Dec. 27, 1949 I. FLORMAN 2,492,277

CIGARETTE LIGHTER

Filed Sept. 15, 1947

Fig. 1

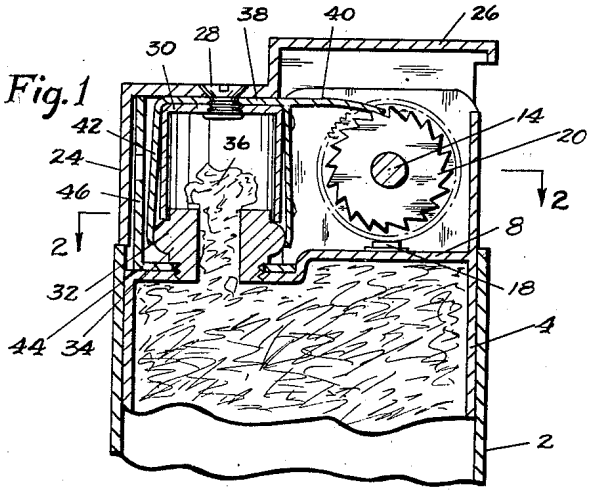
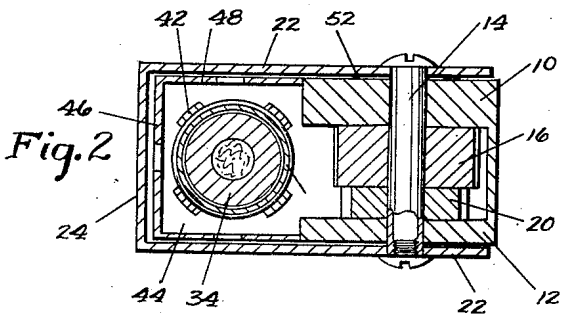


Fig. 2



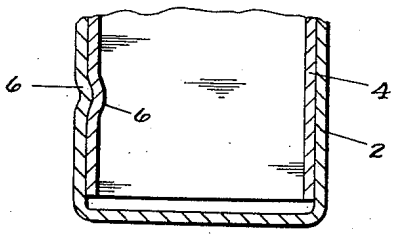


Fig. 5

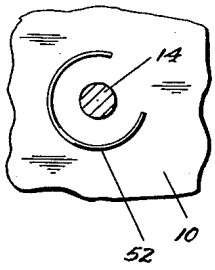


Fig. 4

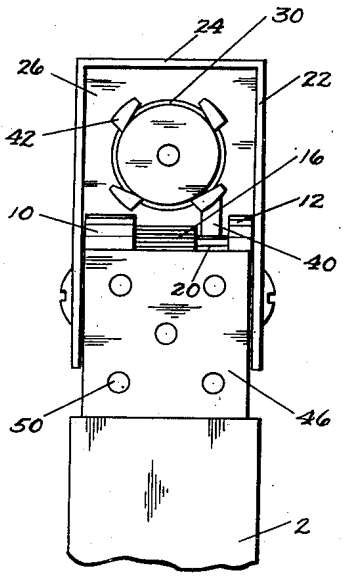


Fig. 3

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CIGARETTE LIGHTER

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Application September 15, 1947, Serial No. 773,995

4 Claims. (Cl. 67—7.1)

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The invention relates to cigarette lighters, and more particularly to lighters of the pyrophoric type.

The primary object of the invention is to produce a cigarette lighter which is simple and sure in operation and is of uncomplicated construction.

Another object of the invention is to provide a lighter of the type having a windshield for protecting the wick, in which this windshield is completely enclosed when the lighter is not in use, and is thus protected against damage.

Still another object of the invention is to provide a cigarette lighter in which a closure cap is thumb operated to cause a spark to be thrown on the wick, and in which this cap encloses the windshield.

A further object of the invention is to provide a cigarette lighter in which the windshield is secured on the top of the lighter in a simple and effective manner, namely by an extension arranged beneath an enlarged portion of the wick tube which in turn is threaded into the top wall of the lighter body.

Still another object of the invention is to provide, in a lighter having a removable fuel tank, a novel and effective arrangement for preventing accidental release of the fuel tank from the position in which it is arranged.

Still another object of the invention is to provide an extremely simple arrangement for limiting the movement of the cap and preventing accidental shifting thereof.

Further objects and advantages of the invention will appear more fully from the following description, particularly when taken in conjunction with the accompanying drawings which form a part thereof.

In the drawings:

Fig. 1 is a vertical cross-section through the top part of the cigarette lighter embodying my invention;

Fig. 2 is a cross-section on the line 2—2 of Fig. 1;

Fig. 3 is a front view of the lighter with the cap in raised position;

Fig. 4 is a detailed view of the cap holding mechanism; and

Fig. 5 is a vertical section through the bottom part of the lighter.

The arrangement includes an outer casing 2 open at the top and closed at the bottom in which is slidably arranged a fuel chamber 4. Accidental sliding of the fuel chamber out of the casing is prevented, as shown in Fig. 5, by matching indentations 6 which can engage each other when the fuel chamber is pushed into the casing to its fullest extent.

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The top wall 8 of the fuel casing has two portions on different levels as shown in Fig. 1. Upstanding from the higher portion are ears 10, 12 through which extend a pivot pin 14. Rotatably mounted on this pin is a flint wheel 16 engaging a flint 18 which is resiliently held in position against the wheel in any conventional manner. Rigidly secured to the flint wheel 16 is a ratchet wheel 20, so that turning of the ratchet wheel will cause the flint wheel to turn.

Pivoted on pin 14 on the outside of ears 10, 12 is a cover having side walls 22, a front wall 24 and a top wall 26. The lower edge of front wall 24 is adapted to engage the upper edge of casing 2 as shown in Fig. 1. Mounted on the inside of the cover and on the top wall by a screw 28 is a snuffer cap 30. This snuffer cap is arranged to engage a bulging portion 32 of wick tube 34 through which extends the wick 36. Arranged between the snuffer cap 30 and the top wall 26 is an operating member 38 having projecting rearwardly a pawl 40 engageable with the teeth of ratchet wheel 20 so that when the cover is raised the pawl will drive the ratchet wheel and thus turn the flint wheel to project sparks on the wick. Projecting downwardly towards the wick are four spring members 42 having their lower ends inwardly turned and engageable beneath the bulge 32 of wick tube 34 so as normally to prevent upward movement of the cap until a sufficient pressure is exerted by the thumb on the back end of the top wall 26 to release the springs. This arrangement, of the type generally described in my Patent No. 2,224,341, ensures a snap action which makes the lighter more efficient in operation.

The wick is protected when the lighter is in use by a windshield composed of bottom wall 44, a front wall 46 and side walls 48. Bottom wall 44 has an opening, through which extends the lower end of the wick tube 34, this lower end being then threaded in the top wall 8 of the fuel chamber. Thus the windshield is securely held in position on the lighter. The front and side walls of the windshield are provided with openings 50, in the conventional fashion. It will be noted that this whole windshield is enclosed in the operating cover when the device is closed.

In order to prevent the lighter cap from falling back down and extinguishing the wick when the mechanism is being used, there is arranged between the ear 10 and the corresponding side

wall 22 of the lighter, and around the pin 14, a small piece 52 of spring wire biased out of its plane, and thus exerting a frictional grip between the cover and the ear 10. This grip prevents accidental movement of the cover to closed position.

In order to operate the lighter, the user presses on the projecting back part of the top wall 26 (right hand part in Fig. 1) with the thumb until the resiliency of grips 42 is overcome so as to impart a sudden rotation to the fling wheel 16 and throw sparks on the wick. When the lighter is no longer needed the cover is merely pushed down by the thumb to closed position, thus covering the windshield and extinguishing the wick.

While I have described herein one embodiment of my invention, I wish it to be understood that I do not intend to limit myself thereby except within the scope of the claims hereto or hereinafter appended.

I claim:

1. In a cigarette lighter, a member forming a fuel chamber having a top wall and a wick extending above said top wall, a windshield at least partially surrounding said wick and extending upwardly from said top wall, a cover movably mounted above said top wall and enclosing said wick and windshield when in closed position, igniting mechanism, means operatively connecting said cover to said igniting mechanism to operate said mechanism and ignite the wick when the cover is moved away from closed position, said windshield having a bottom wall lying on the top wall of said fuel chamber member and having an opening therein, a wick tube holding said wick having a part engaging said windshield bottom wall and a second part extending through said opening and threaded in said top wall, a snuffer mounted on the interior of said cover and adapted to move within the windshield to extinguish the wick when the mover is moved to closed position, ears extending upwardly above said top wall, said cover being pivoted on said ears, resilient means preventing raising of said cover until a predetermined pressure is applied to the cover, said cover having side walls adjacent said ears, and a coiled piece of spring metal between one of said cover side walls and one of said ears around the pivot axis of the cover.

2. In a device as claimed in claim 1, said fuel chamber member being open at the bottom, and a casing into which the fuel chamber member is slidable, said cover in closed position engaging the upper edge of said casing.

3. In a device as claimed in claim 2, said fuel chamber member and casing having cooperating indentations to prevent accidental removal of the fuel chamber from the casing.

4. In a cigarette lighter, a member forming a fuel chamber having a top wall and a wick extending above said top wall, a windshield at least partially surrounding said wick and extending upwardly from said top wall, a cover movably mounted above said top wall and enclosing said wick and windshield when in closed position, igniting mechanism, means operatively connecting said cover to said igniting mechanism to operate said mechanism and ignite the wick when the cover is moved away from closed position, said windshield having a bottom wall lying on the top wall of said fuel chamber member and having an opening therein, a wick tube holding said wick having a part engaging said windshield bottom wall and a second part extending through said opening and threaded in said top wall, a snuffer mounted on the interior of said cover and adapted to move within the windshield to extinguish the wick when the cover is moved to closed position, ears extending upwardly above said top wall, said cover being pivoted on said ears, resilient means preventing raising of said cover until a predetermined pressure is applied to the cover, said cover having side walls adjacent said ears, and friction means between one of said cover side walls and one of said ears so as to cause the cover to stand in any position to which it may be moved.

IRVING FLORMAN.

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The following references are of record in the file of this patent:

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