by the upper side of said housing in depending relation, a wick in said tube, a blade formed on the lower end of said tube, a reservoir, a yieldable plug carried by said reservoir engaging about said tube, interlocking means carried by the other side of said housing and by said reservoir for securing the latter to said housing, and spring latch means for locking said reservoir to said housing.

2. A cigarette lighter comprising an inverted L-shaped housing open at the bottom, a spring-pressed closure hingedly carried by the upper side of said housing and constantly urged to open position, releasable latch means for holding said closure in closed position, a spring-pressed flint carried by said housing, an abrading wheel fixed relative to said closure and engaging said flint, a wick tube carried by the upper side of said housing in depending relation, a wick in said tube, a blade formed on the lower end of said tube, a reservoir, a yieldable plug carried by said reservoir engaging about said tube, said housing having a pair of grooves extending lengthwise of the other side thereof, opposed L-shaped tongues carried by said reservoir engaging in said grooves, and spring latch means for locking said reservoir relative to said housing.

ALFRED FRANCIS FUKAL.

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