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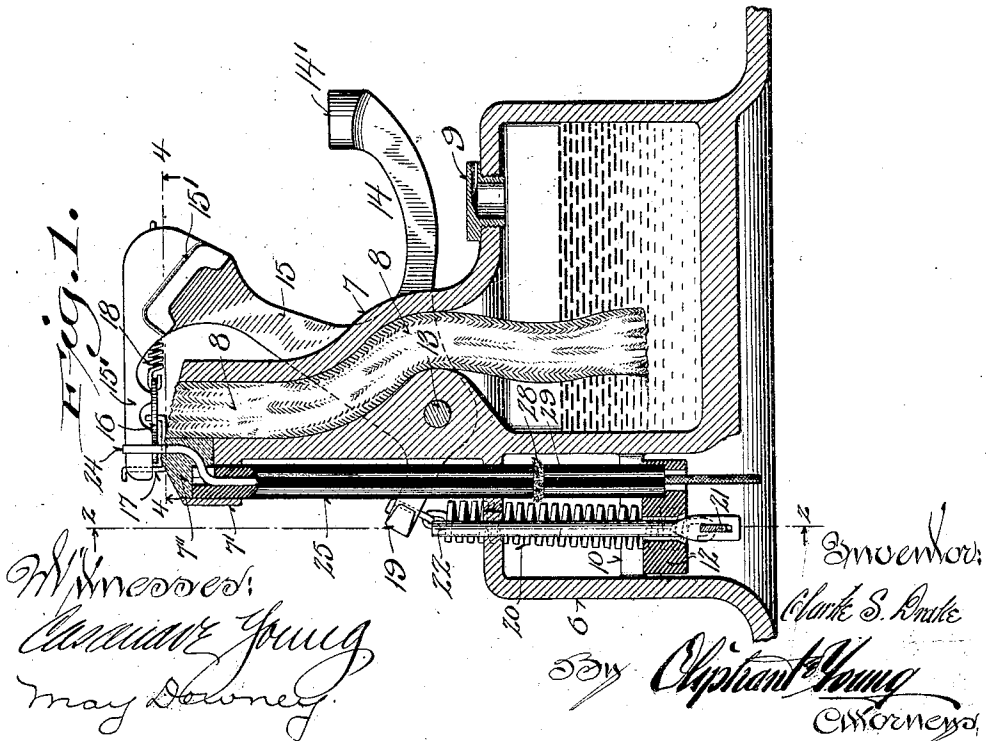
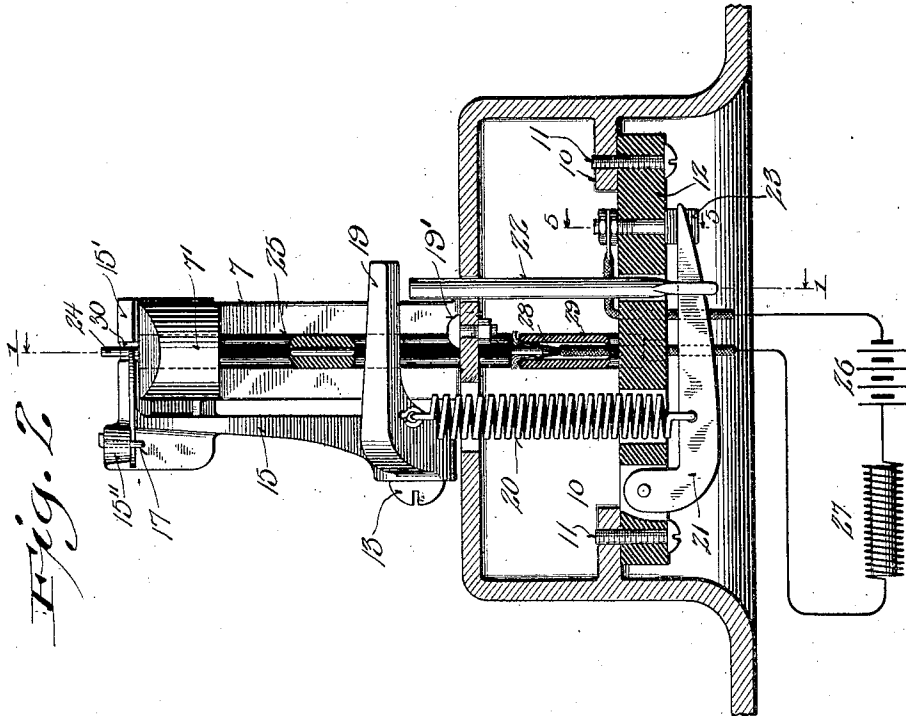
C. S. DRAKE.
CIGAR LIGHTER.

APPLICATION FILED JULY 20, 1912.

1,065,434.

Patented June 24, 1913.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4.

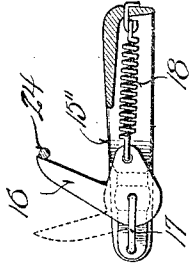


Fig. 5.

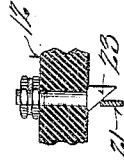
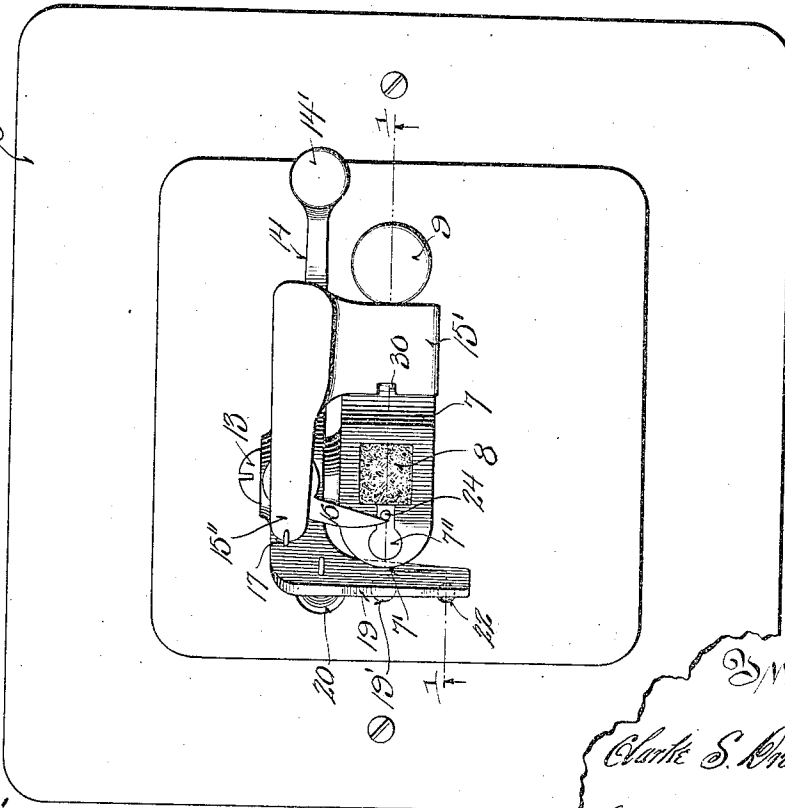


Fig. 3.



*Witnessed:
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UNITED STATES PATENT OFFICE.

CLARKE S. DRAKE, OF MILWAUKEE, WISCONSIN.

CIGAR-LIGHTER.

1,065,434.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed July 20, 1912. Serial No. 710,553.

To all whom it may concern:

Be it known that I, CLARKE S. DRAKE, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Cigar-Lighters; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in what is herein particularly set forth with reference to the accompanying drawings and pointed out in the claims of this specification, its object being to provide simple, economical and compact cigar-lighters of the type comprising a wick-member extending into a reservoir of gasoline or other suitable combustible liquid, and means for effecting electric-ignition of the wick, as well as for automatic extinguishment of the same.

Figure 1 of the drawings represents a partly sectional view of one of my improved cigar-lighters indicated by line 1—1 in Figs. 2 and 3, a bell-crank lever element thereof being on throw forward from normal position; Fig. 2, a similar view indicated by line 2—2 in Fig. 1; Fig. 3, a plan view of the lighter partly broken away, the wick being uncovered and about to be ignited the same as in the previously described figures; Fig. 4, a view of a detail of the lighter partly in section on the plane indicated by line 4—4 in Fig. 1, and Fig. 5, a view of another detail of said lighter partly in section, this view being indicated by line 5—5 in Fig. 2.

Referring by numerals to the drawings, 6 indicates a hollow metal base, a portion of which constitutes a reservoir for combustible liquid. Extending up from the reservoir is a tubular neck extension 7 of sinuous bore in which to cramp a wick 8, and the sinuosity of the neck-bore tends to prevent the wick jarring down below the top of the burner. The reservoir is provided with a filling opening that is normally closed by a preferably vented screw-cap 9, and fastened to ears 10 in the base, back of said reservoir, by screws 11 or other suitable means, is an insulating block 12. Engaging one side of the reservoir-neck 7 is a screw 13 that serves as a fulcrum for a bell-crank lever. The arm 14 of the lever has a finger-button terminal 14', and its other arm 15 has a snuffer-head terminal 15' by which the ignition end

of the wick 8 is normally covered, said snuffer-head being provided with a rear finger extension 15''. A horizontal tripper 16 is pivoted on a link 17 that in turn is pivotally connected to the finger-extension of the snuffer-head terminal of the lever-arm 15, the finger being provided with an underside recess in which the tripper-pivot end of the link has play, and a spring 18 is connected at its ends to said tripper and finger.

Extending laterally from the bell-crank lever is a bar 19, preferably integral with said lever, and a spiral-spring 20 is connected at its ends to the bar and a switch-blade 21, this blade being in pivotal connection with the insulating-block 12 through which and the base 6 the spring extends. The switch-blade engages a stirrup-end of a sliding rod 22 guided in said insulating-block and base, its other end being opposed to the lateral bar 19 of the bell-crank lever, and said switch-blade closes on a preferably beveled contact point 23 of a normally open electric circuit that includes the aforesaid switch-blade and tripper, the spring 20 and the rod 22. The electric-circuit also includes a stiff metal terminal 24 partly incased by an insulating-sleeve 25, the upper exposed portion of the terminal being in the path of the aforesaid tripper, and said circuit may include a battery 26, or other source of electrical energy, and a suitable spark-coil 27 as herein shown. The upper end of the insulating-sleeve 25 is held in a hollow rear upper lug 7' of the reservoir-neck 7, and a cranked portion of the electric-circuit terminal 24 is embedded in an insulating cement or plastic composition 7'' filling said lug, said filling serving to hold said terminal 24 securely in position and out of electrical contact with the lug 7' or the wick tube 7, and also to prevent excess combustible fluid from the wick finding its way down said sleeve into the base of the lighter.

The flexible insulated bunch wire 28 of the electric-circuit is preferably extended through a fiber sleeve 29 set in the insulating block 12 and some of the insulation is removed from the upper end of said wire to permit of its strands being spread about the lower meeting end of the stiff metal terminal 24, whereby a good connection is economically provided.

The switch-blade 21 is normally held

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away from the contact point 23 by pressure of the lever bar 19 on the rod 22, this being accomplished due to the fact that the coiled spring 20 connecting the lever-bar and switch-blade is attached to the latter close to its fulcrum point under constant tension, while the shackle connection between rod 22 and said switch-blade is adjacent to the outer end thereof. Hence the leverage exerted upon the switch-blade by the lever-bar through the rod at the outer end thereof is sufficient to overcome the slight spring resistance and effect the break in the circuit mentioned, it being understood that when this break between the switch-blade and contact point 23 is effected that the lever-bar 19 will rest upon the stop-head 19'. When the bell-crank lever is actuated by pressure upon the button 14', the initial movement of the bar 19 therewith will permit the switch-blade 21 to rise, together with the rod 22, the same following the lever-bar upward, due to the spring connection 20 between said lever-bar and switch-blade. This upward movement of the switch-blade will be arrested by engagement of the end of said blade with the contact 23, whereby the circuit is closed at said point. A further movement of the bell-crank lever in the same direction will be opposed by the coiled spring 20 and there being no further movement of the switch-blade it is apparent that the lever-bar 19 will disengage the rod 22, the parts assuming the position shown in Fig. 2 of the drawings. Following this movement the tripper 16 will contact with the metal terminal 24, thus closing the electric circuit in the lighter. In completing the movement of the bell-crank lever mentioned, said circuit is broken by disengagement of the tripper and terminal, whereby an electric spark is created to cause ignition of the wick 8, which wick is at this time uncovered by the snuffer-head 15' of the arm 15 of said lever.

By utilizing one end of the link 17 as a pintle for the tripper 16, which tripper is held in its normal position, as shown in Fig. 4, by the coiled spring, it is apparent that should the point of the tripper, through any slight disarrangement, engage the terminal 24, further thrust of said tripper point would, under ordinary conditions, tend to break the same or some part of the movable mechanism. This tendency is entirely overcome by the arrangement shown for the reason that under the aforesaid conditions the tripper pintle would yield backwardly by swing of the link in opposition to the spring, whereby clearance of the terminal is facilitated and insured, this being an important feature of the improved lighter. On return of the bell-crank lever which comprises the arms 14, 15, and lever-bar 19, it is apparent that the snuffer-head 15' will

extinguish the flame of the wick, the said snuffer-head being provided with a clearance notch 30 for the metal terminal 24.

The timing of the clearance of the switch-blade 21 is determined by the length of the rod 22 and, if desired, such clearance may be effected before the tripper 16 touches the terminal 24 on return movement of the bell-crank lever, thereby preventing closing of the electric-circuit and waste of electric energy and also preventing sparking between the tripper and terminal and between the switch-blade and contact point. Thus it follows that the break in the circuit upon the return of the mechanism to normal position can either be effected in conjunction with the metal terminal and tripper or switch-blade and contact point 23, the said point of break being predeterminedly arranged by shortening a standard length of rod 22.

By beveling the contact point 23 as shown it is apparent that the switch-blade when engaging the former will have a slight shear movement thereon to thus insure more perfect contact.

It is understood that when I refer to the circuit being closed in the lighter, as shown in Fig. 2, that such circuit is established by means of the metallic body of said lighter, including the bell-crank lever 15 and finger upon which the tripper is pivoted.

I claim:

1. A cigar-lighter comprising a pivotal switch-blade member of an electric-circuit embodying a contact point for the blade, a sliding stirrup-rod engaged by said blade, a combustible liquid reservoir having a wick-engaged neck, a bell-crank lever fulcrumed in connection with the neck and having an arm thereof terminated in a snuffer-head cover for said neck, a metallic terminal of the electric-circuit projecting adjacent to the ignition end of the wick, a terminal opposing tripper in said circuit having spring-controlled pivotal connection with a finger extension of the snuffer-head, a bar extending from said lever in opposition to said stirrup-rod, and a spring connecting the lever-bar with the aforesaid blade.

2. A cigar-lighter comprising a pivotal switch-blade member of an electric-circuit embodying a contact point for the blade, a sliding stirrup-rod engaged by said blade, a combustible liquid reservoir having a wick-engaged neck, a bell-crank lever fulcrumed in connection with the neck and having an arm thereof terminated in a snuffer-head cover for said neck, a metallic terminal of the electric-circuit projecting adjacent to the ignition end of the wick, a terminal opposing tripper in said circuit having spring-controlled laterally yielding pivotal connection with a finger extension of the snuffer-head, a bar extending from

said lever in opposition to said stirrup-rod, and a spring connecting the lever-bar with the aforesaid blade.

3. A cigar-lighter comprising a pivotal switch-blade member of an electric-circuit embodying a contact point for the blade, a sliding stirrup-rod engaged by said blade, a combustible liquid reservoir having a wick-engaged neck, a bell-crank lever fulcrumed in connection with the neck and having an arm thereof terminated in a snuffer-head cover for said neck, a metallic terminal of the electric-circuit projecting adjacent to the ignition end of the wick, a link in pivotal connection with a finger extension of the snuffer-head, a spring-controlled terminal opposing tripper pivoted on the link and in said circuit, a bar extending from said lever in opposition to said stirrup-rod, and a spring connecting the lever-bar with the aforesaid blade.

4. A cigar-lighter having a wick-tube, a stiff stationary metal terminal of an electric-circuit exposed adjacent to the ignition-end of the wick-tube, a movable support, a link in swing connection with the support, and a horizontally disposed spring-controlled tripper in pivotal connection with the link and constituting another terminal of said circuit carried with said support to contact with and clear the stationary terminal.

5. A cigar-lighter comprising an exposed terminal of an electric-sparking circuit, an insulating base, an insulating-sleeve rising from said base and through which said terminal is extended, a holder engaged by the sleeve, and suitable filling by which the aforesaid terminal is held rigid in the holder outward from the upper end of said sleeve.

6. A cigar-lighter comprising a wick-tube having a hollow outer lug, an insulating base, an insulating-sleeve secured at its ends in said base and lug, an exposed terminal of an electric-sparking circuit extended through the sleeve beyond said tube,

and a suitable filling by which said terminal is held rigid in said lug outward from the upper end of said sleeve.

7. A cigar-lighter comprising an insulating support, a switch-blade in pivotal connection with the support, a contact in the path of the blade, fixed and tripper terminals in circuit with said blade and contact, and means for actuating the aforesaid blade and tripper, whereby the switch is closed preliminary to ignition action of said tripper and opened previous to reverse contact of the aforesaid tripper with the fixed terminal in its path.

8. A cigar-lighter comprising a hollow base a portion of which constitutes a combustible liquid reservoir having a wick-engaged neck, an insulating block fastened in the base, a switch-blade member of an electric-circuit in pivotal connection with the block, a contact point for the blade being included in the circuit; a sliding stirrup-rod engaged by the blade and extending through said block and base, a spring-controlled bell-crank lever fulcrumed in connection with the reservoir-neck and having an arm thereof terminated in a snuffer-head cover for said neck, a terminal of the electric-circuit projecting adjacent to the ignition end of the wick, a terminal opposing tripper in said circuit having spring-controlled pivotal connection with a finger extension of the snuffer-head, and a bar extending from said bell crank lever to normally depress said stirrup-rod, and a spring connecting the lever-bar and the aforesaid blade.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

CLARKE S. DRAKE.

Witnesses:

GEO. W. YOUNG,
M. E. DOWNEY.