Sept. 9, 1947. A. KOLBERG ET AL 2,427,058

LIGHTER

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Fig. 1.

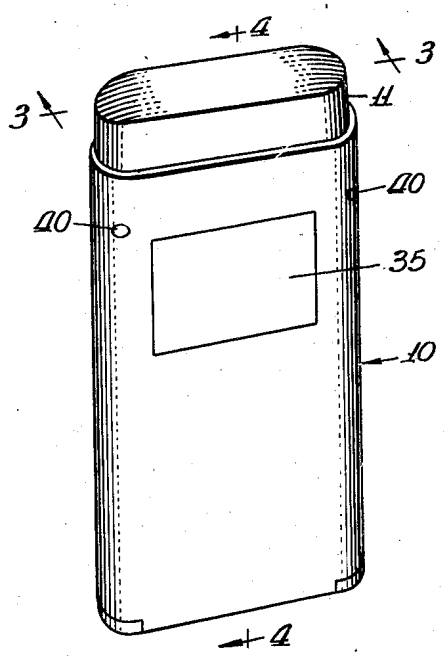

Fig. 2.

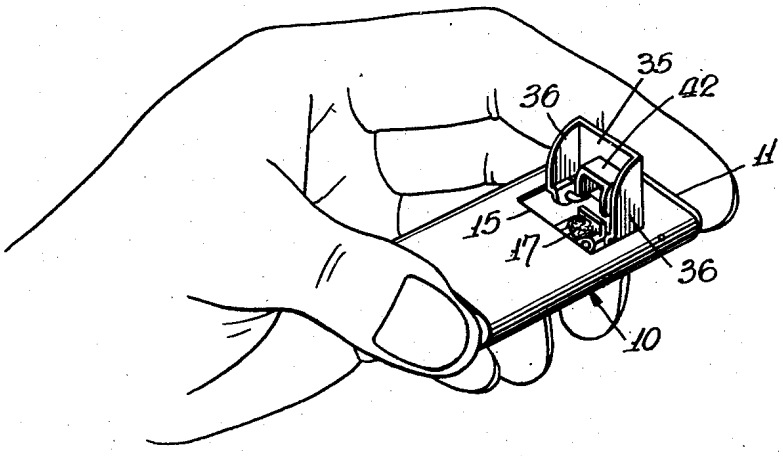

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FIG. 3.

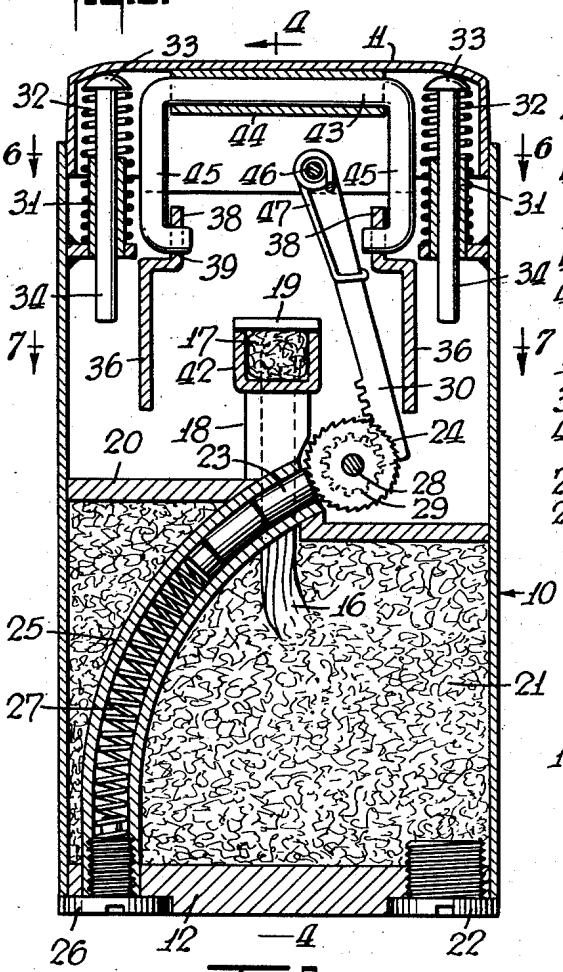


FIG. 4.

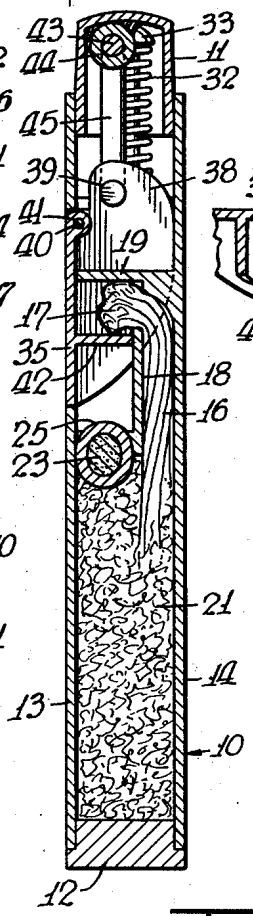


FIG. 5.

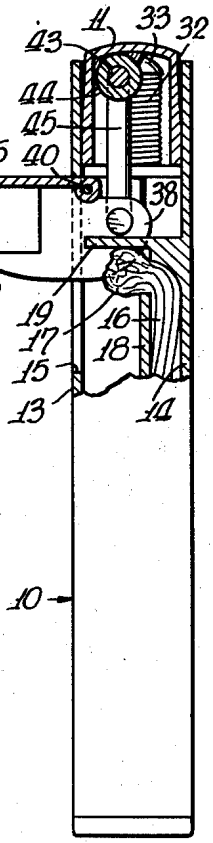


FIG. 6.

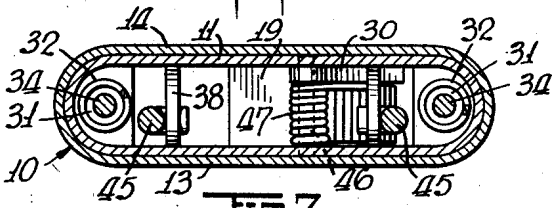


FIG. 7.

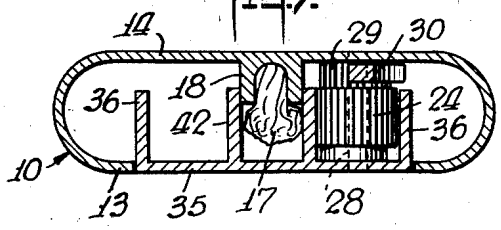
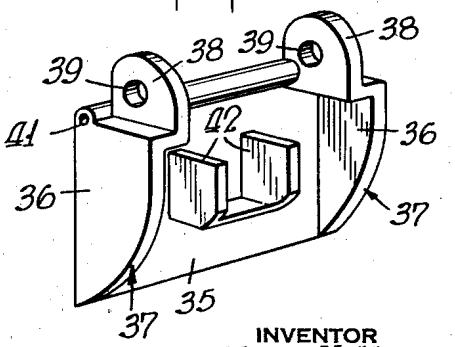


FIG. 8.



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LIGHTER

Abner Kolberg, Mount Vernon, and Julius Kohn, New York, N. Y., assignors, by mesne assignments, to Colby Lighter Corporation, Mount Vernon, N. Y., a corporation of New York

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7 Claims. (Cl. 67—7.1)

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Our present invention relates generally to pocket lighters.

A general object of our invention is to provide certain improvements in the structure and mode of association of the elements of which the lighter is composed, whereby greater compactness is achieved, and whereby the lighter is of enhanced attractiveness and utility.

A further general object of the invention is a lighter casing defined by top and bottom walls which are relatively wide and by connecting side walls which are relatively narrow, wherein a section, more particularly an internal section, of the relatively wide top wall is movable out of the plane of said wall into a position at an angle thereto to leave an opening through which the flame from the wick may reach the exterior and to form a windshield for the flame.

A more particular object of the invention is to provide a lighter in which a means is provided for shielding the flame in an unusually efficient manner, the shielding means being of such a character that it also facilitates the correct application of the flame to the cigar or cigarette which is to be lit.

A further general object of the invention is to provide a device of the character mentioned, in which there are no projecting parts, the device presenting a smooth and attractive exterior surface, which may be polished or ornamented in a variety of ways. This feature, coupled with its compactness, makes it an attractive and handy unit for accommodation in a man's vest pocket or in a woman's handbag.

It is a characterizing feature of our invention to form a device of telescopically adjustable sections one of which has a substantially flat face provided with an opening therein, a lid of special character being pivotally associated with the casing to keep the opening closed under normal conditions and to shield the flame when the lighter is used.

We achieve the foregoing objects and advantages, and such other objects and advantages as may hereinafter appear or be pointed out, in the manner illustratively exemplified in the accompanying drawings in which:

Figure 1 is a perspective view of a pocket lighter constructed in accordance with the present invention;

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Figure 2 is a perspective view showing the lighter in the hand of a user, indicating its compact nature, the lighter being shown in operative condition;

Figure 3 is an enlarged cross-sectional view taken substantially along the line 3—3 of Figure 1;

Figure 4 is a cross-sectional view taken substantially along the line 4—4 of Figures 1 and 3;

Figure 5 is a view similar to Figure 4 showing the parts in adjusted relationship;

Figure 6 is a cross-sectional view taken substantially along the line 6—6 of Figure 3;

Figure 7 is a cross-sectional view taken substantially along the line 7—7 of Figure 3; and

Figure 8 is an enlarged perspective view of the special lid, shown by itself.

In the preferred embodiment herein illustrated, the device is composed of telescopically adjustable sections 10 and 11, the section 10 being a cup-like member having a closed end wall 12 and flattened parallel side faces 13 and 14 (see Figures 4 and 7). In one of the flat faces, e. g., the face 13, the casing section 10 is provided with an opening 15 (Figures 2 and 5) which is preferably of substantially rectangular shape and of appreciable size.

Arranged within the section 10 is a wick 16 whose ignitable end 17 is positioned in alignment with the opening 15 and at right angles to the plane of the opening, it being intended that the lighter will be held in a substantially horizontal position, as shown in Figure 2, when the wick is ignited. The wick is held in the desired position by mounting the same within a small conduit 18 whose outlet end is directed toward the opening 15 and is provided with a wall or partition 19. The opposite end of the conduit passes through a transverse interior wall 20, the space between the walls 12 and 20 constituting a fuel reservoir 21 adapted to accommodate a mass of cotton or similar fuel-carrying material of well-known character. The introduction of fuel is effected through a removal closure 22 in the end wall 12.

The casing section 10 is also provided with a spark-producing mechanism consisting of a flint 23 or the like, and a friction wheel 24. The flint 23 is mounted within a tube 25 which extends into the casing section from removable closure point 26 in the rear wall 12, a spring 27 serving

in well-known fashion to press the flint 23 forwardly against the friction wheel 24. The latter is mounted on a shaft 28 extending transversely across the casing section between the flattened walls thereof, and the shaft 28 carries a pinion 29 whose rotative movements are controlled by an actuating mechanism or rack 30. This mechanism may be provided in the usual way with a ratchet so that the wheel 24 will rub against the flint 23 when the lighter is actuated, and will remain stationary during the return stroke of the rack 30. Obviously, the parts are so arranged that when the spark is produced, it will be thrown in the direction of the ignitable wick end 17.

The other or complementary section of the casing 11 is of an auxiliary character, being considerably smaller than the section 10 and being telescopically mounted in association with the open end of the latter. In the illustrated construction, the section 11 is a cup-shaped element which is fitted within the section 10. It is mounted for adjustment toward and away from the section 10, as indicated most clearly in Figures 4 and 5, Figure 4 showing the two casing sections in their normal relatively remote relationship, and Figure 5 showing the casing sections adjusted into an operative condition.

Resilient means of suitable character is provided for normally retaining the casing sections in the position of Figure 4. A convenient way of accomplishing this is to provide fixed parallel sleeves 31 on the narrow walls of the section 10, adjacent its open end, and to mount a compression spring 32 around each sleeve, the spring pressing against the enlarged round head 33 of a pin 34 which is slidably mounted within the sleeve. The heads 33 of the pins 34 press outwardly against the end wall of the casing section 11, thereby normally holding the parts in the relationship of Figure 4; but when the casing sections are pressed together, as indicated in Figures 2 and 5, the springs 32 yield resiliently to permit the desired adjustment to take place.

A characterizing feature of the invention resides in the special construction and arrangement of a lid in cooperative association with the opening 15. This lid is shown most clearly in Figure 8, and consists of a main flat panel 35, and a marginal portion at an angle thereto. Where the opening 15 is rectangular, the main panel 35 is similarly shaped, and the marginal portion consists of a pair of parallel wings 36 formed on the opposite lateral edges of the panel 35. These wings are preferably provided with convex free edges 37, and at least one of them has a rearwardly projecting ear 38 with a pivot opening 39 formed therein. We have shown each of the wings 36 provided with such an apertured ear.

The lid is pivotally associated with the casing section 10 along one edge of the opening 15. An elongated pivot pin 40 (Figure 4) serves to accomplish this result, this pin extending through a suitable tubular channel or bearing 41 formed in the lid itself (Figure 8), and the ends of the pin 40 extending into preformed aligned openings formed in the casing section 10. The exposed ends of the pin are ultimately polished off as indicated in Figure 1, so as to lie flush with the external surface of the section 10.

On the inner side of the main panel 35 of the lid, a snuffer is provided, preferably in the form of a U-shaped upstanding flange or wall 42, this U-shaped protrusion cooperating with the wall

or partition 19 (as shown most clearly in Figure 3) to encircle the wick end 17 when the lighter is in its closed condition.

The device is provided with a means which actuates the spark-producing mechanism and which simultaneously swings the lid into an opened condition whenever the two casing sections are adjusted from the relationship of Figure 4 to that of Figure 5. To accomplish this result, we provide a link member which may be in the form of a substantially U-shaped element in articulated relation to the casing section 11 and the lid. In the illustrated construction, the base or medial portion 43 of this link member is pivotally mounted within a tubular bearing 44 secured to the under side of the end wall of the casing section 11, and the two arms 45 of the link member extend into pivotal engagement with the ears 38. More particularly, it will be observed that the free ends of the link member are turned inwardly to engage pivotally within the apertures 39 in the ears 38.

The rack 30 is also carried by the casing section 11, and may for example be pivoted on a pin 46 which is secured on the interior of the casing section 11, a spring 47 serving to hold the rack 30 in constant engagement with the pinion 29.

A comparison of Figures 4 and 5, and of Figures 1 and 2, will indicate that when the lighter is in its normal inoperative condition, the lid 35 will lie flush with the exterior surface of the casing section 10, i. e., it will lie in the plane of the opening 15, thereby closing and sealing the latter in an attractive yet effective manner. When the casing sections are adjusted toward each other, the lid is swung into the upstanding position shown. In this position, the lid serves not only as a shield for the flame but as a convenient guide toward bringing the flame properly and expeditiously to the end of the cigar or cigarette which is to be lit. The flame-shielding action of the lid is highly effective, because of the substantial size of the opening 15, hence of the lid; and the flame-shielding effect is enhanced by the lateral wings 36, as will be readily understood.

While the wick is ignited, the flame is prevented from entering into the casing section 11 by the baffling action of the partition 19. When the pressure on the lighter is released, the springs 32 restore the parts to their normal relationships, snapping the lid back into its closed position, and promptly extinguishing the flame by the snuffing action of the snuffer 42.

It will thus be observed that we have provided a device which is unusually attractive in appearance and extremely compact for easy and convenient pocketing and whose structural nature is relatively simple and hence relatively inexpensive to manufacture, and having advantageous features of operation and performance.

It will further be observed: (*a*) that the closure member is an internal section of the relatively wide top wall which it completes when in inoperative position and (*b*) that it can have a width which is limited only by that of the top wall to enhance its effectiveness as a windshield when in operative position.

In general, it will be understood that many of the details herein described and illustrated may readily be modified by those skilled in the art without departing from the spirit and scope of the invention as expressed in the appended claims. It is therefore intended that these de-

tails, except as they may be specially alluded to in the claims, be interpreted as being merely illustrative.

Having thus described our invention and illustrated its use, what we claim as new and desire to secure by Letters Patent is:

1. In a pocket lighter, in combination, a main casing having relatively wide front and rear walls connected by a pair of relatively narrow parallel side walls and closed at one end, a partition disposed transversely in the casing to define a fuel containing compartment occupying the entire lower closed portion of the casing and an open casing portion above the said partition, the said front casing wall having an opening communicating with the said open casing portion, a channel formed integral with the said casing and presenting a front channel wall in the said open casing portion extending upwardly from the said transverse partition, the said channel having a transversely disposed opening at the partition communicating with the said fuel containing compartment and its said front wall having an opening in underlying relation to the said opening in the front casing wall, a barrier at the upper side of the said opening in the front channel wall extending transversely across the said open casing portion, a wick disposed in the said channel with its lower end extending into the said fuel containing compartment and its upper end extending through the said opening in the front channel wall in underlying relation to the said barrier, a closure member having a front panel closely fitting the said opening in the front casing wall and pivotally mounted at a point along the upper side of the said opening and close to the front casing wall to present the said panel flush with the front casing wall, the said closure member having a U-shaped projection extending rearwardly from its said front panel into the said open casing portion and presenting two side walls and a connecting lower wall cooperative with the said barrier at the upper side of the channel opening to completely enclose the said upper end of the wick in the closed position of the closure member, the said closure member having a pair of lateral side wings extending into the said open casing portion and adapted in the open position of the closure member to shield the said upper end of the wick presented at the opening in the front casing wall, a cap member slidably mounted at the open end of the main casing, link means connecting the said cap member and the upper end of the lateral wings extending in the said open casing portion, and spring means urging the said cap member outwardly of the main casing to maintain the said closure member in closed position, the said cap member being depressed against the urgency of its said spring to turn the closure member to open position to expose the said wick at the opening in the front casing wall.

2. In a pocket lighter, in combination, a main casing having relatively wide front and rear walls connected by a pair of relatively narrow parallel side walls and closed at one end, a partition disposed transversely in the casing to define a fuel containing compartment occupying the entire lower closed portion of the casing and an open casing portion above the said partition, the said front casing wall having an opening communicating with the said open casing portion, a channel formed integral with the said casing and presenting a front channel wall in the said open casing portion extending upwardly from the said transverse partition, the said channel having a transversely disposed opening at the partition communicating with the said fuel containing compartment and its said front wall having an opening in underlying relation to the said opening in the front casing wall, a barrier at the upper side of the said opening in the front channel wall extending transversely across the said open casing portion, a wick disposed in the said channel with its lower end extending into the said fuel containing compartment and its upper end extending through the said opening in the front channel wall in underlying relation to the said barrier, a closure member having a front panel closely fitting the said opening in the front casing wall and pivotally mounted at a point along the upper side of the said opening and close to the front casing wall to present the said panel flush with the front casing wall, the said closure member having a U-shaped projection extending rearwardly from its said front panel into the said open casing portion and presenting two side walls and a connecting lower wall cooperative with the said barrier at the upper side of the channel opening to completely enclose the said upper end of the wick in the closed position of the closure member, a cap member slidably mounted at the open end of the main casing, link means connecting the said cap member and the said closure member, and spring means urging the said cap member outwardly of the main casing to maintain the said closure member in closed position, the said cap member being depressed against the urgency of its said spring to turn the closure member to open position to expose the said wick at the opening in the front casing wall.

3. In a pocket lighter, in combination, a main casing having relatively wide front and rear walls connected by a pair of relatively narrow parallel side walls and closed at one end, a partition disposed transversely in the casing to define a fuel containing compartment occupying the entire lower closed portion of the casing and an open casing portion above the said partition, the said front casing wall having an opening communicating with the said open casing portion, a barrier extending from the rear casing wall transversely across the said open casing portion towards the said opening in the front casing wall, a wick having its lower end extending into the said fuel containing compartment and its upper end in underlying relation to the said barrier, a closure member having a front panel closely fitting the said opening in the front casing wall and pivotally mounted at a point along the upper side of the said opening and close to the front casing wall to present the said panel flush with the front casing wall, the said closure member having a U-shaped projection extending rearwardly from its said front panel into the said open casing portion and presenting two side walls and a connecting lower wall cooperative with the said barrier to completely enclose the said upper end of the wick in the closed position of the closure member, a cap member slidably mounted at the open end of the main casing, link means connecting the said cap member and the said closure member, and spring means urging the said cap member outwardly of the main casing to maintain the said closure member in closed position, the said cap member being depressed against the urgency of its said spring to turn the closure member to open position to expose the said wick at the opening in the front casing wall.

4. In a pocket lighter, in combination, a main casing having relatively wide front and rear walls connected by a pair of relatively narrow parallel side walls and closed at one end, a partition disposed transversely in the casing to define a fuel containing compartment occupying the entire lower closed portion of the casing and an open casing portion above the said partition, the said front casing wall having an opening communicating with the said open casing portion, a wick having its lower end extending into the said fuel containing compartment and its upper end disposed substantially centrally of the said opening in the front casing wall, a closure member having a front panel closely fitting the said opening in the front casing wall and pivotally mounted at a point along the upper side of the said opening and close to the front casing wall to present the said panel flush with the front casing wall, the said closure member having a snuffer extending rearwardly from its said front panel into the said open casing portion for encasing the said upper end of the wick in the closed position of the closure member, the said closure member having a pair of lateral side wings extending into the said open casing portion and adapted in the open position of the closure member to shield the said upper end of the wick presented at the opening in the front casing wall, a cap member slidably mounted at the open end of the main casing, link means connecting the said cap member and the upper end of the lateral wings extending in the said open casing portion, and spring means urging the said cap member outwardly of the main casing to maintain the said closure member in closed position, the said cap member being depressed against the urgency of its said spring to turn the closure member to open position to expose the said wick at the opening in the front casing wall.

5. In a pocket lighter, in combination, a main casing having relatively wide front and rear walls connected by a pair of relatively narrow parallel side walls and closed at one end, a partition disposed transversely in the casing to define a fuel containing compartment occupying the entire lower closed portion of the casing and an open casing portion above the said partition, the said front casing wall having an opening communicating with the said open casing portion, a channel extending upwardly from the said transverse partition and presenting a front channel wall in the said open casing portion spaced from the rear casing wall a distance substantially the width of the channel, the said channel having a transversely disposed opening at the partition communicating with the said fuel containing compartment and its said front wall having an opening in underlying relation to the said opening in the front casing wall, a wick disposed in the said channel with its lower end extending into the said fuel containing compartment and its upper end extending through the said opening in the front channel wall, a closure member having a front panel closely fitting the said opening in the front casing wall and pivotally mounted at a point along the upper side of the said opening and close to the front casing wall to present the said panel flush with the front casing wall, a cap member slidably mounted at the open end of the main casing, link means connecting the said cap member and the said closure member, and spring means urging the said cap member outwardly of the main casing to maintain the said closure member in closed position, the said cap member being depressed against the urgency of its said spring to turn the closure member to open position to expose the said wick at the opening in the front casing wall.

6. In a pocket lighter, in combination, a main casing having relatively wide front and rear walls connected by a pair of relatively narrow parallel side walls and closed at one end, a partition disposed transversely in the casing to define a fuel containing compartment occupying the entire lower closed portion of the casing and an open casing portion above the said partition, the said front casing wall having an opening communciating with the said open casing portion, a wick having its lower end extending into the said fuel containing compartment and its upper end disposed substantially centrally of the said opening in the front casing wall, a closure member having a front panel closely fitting the said opening in the front casing wall and pivotally mounted at a point along the upper side of the said opening and close to the front casing wall to present the said panel flush with the front casing wall, the said closure member having a pair of lateral side wings extending into the said open casing portion and adapted in the open position of the closure member to shield the said upper end of the wick presented at the opening in the front casing wall, a cap member slidably mounted at the open end of the main casing, link means connecting the said cap member and the upper end of the lateral wings extending in the said open casing portion, and spring means urging the said cap member outwardly of the main casing to maintain the said closure member in closed position, the said cap member being depressed against the urgency of its said spring to turn the closure member to open position to expose the said wick at the opening in the front casing wall.

7. In a pocket lighter, in combination, a main casing having relatively wide front and rear walls connected by a pair of relatively narrow parallel side walls and closed at one end, a partition disposed transversely in the casing to define a fuel containing compartment occupying the entire lower closed portion of the casing and an open casing portion above the said partition, the said front casing wall having an opening communicating with the said open casing portion, a wick having its lower end extending into the said fuel containing compartment and its upper end disposed substantially centrally of the said opening in the front casing wall, a closure member having a front panel closely fitting the said opening in the front casing wall and pivotally mounted at a point along the upper side of the said opening and close to the front casing wall to present the said panel flush with the front casing wall, the front panel of the closure member having a pair of lateral wings disposed along the sides of the panel, with their outer surfaces flush with the side edges of the panel, extending into the said open casing portion and adapted in the open position of the closure member to shield the upper end of the wick presented at the opening in the front casing wall, the said lateral wings having at the upper ends thereof upwardly directed ears disposed in underlying relation to the front casing wall, each of said ears having a hole, a cap member slidably mounted at the open end of the main casing, a U-shaped rod pivotally mounted along its web portion in the said cap member with its leg portions depending therefrom, the distal ends of said legs having laterally turned portions received in the respective holes of the

said ears of the closure member, and spring means urging the said cap member outwardly of the main casing to maintain the closure member in closed position, the said cap member being depressed against the urgency of its said spring to turn the closure member to open position exposing the said wick at the opening in the front casing wall.

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