PATENT SPECIFICATION

399,386

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Feb. 20, 1932:
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Corresponding Applications in United Kingdom

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No. 5224/33 } (One Complete Specification Left)

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COMPLETE SPECIFICATION.

Improvements in or relating to a Combined Electric Flash Light and Cigar or other Lighter.

We, UNITED STATES ELECTRIC MANUFACTURING CORPORATION, a corporation organized under the laws of the State of New York, one of the United States of America, of 222, West 14th Street, in the City of New York, State of New York, United States of America, Manufacturers, Assignees of OTTO CHARLES BRITSCH, a citizen of the United States of America, of Woodhaven, in the County of Queens, State of New York, United States of America, Inventor, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a combined electric flashlight and cigar or like lighter of the type comprising an abrasive rotatable wheel frictionally contacting with a flint.

It is the object of the present invention to provide improvements in such arrangements whereby they may be made more compact and of a convenient size to be slipped into a vest pocket.

With this object in view our invention provides a single plate like member for supporting the abrasive wheel and the bulb of the flashlight.

An embodiment of our invention is shown in the accompanying drawings in which Fig. 1 is an edge view of the device with a portion in section taken along the line 1—1 of Fig. 2.; Fig. 2 is a side view of Fig. 1 with the cover removed; Fig. 3 is a plan view of the device with the cover and the cantilever member removed; Fig. 4 is an edge view on a smaller scale showing the cover in open position with a part of the fuel container in section; Fig. 5 is a side view of Fig. 4 with the cover removed and a part in section; Fig. 6 is a plan view of a supporting plate; Fig. 7 is a section along the line 7—7 of Fig. 6; Fig. 8 is a section through a spring holding member; Fig. 9 is a side view of the cantilever member; Fig. 10 is a side view of a pivoted contact member; Fig. 11 is a side view of the contact member with a cooperating part; Fig. 12 is a side view of the upper end of the container and Fig. 13 is a vertical section along the line 13—13 of Fig. 12. The Figures 1, 2 and 3 are on a larger scale than the others.

In the drawings reference character 1 indicates a container for liquid fuel for the flame. It is provided with opposite flat sides and intermediate concave sides 1^1 (Fig. 5).

A support 2 comprising a plate like member of the shape shown in Figs. 3, 6 and 7 is provided at the upper end of the container 1. The flanges 3 along the edges of the support 2 frictionally engage the container 1 along its flat sides.

A bottom member 4, which may, for example, be in the form of a flat bottom finishing plate, is spaced from the bottom 5 (Figs. 2, 4 & 5) of the container 1 and is attached to this container by extensions 6 on the plate 4 and bottom 5 of the container 1, which extensions may be soldered or otherwise connected to hold the plate 4 in fixed relation to the container 1.

A rocking lever 7 extends through the space between the plate 4 and bottom 5 with its ends extending beyond the concave sides 1^1 of the container 1. An insulating strip 8 extends along the upper side of the member 4 below the rocking member 7 and a strip of insulating material 9 extends loosely around the rocking member 7 at its middle portion. The rocking member 7 is fulcrumed at its middle upon the member 4.

Battery cells 10 and 11, circular in cross section, are laid in the grooves or concave sides 1^1 of the container 1 with their poles reversed. The positive terminal 12 of the cell 10 is at the top and its negative terminal rests upon one end of the rocking lever 7. The positive terminal 13 of the cell 11 rests upon the other end of the rocking lever 7 and its negative terminal is at the top.

A circular hole 14 is provided through

[*Price* 1/-]

the support 2 at its center for a tube through which a wick that extends into the container 1 passes. A screw-threaded hole 15 for the screw shell of a lamp bulb is also provided in the support 2 and a rectangular opening 16 to accommodate a cantilever member is provided in the support 2 on the other side of the hole 14 from the hole 15. Flanges 17 extend downwardly from the long sides of the hole 16 substantially the same distance as the flange 3. An elongated slot 18 with a recess 18^1 in one side thereof is provided near one edge of the support 2 and a pair of small rectangular openings 19 is provided between the slot 18 and the center line of the support 2.

A flat steel spring 20 (Figs. 3 and 8) extends partly across the support 2. One of its ends is curved as indicated at 21 to pass through a hole in the cover. The other end is bifurcated and curved in the opposite direction, as indicated at 22 with curved portions extending into the ends of the slot 18. Struck-out downwardly extending tongues 23 on the spring 20 extend into the rectangular openings 19 in the support 2. A slot 24 is provided at the middle of the spring 20 and is enlarged at one end, as shown at 25.

A lamp bulb 26 is screwed into the threaded opening 15 and its terminal 27 contacts with the terminal 12 of the cell 10.

A cover 28 is provided for the device and has a slot 29 near one edge through which the curved end 21 of the plate spring 20 passes. The spring 20 causes the cover to snap to its open position and also to its closed position when it passes the dead center in either direction. The cover 28 is provided with spaced outwardly extending lips 30 on its edge opposite the opening 29 and it is also provided with a flat portion 31 between the lips 30 for a purpose to be described below. A tube 32 for a wick extends from the upper end of the container 1 and is provided with a head that will pass through the opening 25 in the plate spring 20 and with a neck 33 that fits the slot 24 in the plate spring 20.

An electric switch 34 (Figs. 1, 2, 10 and 11) is provided with a thumb piece 35. Its edge portion 36 is pivoted or fulcrumed in V-shaped notches 37 in flanges 37^1 at the upper end of the container 1. The edge portions 38 opposite the edge portion 36 and extending on opposite sides of the thumb piece 35 bear against the rounded end 22 of the spring plate 20 to provide a snap action to open and closed position of the switch 34. A contact extension 39 is provided at one end of the switch 34 in position to come into contact with the upper end of the cell 11.

A holder or cantilever member 40 (Figs. 2, 5 and 9) is provided to extend through the opening 16 in the support 2. It is provided with a notch 41 that spans the edge of the opening 16 and outturned flange 40^1 at the upper edge of the flange 37^1. A downward extension 42 is provided below the notch 41 and carries a block of insulating material 43 that rests upon the upper end of the cell 11. A horizontal extension 44 extends above the notch 41 and surrounds the tube 32. An abrasion wheel 45 is journalled in the support 40 and a spring 46 presses the pencil 47 of cerium or the like against the wheel 45 in the usual manner.

A casing 48 shown in dotted lines in some of the figures may be slipped over the device from the bottom until its upper edges comes into contact with the flange 49 on the support 2. This casing may have an inwardly turned flange 50 that rests against the edges of the plate 4 on its lower side. The casing 48 is held in place by friction against the flat sides of the container 1. A hole may be provided in the lower end of the container 1 for filling the same, this hole being closed by a screw plug 51 that also passes through the plate 4 and helps to keep it in place.

The parts are assembled by placing the spring contact 34 in the notches 37 and then placing the support 2 upon the upper end of the container 1. The spring plate 20 is threaded over the tube 32 and thence moved upwardly (Fig. 3) into position where its slot 24 fits the neck of the tube and its tongues 23 snap into the openings 19 with the curved portions 22 in the slot 18. The cells 10 and 11 are put in place and the cantilever member 40 is passed through the opening 16 and its notch 41 is made to slip over one edge of the opening 16. The lamp bulb 26 is then screwed into place. When the lamp bulb 26 is screwed in, the cell 10 is moved downwardly tilting the lever 7 and moving the cell 11 upwardly to press against the block of insulating material 43 to turn slightly about the notch 41 as a fulcrum, thus causing the extreme end of the extension 44 to press securely against the upper side of the spring 20 so that the lamp bulb operates to keep the parts, including the cells and cantilever, in assembled relation. The casing 48 is then slipped on. The container 1 is filled and the screw 51 is screwed into place. The end 21 of the spring 20 is raised and the cover put in place so that the end 21 of the spring passes through the slot 29 of the cover.

The operation is as follows:

When the cover 28 is closed the flat portion 31 contacting with the thumb piece 35 of the contact member 34 turns it on its edge 36 so that the contact 39 is raised off of the end of the cell 11 and the electric circuit is broken and the lamp 26 is extinguished. The outer portion of the rounded edge 22 of the spring 20 causes the contact 34 to snap into its open position by bearing upon the edges 38. At the same time the closing of the cover 28 extinguishes the flame at the end of the tube 32. The cover is opened by pressing the lips 30 upwardly with the thumb and the thumb simultaneously pushes the thumb piece 35 so that the edges 38 ride under the rounded portion 22 of the spring 20 and the switch 34 is snapped into its closing position with its end 39 contacting with the upper end of the cell 11, thus closing the electric circuit from the negative pole of cell 10 through the lever 7 to the positive pole 13 of cell 11, through this cell to its negative pole, then through the switch lever 34 to the plate 2, screw shell 15, lamp 26 back to the positive pole 12 of cell 10. By turning the abrasion wheel 45 a spark can be struck to light the wick 32[1].

We are aware that it has already been proposed to provide a hinged case for cigarettes and other articles having an electric flashlight in one hinged part and a fuel container for a cigar or like lighter of a tinder box type in another hinged part and we make no claim to such arrangements.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A combined electric flashlight and cigar or like lighter having a single plate like member supporting a wheel type abrasive member and the bulb for the flashlight.

2. A combined electric flashlight and cigar or like lighter according to claim 1, in which the single plate like member is supported by the fuel container for the lighter.

3. A combined electric flashlight and cigar or like lighter in which the abrasive wheel of an abrasive wheel-type lighter and the bulb for the flashlight are both supported by means comprising a single plate like member having a hinged cover adapted upon being closed to open a circuit to the lamp and extinguish a flame of the lighter.

4. A combined electric flashlight and cigar or like lighter in which the battery of cells for the flashlight is maintained in position by the aid of a plate like member supporting the abrasive wheel of the lighter and the bulb of the flashlight.

5. A combined electric flashlight and cigar or like lighter according to claims 1 or 4, in which the abrasive wheel is arranged over part of a battery of cells provided for the purpose of lighting the flashlight.

6. A combined electric flashlight and cigar or like lighter according to claim 5, in which the cells of the battery are arranged symmetrically on each side of the fuel container of the lighter.

7. A combined electric flashlight and cigar or light lighter according to claim 4, in which the bulb also operates to keep the cells in position.

8. A combined electric flashlight and cigar or like lighter according to any of the preceding claims comprising a rocking member adapted in conjunction with the bulb of the flashlight to hold galvanic cells for the lamp in position.

9. A combined electric flashlight and cigar or like lighter according to claim 8, in which the said member is mounted to rock upon a second plate like member secured to the end of the container opposite to that at which the first plate like member is located.

10. A combined electric flashlight and cigar or like lighter according to claim 3, having spring means to cause said cover to snap into its open and closed positions.

11. A combined electric flashlight and cigar or like lighter according to claims 2, 6 or 9, having an electric switch pivoted on the fuel container.

12. A combined electric flashlight and cigar or like lighter according to claims 3 and 10, having a spring electric switch for closing the electric circuit, the arrangement being such that the circuit is opened upon the closure of the cover.

13. A combined electric flashlight and cigar or like lighter according to any of the preceding claims, in which the fuel container of the lighter is concaved to receive the battery of the flashlight.

14. A combined electric flashlight and cigar or like lighter according to claims 8 or 9, having two dry cells contacted respectively at one end with the light bulb of the flashlight and a cantilever member on the plate like member, whilst the other ends of the cells contact with a lever of the first class.

15. A combined electric flashlight and cigar or like lighter according to claim 14, in which the abrasion wheel and flint are carried by said cantilever member.

16. A combined electric flashlight and cigar or like lighter according to claim 14, in which the bulb is screwed in the plate like member for securing the cells

in position.

17. A combined electric flashlight and cigar or like lighter according to claim 16, in which the cantilever member aids in keeping the plate and fuel container in contact with each other.

18. A combined electric flashlight and cigar or like lighter according to claim 17, having a tube extending from the container through the plate like member to means comprising a flat spring contacting with the tube to keep the plate in place.

19. A combined electric flashlight and cigar or like lighter according to claim 18, having a cover on the plate pivoted on the spring.

20. A combined electric flashlight and cigar or like lighter according to claim 12, in which the switch and cover move in a common plane.

21. In a device comprising an abrasion wheel type cigar or like lighter in combination with an electric flashlight, a support comprising a plate like member upon which the bulb of the flashlight and the abrasion wheel are mounted, a hollow fuel container, a cover pivoted on said support, an electric switch pivoted in position to be turned to its open position by said cover and means including a spring to cause said cover and switch to snap into their open and closed positions, said means also aiding in keeping said plate and container in assembled relation.

22. A combined electric flashlight and cigar or like lighter according to any of the preceding claims, in which a casing is provided to enclose all the parts lying on the side of the plate like member opposite to that on which lies the abrasive wheel.

23. A combined flashlight and lighter substantially in accordance with the preferred embodiment hereinabove described with reference to the accompanying drawings.

Dated the 20th day of February, 1933.

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Agents for the Applicants.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1933.

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

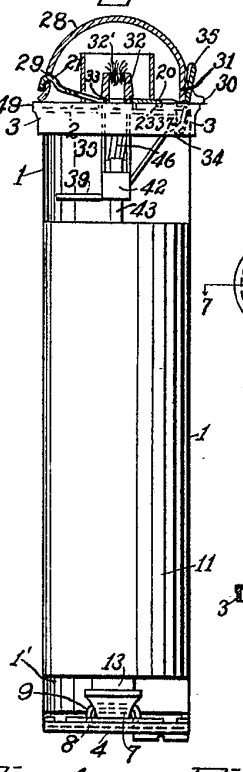


Fig. 2.

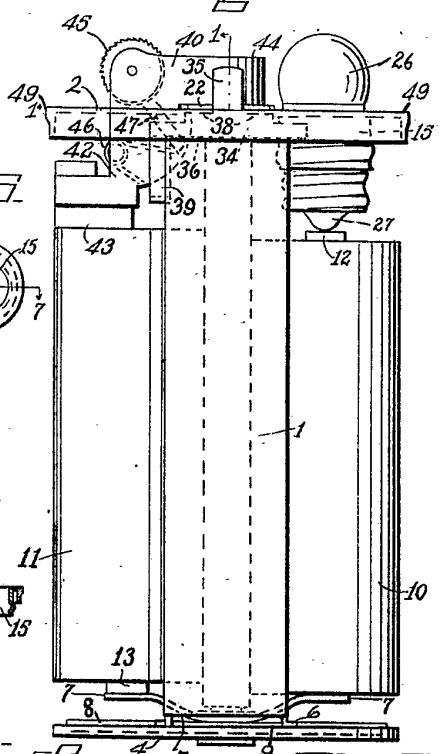


Fig. 6.

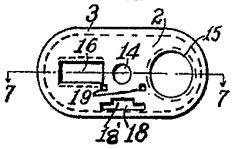


Fig. 7.

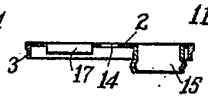


Fig. 4.

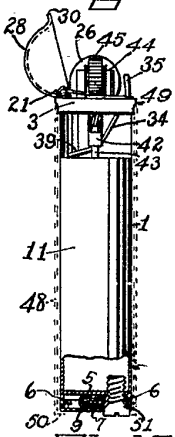


Fig. 5.

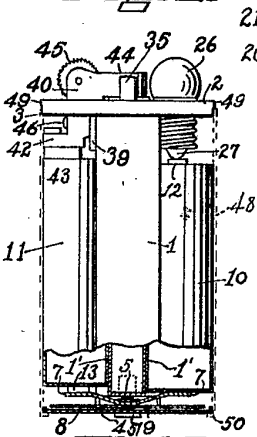


Fig. 8.

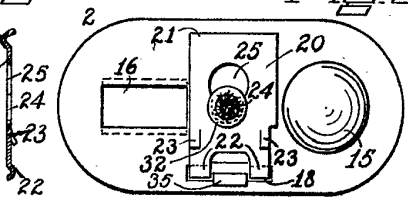


Fig. 3.

Fig. 9.

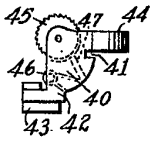


Fig. 10.

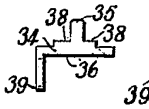


Fig. 11.

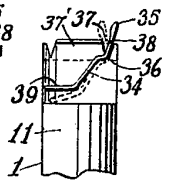


Fig. 12.

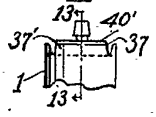
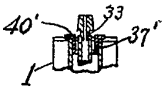


Fig. 13.



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