May 7, 1940. W. N. KRAVCHUK 2,199,885

ELECTRIC LIGHTER

Filed June 12, 1939

Fig. 1.

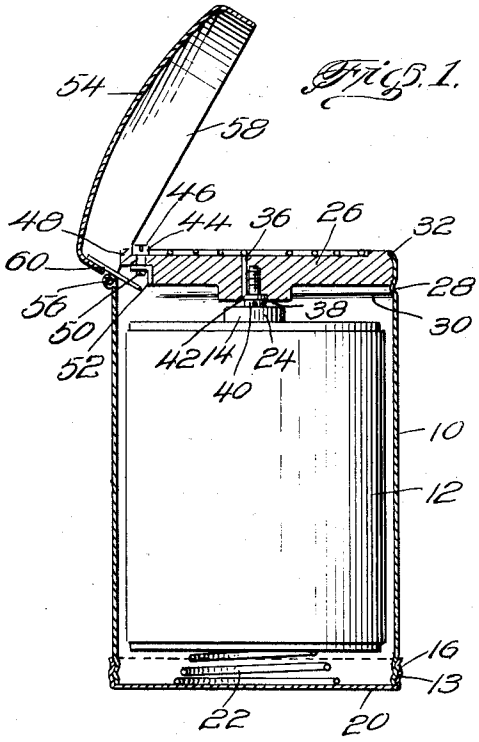


Fig. 2.

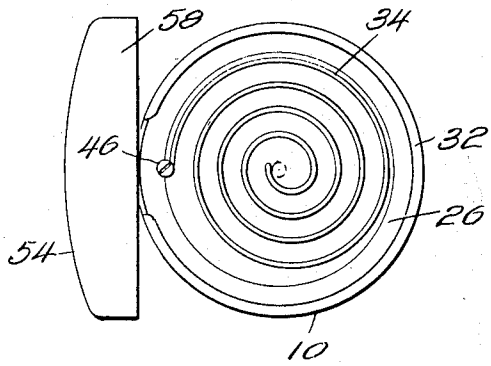
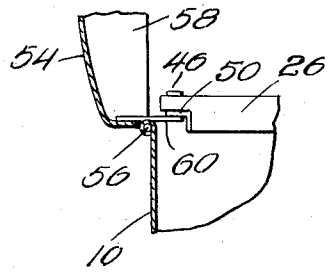


Fig. 3.



Walter N. Kravchuk, INVENTOR

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ATTORNEYS

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2,199,885

UNITED STATES PATENT OFFICE

2,199,885

ELECTRIC LIGHTER

Walter N. Kravchuk, Hartford, Conn.

Application June 12, 1939, Serial No. 278,802

2 Claims. (Cl. 219—32)

My invention relates to cigarette and cigar lighters, and has among its objects and advantages the provision of an improved portable lighter of the electric type.

An object of my invention is to provide an electric lighter embodying a housing for a dry cell battery having a heating element associated therewith, in which the housing is provided with a cover normally enclosing the heating element, wherein a novel switch is provided for actuation by the cover so as to break the circuit when the cover is in a closed position and to close the circuit when the cover is moved to an open position for lending access to the heating element for lighting purposes.

In the accompanying drawing:

Figure 1 is a sectional view of my invention with the cover in a partly open position;

Figure 2 is a top plan view with the cover opened; and

Figure 3 is a sectional detail view illustrating the manner in which the switch is closed when the cover is moved to a full open position.

In the embodiment selected to illustrate my invention, I make use of a metallic housing 10 which encloses a dry cell 12 having the usual central contact 14. Housing 10 is provided with threads 16 at its lower end for threaded connection with the flange 18 of a bottom cover 20. Between the cover 20 and the battery 12 I interpose a compression spring 22 which urges the contact 14 into engagement with a terminal screw 24 threaded into a disc 26 of insulating material.

Housing 10 may be circular in cross section, as illustrated in Fig. 2, and the disc 26 fits snugly inside the upper end of the housing, with the housing deformed inwardly at 28 to provide an inwardly extending rib 30 against which the disc 26 is pressed. The upper end of the housing is deformed inwardly at 32 to slightly overlie the outer face of the disc for securing the latter in fixed relation with the housing.

Upon the disc 26 I mount a heating element 34 which comprises suitable resistance wire wound spirally, as illustrated in Fig. 2. One end of the heating element 34 is bent to extend through an opening 36 in the disc 26, and this end of the heating element is looped at 38 to encircle the terminal screw 24 adjacent the head 40 of the screw. Loop 38 lies in a recess 42 in the lower face of the disc and is pressed against the bottom of the recess when the terminal screw 24 is turned down.

The opposite end of the heating element 34 is looped at 44 about a terminal screw 46 extending through an opening in the ledge 48 of the disc. Screw 46 is threaded into a metallic contact 50, which contact takes the configuration of an angle when viewed according to Figs. 1 and 3. One flange of the contact 50 lies against the ledge 48 and its other flange lies against the edge 52 of the disc 26 so as to be restrained from relative rotary movement when the screw is tightened.

A cover 54 is hingedly connected at 56 with the upper end of the housing 10 opposite the contact 50, and the flange 58 of the cover carries a contact element 60 arranged to be brought into engagement with the contact 50 when the cover is moved to a full open position, as illustrated in Fig. 3. Battery 12 is grounded to the housing 10 through the medium of the spring 22, so that the circuit through the heating element 34 will be closed when the cover contact 60 is brought into engagement with the contact 50, thus energizing the heating element and heating the same in such degree as to permit cigarettes and cigars to be ignited when pressed against the heating element.

The lighter is designed to be carried on the person and is of such size as to be conveniently carried in the pocket. Spring 22 holds the contact 14 into effective electrical engagement with the terminal screw 24, and the cover contact 60 is so related to the cover 54 and the contact 50 as to be completely in the clear of the contact 50 in all positions of the cover except when it is moved to a full open position. Thus, the heating element 34 is energized only when the cover is moved to a full open position so as to insure against energization of the heating element when carried in the pocket. Flange 58 is adapted to frictionally engage the outside upper margin of the housing 10 when pressed to a closed position so as to positively hold the cover in said closed position. Bottom cover 20 is easily removed to facilitate removal of the battery 12 when substituting a new battery. Disc 26 is effectively secured in fixed relation with the housing 10, and serves as a mount for the heating element 34 as well as the terminal screw 24.

Having thus described certain embodiments of my invention in detail, it is, of course, understood that I do not desire to limit the scope thereof to the exact details set forth except in so far as those details may be defined in the appended claims.

I claim:

1. A lighter of the type described comprising a metallic housing having an open end, a disc

of insulating material extending across said open end and fixedly related to the housing, a heating element mounted on the upper face of the disc and having one end passing through an opening in the disc for connection with a terminal, a battery inside said housing grounded to the latter and including a contact engaging said terminal, the other end of said heating element being connected with a fixed switch contact mounted on said disc, a metallic cover hingedly connected with the open end of the housing and electrically related thereto, and a switch contact carried by said cover arranged to be moved into engagement with said first-named switch contact when the cover is moved to an open position for energizing said heating element, the grounded connection between said battery and said housing comprising a compression spring interposed between the bottom of the housing and said battery for urging its contact into engagement with said terminal.

2. A lighter of the type described comprising a metallic housing having an open end, a disc of insulating material extending across said open end and fixedly related to the housing, a heating element mounted on the upper face of the disc and having one end passing through an opening in the disc for connection with a terminal, a battery inside said housing grounded to the latter and including a contact engaging said terminal, the other end of said heating element being connected with a fixed switch contact mounted on said disc, a metallic cover hingedly connected with the open end of the housing and electrically related thereto, and a switch contact carried by said cover arranged to be moved into engagement with said first-named switch contact when the cover is moved to an open position for energizing said heating element, the grounded connection between said battery and said housing comprising a compression spring interposed between the bottom of the housing and said battery for urging its contact into engagement with said terminal, said bottom being detachably connected with the housing to permit removal of the battery.

WALTER N. KRAVCHUK.