



# UNITED STATES PATENT OFFICE.

LOUIS V. ARONSON, OF NEWARK, NEW JERSEY.

CIGAR LIGHTER.

Application filed October 16, 1926. Serial No. 142,022.

The invention relates to cigar lighters and has an object the provision of a lighter utilizing pyrophoric material for ignition of a wick saturated with inflammable material, having a reservoir of large capacity which will be certain of operation and which will be simple to produce. A further object of the invention is the provision of a lighter having means to completely enclose the ignition apparatus when in closed position.

A further object of the invention is the provision of a lighter having a lock to prevent accidental opening of the same in the pocket of the user.

A further object of the invention is the provision of a device of the character referred to having means to shield the spark from the direction opposite to that of the wick.

Further objects of the invention will appear from the following description when read in connection with the accompanying drawings showing an illustrative embodiment of the invention, and wherein:—

Fig. 1 is a side elevation,  
Fig. 2 is a plan view,  
Fig. 3 is a vertical section on line 3—3 of Fig. 2,

Fig. 4 is a horizontal section on line 4—4 of Fig. 1, showing an operating position in dotted lines,

Fig. 5 is a side elevation with the actuating lever in elevated position, and

Fig. 6 is an edge view with the parts in the position of Fig. 5.

As shown, the device comprises a receptacle 10 having a base 11 and a cap 12, which cap acts as a support for the operating mechanism and is preferably removable, being secured to the walls of the receptacle 10 as by means of screws 13. The base 11 and the cap 12 are preferably formed to overhang the side walls of the receptacle 10 providing space for a covering 14 of leather or the like.

The receptacle 10 is desirably filled with a porous body, such as cotton shown at 15, which may be saturated with a readily inflammable liquid such as benzine, gasoline, alcohol or the like, and a wick 16 is shown contained in a wick tube 17 and projecting into the receptacle to convey the inflammable liquid to a position for ignition.

To provide sparks to ignite the wick 16, there is shown an abradant surfaced wheel

18 having a sleeve 19, fixedly carried thereby and journaled upon a stub shaft 20 secured to the cap 12 as by means of a screw 21. The upper end of the shaft 20 is shown as secured to a member 22 projecting from a member 23 having a bore 24 therein for reception of a spring 25 abutting against a screwthreaded member 26 engaging the end of the bore by a screwthreaded engagement and having a knurled head 27 for manipulation thereof. To provide sparks to ignite the wick, a pyrophoric element 28 is shown seated in the bore 24 and spring-pressed against the abradant surface 18 by means of spring 25.

The member 23 is shown as secured to the cap 12 by means of screws 29 passing through a flange 30 integral with the member 23.

To cause revolution of the member 18, the sleeve 19 is shown as provided with a series of ratchet teeth 31 coacting with a pawl 32 preferably provided with a plurality of teeth 33 and pivoted at 34 upon a sliding member 35.

To furnish power for revolution of the wheel 18, the member 32 is shown in the form of a bell crank having a hook 36 upon its arm 37 engaging a spring 38 housed in a bore 39 formed in the member 23 and anchored to the member as shown at 40.

To guide the member 35 in reciprocation, there is shown a finger 41 carried thereby and engaging the shaft 20 as shown in Fig. 4. The member 35 is further guided in its reciprocation by virtue of the fact that the finger 42 engages a block 43 mounted on the cap 12 and being yieldably pressed thereagainst by means of a spring 44 anchored at 45 to the cap 12.

The finger 42 is prevented from upward movement by an overhang 72 carried by a block 73 also mounted upon the cap 12.

To cause forward movement of member 35, there is shown a lever 46 pivoted upon a screw 47 rotatably mounted in the block 43, said lever carrying a finger 48 adapted to stand normally behind a projection 49 carried by the finger 42. As the lever 46 is raised, the member 48 forces the reciprocating member 35 forward, the pawl teeth 32 slipping over the ratchet teeth 31 until in the revolution of the lever 46, the finger 48 allows the projection 49 to escape, when the reciprocating member 35 will be suddenly

drawn rearwardly by force of spring 38 causing a sudden reciprocation of the wheel 18 whereby to provide sparks to ignite the fuel with which the wick 16 is saturated.

To permit the finger 48 to return to a position behind the projection 49 when the lever 46 is returned to the normal position shown in Figures 1 to 3, inclusive, the finger 48 is provided with a cam surface 50 and the projection 49 is also provided with a cam surface 51 whereby the finger 42 is forced laterally against the pressure of spring 44 to the dotted line position of Figure 4, returning to its normal position of Figure 4 after passage of the finger 48. The rearward movement of member 35 is checked by impingement of projection 49 against a pin 52 carried by block 43.

To hold the lever 46 in its extreme positions shown in Figs. 1 and 5, there is shown a leaf spring 53 secured to block 73 as by means of a screw 54 and coacting with a cam projection 55 carried by the lever 46.

To shield the wheel 18 and prevent sparks from passing in any direction except toward the wick 16, there is shown an apron 56 carried by the part 22 and at all times partially surrounding the wheel 18. To complete the enclosure of the wheel 18 while the device is closed, a further shield member 57 and a cover member 58 are shown mounted upon the lever 46.

A snuffer for the wick 16 is shown at 59 carried by the lever 46 and seated over the wick at all times when the device is closed.

To lock the device in closed position so that it cannot become actuated in the pocket of the user, there is shown a reciprocating member 59 having slots 60, 61, whereby it may reciprocate upon screws 62, 63, taking into member 23 and having a lock portion 64 projecting over a shoulder 65 formed in a slot 66 in the cover 58. When the device is to be actuated, the thumb nail of the user is inserted behind a projection 67 carried by the member 59 and the lock is forced rearwardly to free the lever 46 for actuation. Lifting of lever 46 will then reciprocate the member 35 forwardly, the pawl 32 slipping over the teeth 31 without revolution of the wheel 18 until the finger 48 allows the projection 49 to escape, when the member 35 will be suddenly drawn to the rear to produce sparks to ignite the fuel carried by the wick.

Fuel may be replenished in the receptacle 10 by removal of a plug 68 desirably seated in a recess 69 in the base 11 so as to be flush therewith, the edges of plug 68 being knurled and accessible at the sides of the base 11.

Pyrophoric refills may be carried in a bore 70 in a member 71 having screwthreaded engagement with the inner end of plug 68.

Minor changes may be made in the phys-

ical embodiment of the invention within the scope of the appended claims without departing from the spirit thereof.

I claim:

1. A cigar lighter comprising, in combination, a fuel containing reservoir, a wick projecting from said reservoir, mechanism for igniting fuel carried by said wick comprising an operating lever, a partial shield for said spark mechanism carried by said lever and normally covering a lateral portion of the spark producing means, and a second stationary partial shield laterally enclosing a portion of said mechanism at all times.

2. A cigar lighter comprising, in combination, a fuel containing reservoir, a wick projecting from said reservoir, means for ignition of fuel carried by said wick comprising an operating lever, a lock slidable into engagement with said lever to lock the same against accidental actuation.

3. A cigar lighter comprising, in combination, a fuel containing reservoir, a wick projecting from said reservoir, mechanism for ignition of the fuel with which said wick is saturated, comprising an operating lever, a partial shield for said mechanism carried by said lever and a snuffer for said wick also carried by said lever, said shield normally partially surrounding said mechanism laterally and said snuffer normally covering said wick, and a second stationary shield laterally partially enclosing said mechanism at all times.

4. A cigar lighter comprising, in combination, a fuel containing reservoir, a cap for said reservoir, a wick-tube carried by said cap, a wick in said tube extending into said reservoir and projecting from said tube in position for ignition, a spark producing wheel mounted on said cap, an operating lever mounted upon said cap, a reciprocating member mounted upon said cap, means carried by said lever to force said reciprocating member to operating position and to release the same, a spring to cause sudden return to normal of said reciprocating member and means for sudden operation of said wheel upon said return to normal of the reciprocating member.

5. A cigar lighter comprising, in combination, a fuel containing reservoir, a wick projecting from said reservoir, means for ignition of the fuel with which said wick is saturated, comprising an abradant wheel, a pyrophoric element spring-pressed against said wheel, ratchet teeth carried by said wheel, a reciprocating member, means to guide said member in its reciprocation, a pawl-teeth-equipped lever pivotally carried by said reciprocating member for engagement with said ratchet teeth, a spring urging said reciprocating member to normal position, an operating lever having a projection, a

projection carried by said reciprocating member coacting with said first named projection upon movement of the lever from normal position to stress said spring, said projections escaping from engagement at substantially the extreme position of the operating lever to allow said spring to actuate the reciprocating member to suddenly revolve said wheel, said projecting parts having cam surfaces causing lateral movement of the reciprocating member for return of the projecting parts to normal position. 10

LOUIS V. ARONSON.