

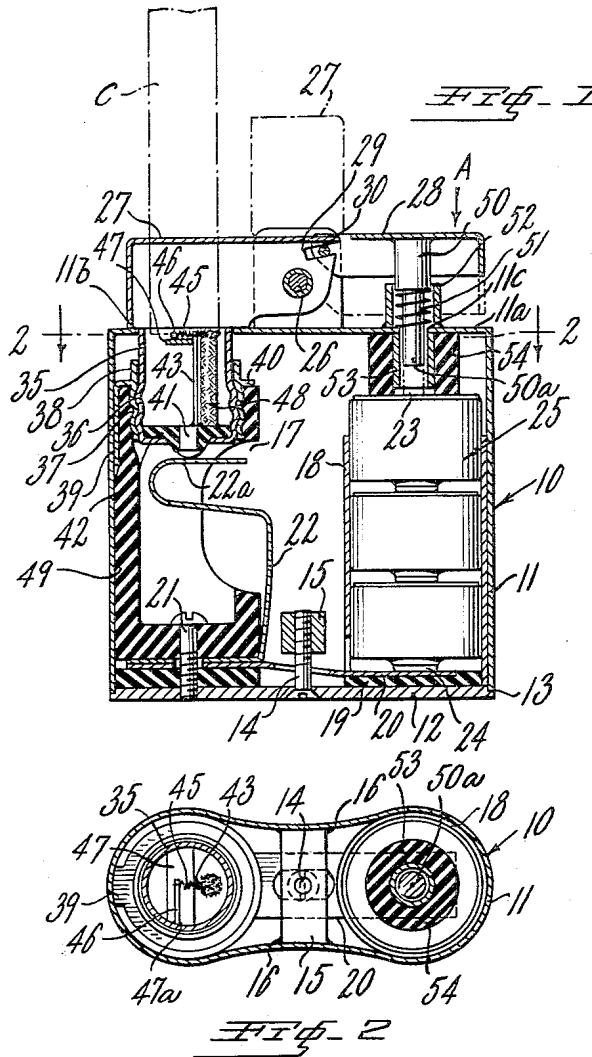
Aug. 19, 1958

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2,848,655

ELECTRICALLY OPERATED LIGHTER WITH FUEL SUPPLY

Filed July 27, 1956



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1958

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2,848,655

ELECTRICALLY OPERATED LIGHTER WITH FUEL SUPPLY

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Application July 27, 1956, Serial No. 600,555

1 Claim. (Cl. 317—88)

This invention relates to electric battery-operated table stand, pocket and similar lighters for use in connection with cigarettes and like tobacco products.

It is one of the primary objects of the invention to provide means affording a very efficient and readily manipulatable construction of an electrically operable lighter of the aforesaid type, which may be also employed in conjunction with a wick or like fuel impregnated or carrying unit.

It is another object of the invention to provide means facilitating safe and efficacious operation of a lighter, which deviates only insignificantly in its manipulation, function and outer appearance from the conventional lighter structures.

Yet a further object of the present invention resides in the provision of means conducive to a well balanced lighter structure, which necessitates only a few operable parts, which is very compact and handy and permits easy replacement of used up battery or like power source accommodated in such lighter.

Still another object of the invention is to provide means contributing to a dual action of a lighter of the aforesaid type, which may electrically heat a coil element to incandescence for bringing about lighting of a cigarette or which may act as a flame lighter in which a wick or like fuel carrier is ignited by said coil element, selectively.

These and other objects of the invention will become further apparent from the following detailed description, reference being made to the accompanying drawing showing a preferred embodiment of the invention.

In the drawing:

Fig. 1 is a vertical sectional view of a lighter embodying the invention.

Fig. 2 is section taken along line 2—2 of Fig. 1.

Referring now more particularly to Fig. 1 there is disclosed a lighter 10 having a metallic housing 11 of conventional shape as seen in Fig. 2. The open bottom end 13 of the housing 11 is closed by a closure plate 12 which may be retained in position in any appropriate manner, such as shown by means of a screw bolt 14 and bridge member 15 soldered to inner housing wall at 16.

Within housing 11 there are arranged two spaced compartments 17, 18 preferably made from insulating material. Within an insulating base plate 19 of compartment 18 there is located a contact piece or blade 20 leading from said compartment to an anchorage location 21 at which contact piece 20 is pressed against a spring element 22 which reaches into compartment 17 and terminates in a U-shaped end piece 22a for a purpose later described.

In compartment 18 are disposed a plurality of electric batteries or other electric power sources 25 having the terminals 23 and 24, the latter terminal being in contact with contact blade or piece 20, as seen in Fig. 1.

Housing 11 has a transverse top plate 11a, which is perforated at 11b and 11c. On top plate 11a is piv-

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otally held at 26 the cover parts 27, 28, cover part 28 being a thumb piece for actuating the cover part 27 in a well-known manner by means of slots 29 and pin 30 fixed to the thumb piece 28 and arranged to ride along the slots 29, whereby cover part 27 may be brought into upright position as indicated in dotted lines in Fig. 1.

Threadedly connected and inserted through opening 11b is a sleeve member 35 having threads 36 adapted to engage the threads 37 of a sleeve member 38, which is fixedly secured to the housing wall 11 at 39 and anchored at 40 to the top of the compartment 17 as shown.

Sleeve member 35 is made from metal and carries a rivet or contact pin 41 by which is held a rubber gasket 42. Connected with rivet 41 is a rod member 43 supporting a platinum-iridium coil 45 by means of a rod member 46 soldered at 47a to the sleeve member 35 (Fig. 2).

Below coil 45 and for support of the same is located a strip of material 47 which has a low coefficient of expansion and does not conduct or is influenced by heat, such as asbestos.

Adjacent coil 45 and accommodated within the interior of sleeve 35 is a fluid carrier 48, such as a fuel impregnated wick or the like.

As may be further seen from Fig. 1 compartment 17 is lined with a rubber lining 49 in which sleeve member 38 with threads 37 is retained in any appropriate manner.

Fixed to the underside of thumb piece 28 is a plunger 50 which may be pressed against the action of a spring 51 in the direction of arrow A for contact with terminal 23 of power source 25. The forward end 50a of pin 50 assumes then a position shown in dotted lines, thus completing an electric circuit passing from terminal 24 through conductors 20, 22 and spring 22a to contact piece 41 via rods 43, 46 to coil 45, whence the electric circuit is grounded via housing 11 and thumb piece 28 with depending plunger and contact pin 50, 51, which presses on terminal 23.

From Fig. 1 it will be seen that pin 50 moves within a guide sleeve 52 which is positioned above opening 11c of the housing and within a further guide sleeve 53 which is surrounded by a rubber sleeve 54 fixed to the underface of top plate 11a to insulate said sleeves 52—53 from the battery or power source 25.

Due to the obtained incandescence of coil 45 fuel stored in or retained by impregnated carrier 48 may be lighted while the cover 27 still remains in its upright position (shown in dotted lines) so that cigarette C may be readily lighted.

In the event that the fuel in carrier or wick 48 is exhausted or in order to do away with injurious effects emanating from fuel flames and smoke which have been found to consist of tarry soot and fumes from partially burned, partially cracked molecules of petroleum-derived fluid as same apparently cause cancer of the lungs (see Bulletin 32, pages 7 and 8 of Decourcy Clinic, Cincinnati, Ohio), coil 45 may be solely employed to light the cigarette. The power source 25 may be chosen sufficiently strong, to facilitate lighting of the cigarette through such coil.

It can thus be seen that there has been provided in accordance with the present invention a lighter for cigarettes and like tobacco products comprising a housing having two openings and a swingable cover, actuating means connected to said cover to swing same to open and closed positions, a holder provided with two compartments inserted in said housing and for removal therefrom, said compartments being in communication with said housing openings, respectively, one of said compartments being adapted to receive an electric battery having

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two terminals, the other compartment accommodating a spring element, a contact piece extending from one terminal of said battery of said one compartment into said other compartment and in contact with said spring element.

Furthermore, the lighter comprises a sleeve insertable through one of said housing openings and seated on said other compartment and carrying a contact abutting against said spring element, and coil means in said sleeve and operatively connected via said contact to said spring element, said actuating means being provided with a plunger connecting said housing via the other housing opening with the other terminal of said battery, when said cover is swung to open position and away from said coil means, thus exposing said coil means and simultaneously closing an electric circuit from said battery via said plunger through said coil means for lighting purposes.

Various changes and modifications may be made without departing from the spirit and scope of the present invention and it is intended that such obvious changes and modifications be embraced by the annexed claim.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

A lighter comprising a housing having a movable cover, actuating means connected to said cover to move same to open and closed positions, a holder provided with two compartments inserted in said housing and for removal therefrom, said housing having an opening therein, one of said compartments receiving an electric battery having

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two terminals, the other compartment having an insulative lining accommodating a spring element, a contact piece extending from one terminal of said battery of said one compartment into said other compartment and in contact with said spring element, an electrically conductive sleeve detachably threaded in said lining, said sleeve having a contact pin engaging said spring element, said sleeve extending into said housing opening and having a rod therein, a heating coil supported by said rod and being located within said sleeve, a thermally insulative coil support secured to said rod below said coil, said coil being disposed immediately adjacent said opening, said actuating means and said sleeve being grounded to said housing, carrying means for fuel within said sleeve and located adjacent said coil, said coil being adapted to ignite fuel of said carrying means when fuel is present whereby a cigarette may be lighted selectively by flame from the fuel and by direct contact with said coil when said carrying means is devoid of fuel, the other terminal of said battery being engageable by said actuating means when said cover is moved to an open position and away from said coil, thus exposing said coil and simultaneously closing an electric circuit from said battery through said housing and said spring element to said coil.

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