May 25, 1948. A. SZERENYI 2,442,186

LIGHTER

Filed April 21, 1945

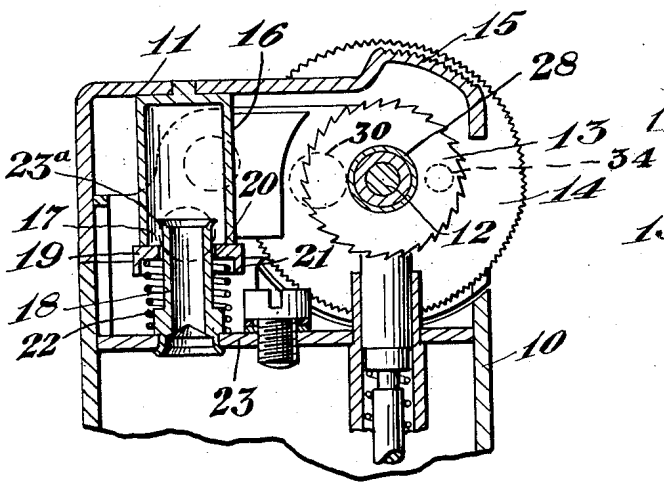

Fig. 1.

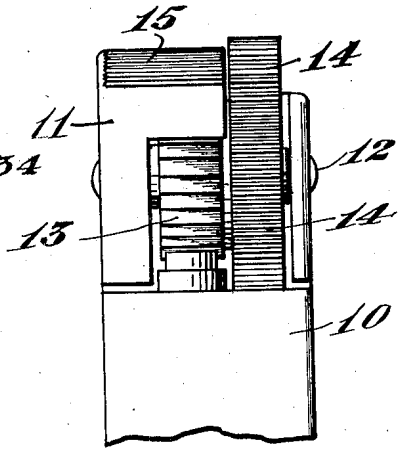

Fig. 3.

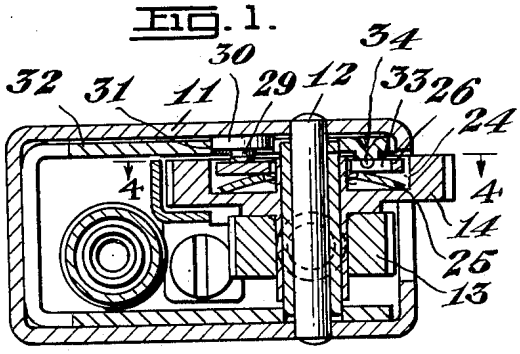

Fig. 2.

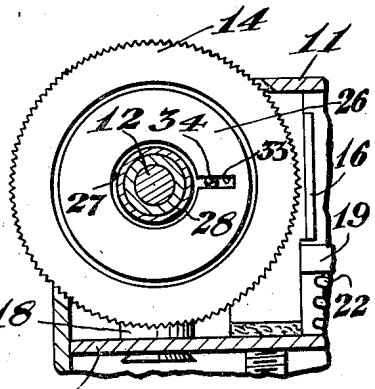

Fig. 4.

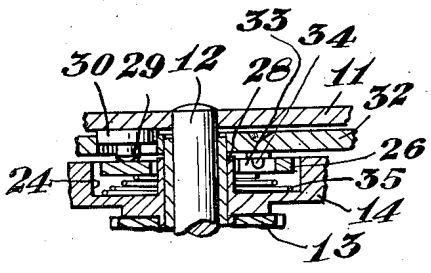

Fig. 5.

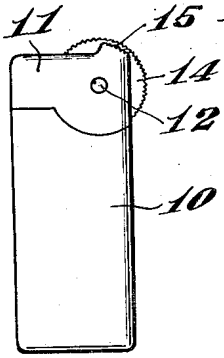

Fig. 6.

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LIGHTER

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3 Claims. (Cl. 67—7.1)

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This invention relates to improvements in lighters, such as cigarette lighters, and particularly concerns a snuffer construction in combination with the operation of the lighter cover.

Snuffers have previously been proposed for use in cigarette lighters wherein the snuffer extends over the wick of the lighter when the cover is closed to snuff out the flame. It is particularly desirable that the snuffer should completely enclose the wick in substantially sealed relation in order to avoid partial evaporation of the lighter fluid. In most cases, however, the snuffer merely performs a snuffing function and does not effect an efficient sealing action because the snuffer will not readily fit with other parts of the lighter construction at the wick.

It is an object of the invention to provide a snuffer construction which will readily fit over the wick and a portion of the wick tube and seal the wick within the confines of the snuffer when the cover of the lighter is closed, whereby to avoid evaporation of the lighter fluid through the wick.

A further object of the invention is to provide a construction of this kind which includes a depressible base cooperating with the snuffer casing, whereby to engage the lower edge of the snuffer when the cover is closed to effect a seal.

A further object of the invention is to provide a construction of this kind which is particularly simple and therefore can be incorporated in a lighter construction at low cost, while providing the advantages resulting from the sealed enclosure of the wick.

A still further object of the invention is to provide a construction of this kind including a friction means operating in conjunction with the cover to retain the latter against free movement where a cover is not a self-closing cover.

With these and other objects in view, the invention generally comprises a cover having a snuffer casing rigidly fastened to the cover top and projecting inwardly from its inner surface, the said casing being opened at its lower end and aligned with the wick tube of the lighter, thereby to surround the upper extremities of the wick tube and the wick upon closure of the cover, the said snuffer construction including a movable base member surrounding the wick tube and resiliently seated to engage and be depressed by the snuffer on closure of the cover, whereby to seal the wick within a confined enclosure.

The structure preferably includes frictional means operating in conjunction with the cover to maintain the lighter closed as against the spring pressure of said base member.

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The invention will be clearly understood by reference to the following detailed specification taken in conjunction with the accompanying drawings.

In the drawings,

Figure 1 is a longitudinal section taken through the upper extremity of a lighter to illustrate details of a snuffer construction according to the present invention.

Figure 2 is a transverse section taken through the upper extremities of the lighter to illustrate as well details of the frictional means for restraining the cover from free movement.

Figure 3 is a fragmentary rear elevation of Figure 1.

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

Figure 5 is a sectional detail similar to Figure 2 but showing an alternative form of spring means.

Figure 6 is a miniature view of a type of lighter to which the construction is particularly well adapted.

Referring to the drawings, 10 indicates a lighter body having a swingable cover 11 which in the case of the present illustration is designed to swing about the main shaft 12 which also carries the flint wheel 13 and the actuating wheel 14 for the flint wheel. It also includes a cover actuating member 15 designed to be actuated contemporaneously with the actuating wheel 14. Such a construction forms the subject matter of my copending application Serial No. 568,244, filed on December 15, 1944.

Within the confines of the cover and secured to the upper wall thereof is a snuffer casing 16 which is designed to project inwardly of the cover, the lower end of which is open as indicated at 17. The snuffer casing 16 is disposed normally in axial alignment with the wick tube 18 and is of a diameter substantially greater than the diameter of the wick tube so that it may freely pass the upper extremities of the wick tube when the cover is swung to closed position. Surrounding the wick tube 17 is provided a base member 19 which may take the form of a disc washer having the central opening 20 and also preferably including a downwardly extending skirt or flange 21. Suitable spring means such as a coil spring 22, is disposed between the top plate 23 of the lighter casing and the underside of the base 19 so that this is constantly urged upwardly towards the upper end of the wick tube. Suitable means is provided to stop the upward movement of the base 19 towards the upper ex-

tremity of the wick tube and I prefer, in this instance, slightly to flare outwardly the upper end of the wick tube as indicated at 23a, thus, when the lighter cover 11 is open, the base 19 under pressure of the spring 22 will assume a position adjacent the top of the wick tube. However, when the lighter is closed, the lower extremities of the snuffer casing will engage the base 19 just prior to complete closing of the cover 11 and will depress this base downwardly to the position shown in Figure 1. In this way, the upper extremity of the wick tube 18 and the wick will be totally enclosed within the snuffer casing so as to seal the wick and upper end of the wick tube, thereby to reduce to the maximum degree evaporation of lighter fluid via the wick which takes place constantly to a marked degree in the average lighter construction.

The snuffer casing 16 is always held in strict alignment with the axis of the wick tube because the snuffer casing is rigidly fastened to the cover, whereas sealing of the snuffer casing around the wick is effectively accomplished each time the cover is closed by reason of the simple cooperating base member 19.

In order to avoid partial opening of the cover 11 which might be effected through the pressure engagement of the snuffer housing 16 and the spring pressed base 19, I provide a friction means which tends to restrain the cover from entirely free swinging movement.

In a preferred friction applying assembly, I prefer to recess the actuating wheel 14, as at 24, and to dispose within the recess a dished spring disc 25. This is designed to apply pressure against pressure plate 26 in the form of a disc (see Figure 4). This disc is provided with a central opening 27 to fit around the sleeve portion 28 of the actuating wheel 14 and is designed to engage a stud 29 of a pressure shoe 30 which is disposed within an opening 31 in the windshield 32 or other superstructure of the lighter construction, so that the pressure shoe 30 may frictionally engage the inner surface of a wall of the cover 11. Moreover, the pressure plate 26 is provided with a slot or recess 33 into which a boss 34 may be projected from the windshield 32 or other superstructure thereby retaining the pressure plate 26 against rotation. Therefore, there is no rotational friction producing action as between the pressure plate 26 and pressure shoe 30.

The pressure applied against the inner surface of the wall of the cover 11 prevents free swinging movement of the cover without actuation thereof, the pressure being applied not only on that side where the pressure shoe 30 is located, but also on the opposite side, as the pressure shoe

tends to pull the opposite wall of the cover against the adjacent parts. Therefore, free swinging movement of the cover is restricted and consequently the cover will remain closed against any pressure which may be exerted by the coil spring 22 through the base plate 19 and snuffer casing 16, although it may be opened readily by pressure of a digit of the operator's hand and likewise closed, in the normal operation of the lighter.

Alternative spring means may, of course, be employed and in Figure 5 there is illustrated a helical convolute spring 35 which engages the pressure plate 26 in a substantially similar manner to the dished spring disk 25.

It will be apparent from the foregoing that I have provided a simple combination which will lend to the efficiency of pocket lighters by providing a simple and efficient means of conserving fuel by preventing a proportion of evaporation by sealing the wick and upper end of the wick tube in a practical manner.

What I claim as my invention is:

1. In a pocket lighter including a casing having a swingable cover, a wick carrying tube, igniting means for igniting the wick of the tube, means for restraining free swinging movement of the cover comprising a pressure shoe mounted on the upper part of said casing and designed to engage a wall of said cover, a pressure plate engaging said pressure shoe, means for retaining said pressure plate against rotation, and a spring element disposed to exert pressure against said pressure plate whereby to engage said pressure shoe with said wall of the cover under pressure to retain the latter against free swinging movement.

2. A pocket lighter as claimed in claim 1 in which said actuating wheel is recessed centrally on one side of its sides to receive said spring element and pressure plate.

3. A pocket lighter as claimed in claim 1 in which said actuating wheel is recessed centrally on one of its sides to receive said spring element and pressure plate and in which said pressure shoe is mounted on a wind shield which extends around said wick carrying tube.

ANDREW SZERENYI.

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