Dec. 29, 1936. O. C. BRITSCH 2,066,028

COMBINED FLASHLIGHT AND LIGHTER

Filed Feb. 20, 1932 2 Sheets-Sheet 1

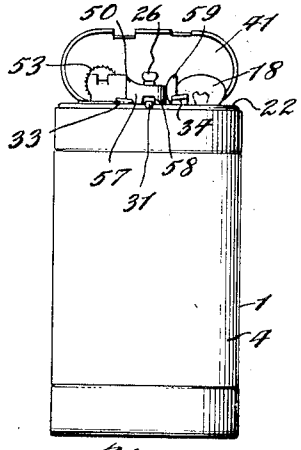


Fig. 1.

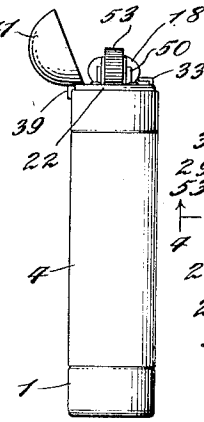


Fig. 2.

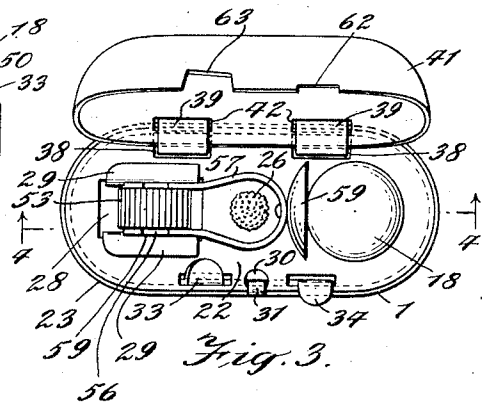


Fig. 3.

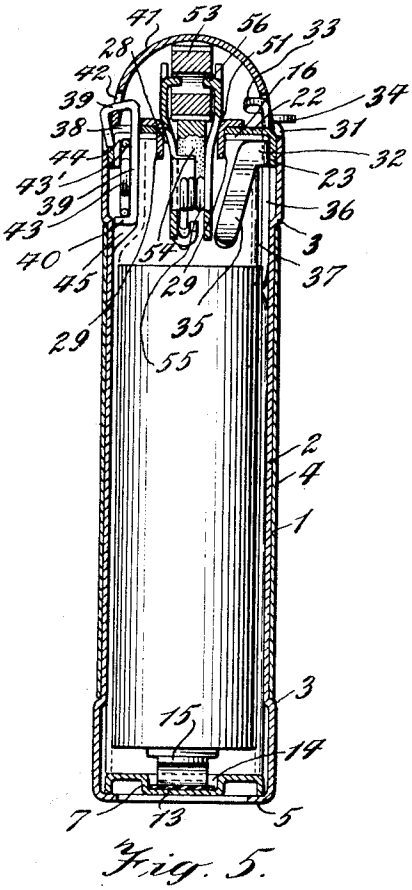


Fig. 5.

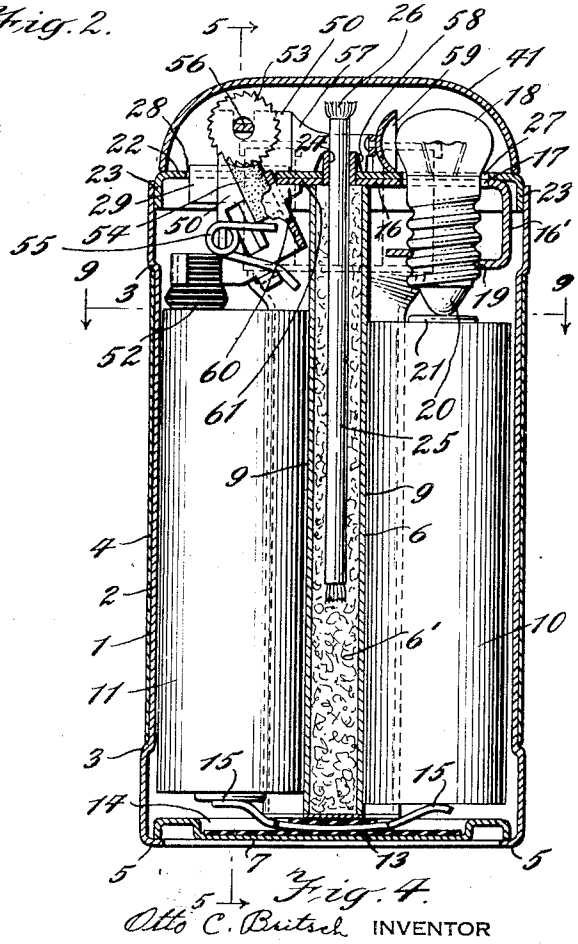


Fig. 4.

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COMBINED FLASHLIGHT AND LIGHTER

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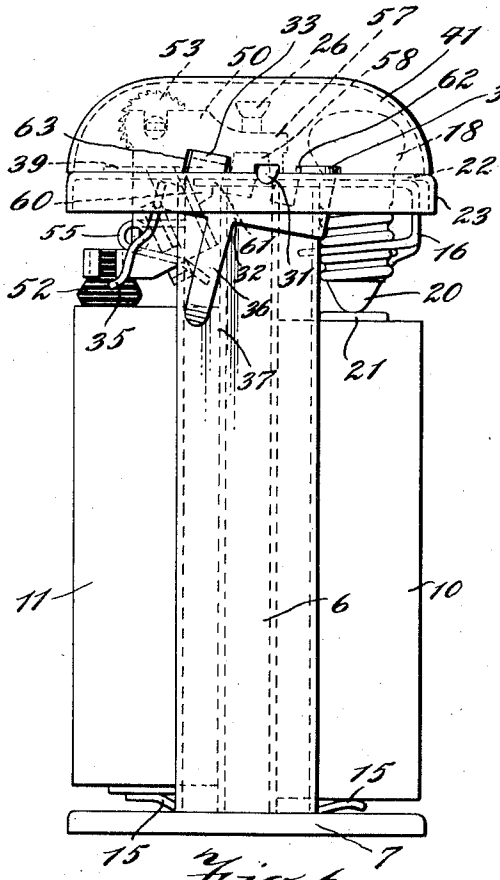


Fig. 6.

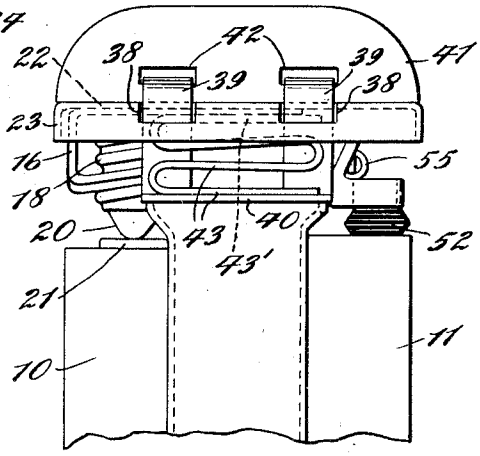


Fig. 7.

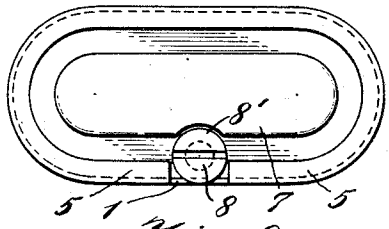


Fig. 8.

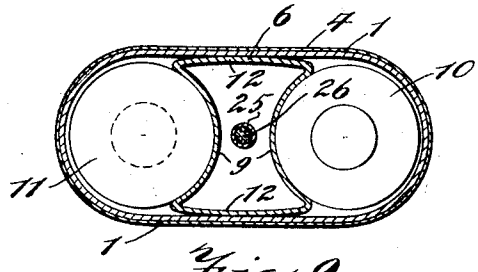


Fig. 9.

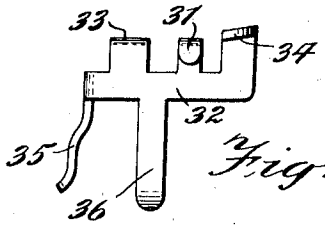


Fig. 10.

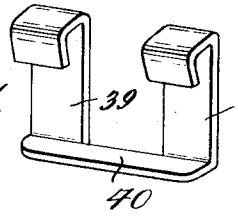


Fig. 11.

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2,066,028

COMBINED FLASHLIGHT AND LIGHTER

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Application February 20, 1932, Serial No. 594,215

8 Claims. (Cl. 240—6.4)

This invention relates to a combined flashlight and lighter for cigars, cigarettes, etc. used in a casing that contains a receptacle for the liquid fuel and can be made of convenient size to be slipped into a vest pocket.

In carrying out the invention a support or carrier is provided for the parts which can be slipped into the casing and securely kept in place. The support or carrier carries not only the battery cells, but also the lighter and the lamp bulb, as well as a cover for the casing which automatically extinguishes the light and opens the circuit to the lamp bulb when the cover is in its closed position. The cover snaps beyond an intermediate position both to its fully closed and fully opened position.

The invention will be understood from the description in connection with the accompanying drawings in which Fig. 1 is a side view of the device showing the cover open; Fig. 2 is an edge view of the same; Fig. 3 is a plan view on an enlarged scale showing the cover open; Fig. 4 is a section along the line 4—4 of Fig. 3; Fig. 5 is a section along the line 5—5 of Fig. 4; Fig. 6 is a side view of the support or carrier and parts carried thereby removed from the casing; Fig. 7 is a view similar to Fig. 6 from the other side partly broken away; Fig. 8 is a view looking toward the lower end of Fig. 6; Fig. 9 is a section along the line 9—9 of Fig. 4; Fig. 10 is a side view of the switch member for the device and Fig. 11 is a perspective view of one of the details.

In the drawings reference character 1 indicates a metal casing oval shaped in cross section for the combined flashlight and lighter. It is provided with a depressed portion 2 intermediate its ends extending entirely around it formed by bending in the material as indicated at 3 to receive a wrapper or sleeve 4 of paper or the like for advertisement or insignia of different sorts.

The wrapper or sleeve 4 may be of transparent material and have information of different sorts printed thereon and may be movable circumferentially around the casing 1 to expose different portions of the surface of the casing itself, which may also have advertising matter or other insignia thereon.

The casing 1 is provided with an inturned flange 5 at the bottom, its top end being open.

A supporting frame or carrier is provided for the parts of the lighter and flashlight, this frame being slidable into the casing 1 from the top. This frame comprises a central housing or container 6 (Figs. 4, 6, and 9) for the liquid fuel, such as gasolene or the like for the lighter. The container 6 may be provided with cotton or other absorbent material 6' which will become saturated with the liquid fuel when the container is filled with it, thus preventing the fuel from being spilled when the device is overturned. An end member 7 of oval shape to fit within the casing 1 is attached to the lower end of the container 6 and the edge thereof rests upon the flange 5 when the frame 6 is in place in the casing 1. A screw 8 can be screwed into a threaded opening in the end member 7 with its head 8' extending into a slot in the flange 5 so that the edge of the head 8' overlaps the end of a wall of the casing 1, as shown in Fig. 8, to keep the frame including the container 6 in the casing 1.

Opposite sides 9 (Fig. 9) of the container 6 are concaved to receive cylindrical battery cells 10 and 11 and the other sides of this container 6 are bulged out slightly as shown at 12 so that the container can be compressed to apply pressure to the material in it by pressing upon the flat sides of the casing 1 when the container 6 is in it, thus aiding in forcing the lighting fuel out at the same time that a spark is struck to light the lighter.

Insulating material 13 (Figs. 4 and 5) is placed in the bottom of an elongated recess 14 in the end member 7. A spring strip 15 of metal is located on top of the strip 13 and has its outwardly extending ends bent upwardly. The insulating material 13 extends above the strip 15 between it and the bottom of the container 6. The strip 15 can be tilted slightly by pressing downwardly upon either end thereof.

The top cover 16 of the container 6 extends on one side and is curved into a U-shaped member 16' having a hole 17 larger than the screw shell of the lamp bulb 18 and another hole 19 aligned with the hole 17 which is screw-threaded to receive the lamp bulb 18. The U-shaped member 16' is springy so that when the lamp bulb 18 is screwed into position it will be more securely held by the spring tension as the bulb is screwed in sufficiently to put the spring under tension. The center terminal 20 of the bulb 18 presses against the pole 21 of the battery cell 10, thus causing the lamp bulb to serve as a thumb-screw to press the lower end of the cell 10 against one spring end of the spring 15, thus securely holding the cell in place and also slightly tilting the spring 15, as shown in Fig. 4, to cause the other end thereof to push the other cell 11 upwardly slightly into firm contact with a member to be described, thus also securely holding it in place. The cells 10 and 11 can be removed and replaced by new ones quite easily by withdrawing the supporting frame from the casing as the spring

member 15 is yieldable sufficiently to permit the cells to be slipped in and out.

A top member or cover 22 (Figs. 3, 4, 5, 6, and 7) of oval shape rests upon the top of the container 6 and is provided with a flange 23 which fits snugly inside the open end of the casing 1. The member 22 is provided with a central hole 24 through which the tube 25 carrying a wick 26 into the container 6 passes. The member 22 is also provided with an enlarged hole 27 (Fig. 4) near one end through which the screw shell of the light bulb 18 passes freely. The member 22 is provided with a rectangular opening 28 (Figs. 3, 4, and 5) on the other side of the hole 24 from the hole 27 and it is also provided with a hole 30 (Fig. 3) near the middle of one of its edges.

A bent lip 31 (Figs. 1, 3, 5, 6, and 10) on a switch member 32 passes through the hole 30 in the member 22 and operates as a pivot for this switch member. The switch member 32 has thumb pieces or push buttons 33 and 34 extending through slots provided therefor in the member 22 on opposite sides of the hole 30. The ends of the thumb pieces 33 and 34 which extend through the slots in the member 22 are bent horizontally a sufficient distance above the upper surface of the member 22 to permit the switch member 32 to swing or turn upon the bent lip 31 in the hole 30. The switch member 32 is provided with a spring switch arm 35 that can be swung into contact with the upper end of the cell 11. (Fig. 6.) The switch 32 is also provided with a flat retaining spring 36 that is adapted to snap to opposite sides of a longitudinal rib 37 that is provided on the side of the container 6 to keep the switch member 32 in the open and closed positions, respectively.

Spaced holes 38 (Figs. 3, 5, and 7) are provided in the edge of the member 2 and the flange 23. Hook arms 39 (Figs. 5 and 11) of a retaining member 40 for the cover 41 extend through the holes 38 and corresponding holes 42 (Figs. 3, 4, 5, and 7) in the cover 41 to keep the cover 41 in place and form a hinge or pivot therefor. A wire spring 43 (Figs. 5 and 7) is inserted between the retaining member 40 and an extension 44 at one side of the upper end of the container 6. The end of the extension 44 is turned downwardly and contacts with the inner side of the flange 23 when the member 22 is in place. The spring 43 is made of wire bent back and forth in a single plane and its uppermost strand or run 43' may be bent laterally at the middle to make the spring fit tightly between the downturned end of the extension 44 and the arms 39. The upper end of the side wall of the container 6 may be bent in or recessed to accommodate the spring 43 and holder 40, as shown at 45 in Fig. 5. (Figs. 1 to 6.)

A lighter 50 has a portion extending through the longitudinal opening 28 with shoulders 51 (Fig. 5) resting on the upper portions of the flanges 29. The rectangular opening 28 in the member 22 is of greater length than the width of the portion of the lighter 50 which extends through this opening so that the lighter can be moved slightly parallel to the surface of the member 22 toward the tube 25.

A block of insulating material 52 is carried by the portion of the lighter 50 that extends through the opening 28. This block 52 rests against and forms a stop for the upper end of the dry cell 11.

An abrasive roller 53 having a rough surface or sharpened teeth is journaled in the lighter 50 so that when it is turned by the thumb of the user it will strike sparks from a cerium iron rod or pencil 54 which is spring-pressed by means of the spring 55 against the roller 53. Extensions 56 are struck inwardly from the sides of the lighter 50 to serve as journals or pivots upon which the roller 53 is revolved. A vertical wall 57 (Figs. 1, 3, 4, and 6) extends from the lighter 50 on top of the member 22 around an upper part of the tube 25 for the wick 26. Openings 58 (Figs. 1, 4, and 6) are provided along the lower edge of the wall 57 on opposite sides of the tube 25 so that air will enter these openings and rise upwardly around the flame, thus forming a sort of Bunsen burner and keeping the flame at the end of the wick 26 more steady and concentrated. In this way the mixture of air and gas is controlled, thus avoiding a smoky flame, so that an objectionable taste is not imparted to the tobacco. A reflector 59 is attached to the wall 57 for the lamp bulb 18.

A lug 60 (Figs. 4 and 6) is provided on the lighter 50 below the cover 16 and plate 22 in position to leave a space to receive the edge of the opening 28 in the member 22, as well as the edge of an extension 61 at the top of the container 6 opposite the extension 16. In addition to the opening 24 on the member 22 receiving the tube 25 and the flange 23 on the member 22 fitting into the open end of the casing 1, thus helping to keep the parts assembled, the clamping of the edge of the opening 28 in the member 22 and the extension 61 on the container 6 in the space or notch above the lug 60 on the lighter 50 keeps the parts clamped together in assembled relation. Movement of the lighter 50 to the left in the opening 28 unclamps the parts so that the member 22 can be separated from the other parts after the spring 43 has been taken out.

The cover 41 is provided with notches or recesses 62 and 63 (Figs. 3 and 6) along its edge opposite the holes 42. The notch 62 is only as deep as the thickness of the metal of the thumb piece 34 so that when the cover is closed it will move the switch member 32 to the open position, as shown in Fig. 6. The notch 63 is deep enough to permit the thumb-piece 33 to rise sufficiently to light this.

The operation is as follows:

The spring 43 with the holding member 40 and hook arms 39 (Fig. 5) keep the cover 41 closed under spring tension. The cover 41 can, however, be turned by pressing upon it in an anticlockwise direction and as soon as the portion of its edge below the hook portion of the arms 39 passes beyond the dead center it will snap to its open position, as shown in Fig. 2 and Fig. 3. The thumb-piece or button 33 can then be pushed downwardly whereupon the spring arm 36 snaps to the other side of the rib 37 and the spring contact 35 contacts with the top of the cell 11, thus closing the circuit from the contact 35, through cell 11, spring 15, cell 10, pole 21, center contact of bulb 18, filament of this bulb to the thread of this bulb, extension 16 and the uninsulated parts to contact 35, thus lighting the lamp bulb 18. Closing the cover 41 automatically extinguishes the electric light because the edge of the cover 41 at the notch 62 presses upon the thumb-piece or push button 34, thus turning the switch member 32 to open the circuit and cause the spring arm 36 to snap to the other side of the rib 37.

While the cover 41 is open the roller 53 may be turned, thus striking a spark from the pencil 54 and lighting the wick 26. At the same time

the user may press upon the opposing flat sides of the casing 1 thereby compressing the bulged portions 12 of the container 6 and thereby aiding capillary attraction of the wick to carry fluid to the top thereof so that it will be easily lighted. The openings 58 in the wall 47 around the wick make the flame more steady, as already described. Closing the cover 41 causes the flame to be extinguished simultaneously with extinguishing the electric light if both have been lighted.

I claim:

1. A combined flash light and lighter comprising a casing, a fuel container and a battery in said casing, and a cover which upon being closed opens the circuit to said light and extinguishes the light of said lighter.

2. A combined flash light and lighter comprising a casing, a fuel container and a battery in said casing, a cover which upon being closed opens the circuit to said light and extinguishes the light of said lighter, and means to cause said cover to snap into its open and closed positions.

3. A combined flash light and lighter comprising a liquid container having opposite sides concave, battery cells in said concave sides, cross members at opposite ends of said container aligned with said cells, the cross member at one end of said container being provided with a screw threaded opening for a lamp bulb near one end of one of said cells, and the cross member at the other end of said container supporting a spring upon which said cells rest.

4. A combined flash light and lighter comprising a liquid container having opposite sides concave, battery cells in said concave sides, cross members at opposite ends of said container aligned with said cells, the cross member at one end of said container being provided with a screw threaded opening for a lamp bulb near one end of one of said cells, an opening above the other cell, a lighter in said opening, and the cross member at the other end of said container supporting a spring upon which said cells rest.

5. A combined flash light and lighter comprising a liquid container having opposite sides concave, battery cells in said concave sides, cross members at opposite ends of said container aligned with said cells, the cross member at one end of said container being provided with a screw threaded opening for a lamp bulb near one end of one of said cells, an opening above the other cell, a lighter in said opening, an extension on said lighter resting against one of said cells, and the cross member at the other end of said container supporting a spring upon which said cells rest.

6. A combined flashlight and lighter comprising a casing, a fuel container, battery cells in said casing along the sides of said container, means comprising a threaded member to cause longitudinal movement of one of said cells, means operated by said movement to cause the other one of said cells to move in the opposite direction, and means to limit the movement of such other cell in said opposite direction.

7. A combined flashlight and lighter comprising a casing, a fuel container, battery cells in said casing along the sides of said container, means comprising a threaded member and a lamp bulb to cause longitudinal movement of one of said cells, and means operated by said movement to cause the other one of said cells to move in the opposite direction, and means to limit the movement of said other cell in said opposite direction.

8. A combined flashlight and lighter comprising a casing, a fuel container and a battery cell on each side of said container in said casing, a spring carried by said container and fulcrumed intermediate its ends for resiliently supporting the lower ends of said cells in said casing, a thrust producing member at the upper end of one of said cells and a thrust receiving member at the upper end of the other cell.

OTTO C. BRITSCH.