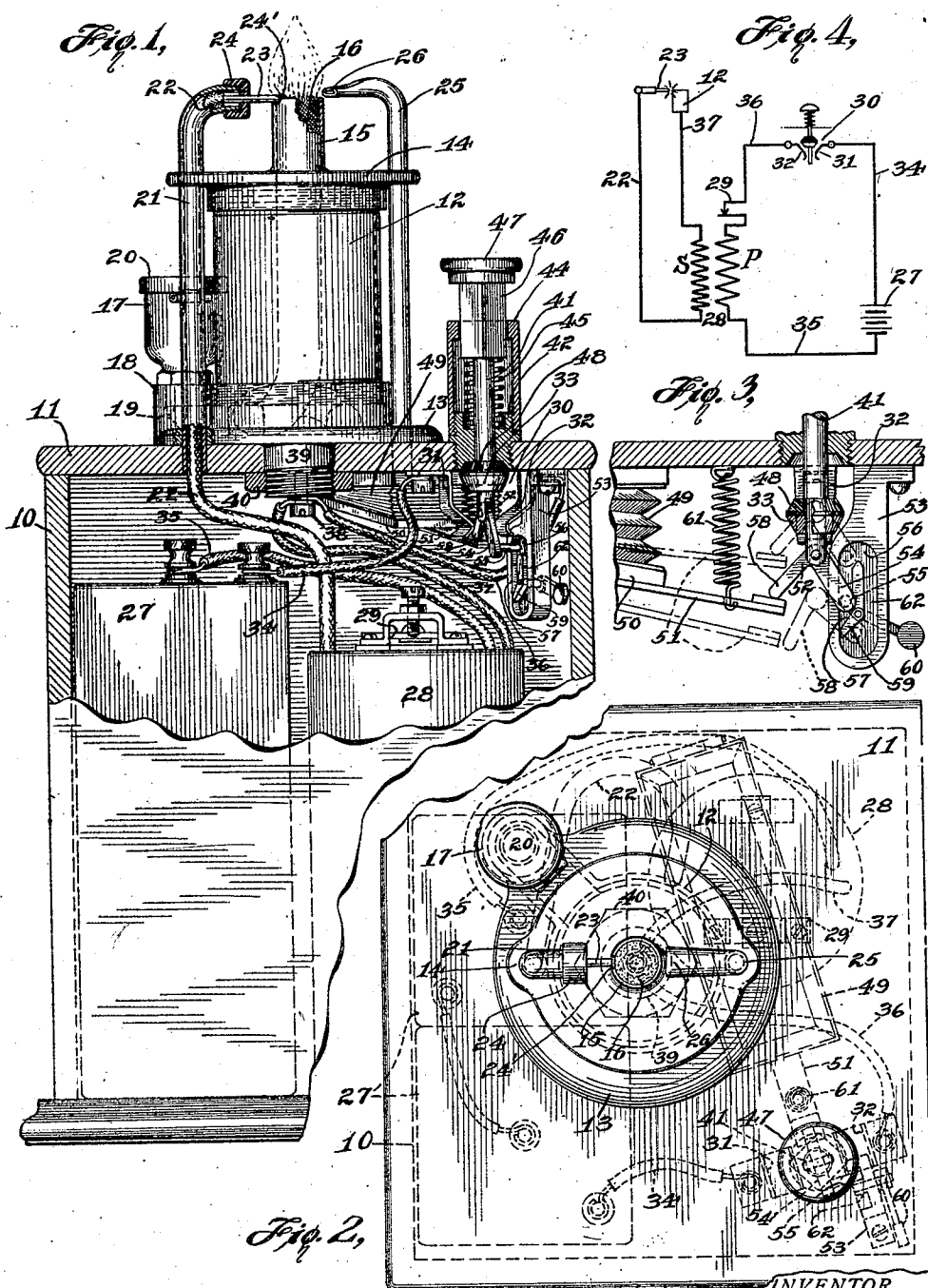


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J. C. LEHMANN ET AL.
CIGAR LIGHTER.
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JULIUS C. LEHMANN, OF JAMAICA, AND GEORGE H. TIMMERMAN, OF BROOKLYN, NEW YORK, ASSIGNORS OF ONE-HALF TO CHARLES G. LAZARUS AND BARNEY COHEN, BOTH OF BROOKLYN, NEW YORK.

CIGAR LIGHTER.

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To all whom it may concern:

Be it known that we, JULIUS C. LEHMANN and GEORGE H. TIMMERMAN, citizens of the United States, and residents, respectively, of Jamaica and Brooklyn, in the counties of Queens and Kings, respectively, and State of New York, have invented certain new and useful Improvements in Cigar Lighters, of which the following is a specification.

10 This invention relates to lighters such as cigar lighters and more particularly to a cigar lighter of the type in which a torch is ignited to produce a flame and the flame extinguished after it has been utilized for lighting a cigar; and has special reference to the provision of a novel cigar lighter of this type in which the igniting and extinguishing of the flame is obtained in a highly efficient manner.

20 Among the numerous forms of cigar lighters previously suggested, the commonest forms now adopted are of the type in which a torch comprising a tank or receptacle holding a combustible fluid and provided with a wick for feeding the fluid to the mouth of the receptacle is ignited by means of an electric spark or the like to produce a flame, the flame being extinguished generally by mechanical snuffing members movable over the mouth of the receptacle and over the wick therein. In some forms of this type of cigar lighter the receptacle or tank holding the combustible fluid is movable as by being pivotally mounted with respect to the mechanical snuffing member and in other forms of this type the mechanical snuffing member is movably mounted with respect to the fluid receptacle. In the use of these forms of cigar lighters it has been found that the relatively movable parts of the lighter present inherent disadvantages. Where the fluid receptacle is movable it has been found, for example, that the combustible liquid therein is agitated during movement of the receptacle and oftentimes agitated to an extent to cause the liquid to overflow or spill from the receptacle, the same being fired upon the production of the igniting spark, rendering the same hazardous in use. 50 Where the receptacle is stationary and the snuffing member movable relatively thereto, the parts are found to become worn and

broken after some use, requiring replacement of parts. Furthermore, where relatively movable parts are used and where the snuffing member is movable over the wick it is found necessary to utilize a more expensive fuel since the less expensive fuels carbonize too readily, the carbonizing resulting in rendering the parts sooty and dirty, this requiring frequent cleaning. Moreover, with this type of lighter cigar ashes which fall and are deposited on the wick during lighting of a cigar impregnate the wick and render the same difficult of ignition. For the purpose of overcoming these disadvantages incident to the use of previous forms of lighters we have found it desirable to produce a novel cigar lighter in which exterior moving parts are eliminated, and in which the flame ignited is capable of being extinguished without mechanical snuffing members, a cheaper fuel such as kerosene or gasolene being thus capable of being used, and in which the wick may be kept clean from any cigar ashes which fall or are deposited upon the same and the provision of such a cigar lighter is a prime desideratum of our present invention.

The principal objects of our present invention may be said to include, besides the provision of a cigar lighter having the characteristics above enumerated, the further provision of a cigar lighter in which a stationary torch comprising a tank or receptacle is utilized for holding the combustible fluid and in which the torch is ignited by means of a spark produced across stationary electrodes at the mouth of the receptacle; the further provision of a cigar lighter of this type in which the flame produced is extinguished by means of a blast or current of air projected onto the flame; the further provision of an apparatus of this nature in which the spark produced is of the continuous or jump spark type produced by an induction coil having its primary circuit normally open and adapted to be closed by the movement of a push button or plunger; the further provision of an apparatus of this kind in which movement of the plunger also creates a blast or current of air for extinguishing the flame after it has been used for lighting purposes and the general pro-

vision of a cigar lighter of the type referred to in which the parts are few in number, capable of being easily manufactured and subject to simple and efficient operation
5 in use.

To the accomplishment of the foregoing and such other objects as may hereinafter appear, our invention consists in the elements and their relation one to the other,
10 as hereinafter particularly described and sought to be defined in the claims, reference being had to the accompanying drawings which show a preferred embodiment of our invention and in which:

15 Figure 1 is an elevational view of the cigar lighter with parts broken away and other parts shown in cross section,

Figure 2 is a plan view thereof,

20 Figure 3 is a cross sectional view of a detail, and

Figure 4 is a diagrammatic view of the electrical circuits therefor.

Referring now to the drawings, we provide the usual receptacle or box 10 preferably made of wood for housing and supporting the parts of the lighter, the said box 10 being provided with a detachable cover 11 to which is attached the operating parts of the lighter. As hereinbefore referred to, a prime desideratum of our present invention comprehends a construction in which the exterior parts of the lighter are non-movable, the torch and the means for igniting and extinguishing the same comprising stationary members. To this end we provide the torch 12 mounted on the top of the cover 11, the said torch comprising a tubular body provided with a bottom 13 and a top 14 attached thereto, the top 14 comprising preferably a casting having an integral neck piece 15. These parts form a receptacle for holding a combustible fluid such as kerosene or gasoline and for feeding the fluid to the mouth of the neck piece 15 we provide the usual wick 16. For filling the receptacle we preferably provide the filling cup 17 mounted on a lug 18 formed integrally with the bottom 13, the lug and bottom comprising preferably a unitary casting, the cup 17 communicating with the interior of the receptacle by means of a passage 19. The cup may be provided with a screw threaded or pivoted closure or cap 20, the latter being shown in the drawings.
55 As will be apparent from a consideration of Figure 1, the cup 17 is so arranged with respect to the receptacle as to prevent the filling of the receptacle above a predetermined level, this to the end of minimizing the overflow or spilling of the contents of the receptacle to minimize the liability of firing of the combustible fluid.

For igniting the wick 16 we provide stationary electrodes spaced from each other
65 to provide a spark gap, the wick being in-

tended to be ignited by the production of an electric spark across the said electrodes. To this end we provide a tubular member 21 attached to the receptacle as by being inserted in registering apertures in the top 70 and bottom castings 14 and 13 respectively, the said tubular member carrying and supporting an insulated conductor 22, the top end of which is bared to provide the electrode 23, the said electrode being held in position by means of the insulating cap 24 threadedly attached to the top end of the tubular member 21. The electrode 23 is spaced from the mouth of the neck 15, the neck 15 forming the second and opposite 80 electrode, as will become further apparent hereinafter. The neck 15 is preferably provided with a cut away portion at its mouth as at 24', this to the end of facilitating ignition of the wick. It will be apparent from 85 this construction that when a spark is produced across the electrodes 23 and 15 the wick 16 will be ignited to produce a flame for cigar lighting purposes.

For the purpose of extinguishing the flame so produced, we provide means for creating a blast or current of air and for projecting said blast onto the flame, the flame being thus extinguished by a blowing action. To this end we provide a second 95 tubular member 25 supported by the liquid receptacle and received by registering apertures in the top and bottom 13 and 14 thereof, the said tubular member being bent at its upper end and provided with a mouth 100 26 situated adjacent the mouth of the torch 12, the said tubular member being intended for conducting and projecting a blast of air at the mouth of the torch for extinguishing the wick flame. By the provision of the 105 above recited means it will be apparent that the means for igniting the wick and for extinguishing the flame provide no movable parts with the disadvantages inherent thereto, the blast of air for extinguishing the flame further functioning for blowing away 110 any ashes which fall or are deposited upon the wick 16, keeping the same in a clean condition and ready for quick ignition.

For the purpose of producing the spark 115 across the electrodes 23 and 15 we provide an induction coil with its primary and secondary circuits and a source of energy such as a battery of cells, these parts being housed or enclosed by the box 10. The primary 120 circuit includes the battery of cells 27, the primary winding p of the induction coil 28, the interruptor 29 mounted on the induction coil and the switch mechanism generally designated as 30. The switch mechanism 125 30 preferably comprises the opposed resilient stationary contact elements 31 and 32 and a movable contact member 33 associated therewith. The contact element 31 is electrically connected to one electrode of the 130

battery cells by means of the conductor 34, the other electrode of the cells being connected to the primary of the coil 28 by means of the conductor 35, conductors 36 and 37 being provided for completing the primary circuit by connecting the contact element 32 to the other terminal of the primary winding of the induction coil, these conductors being connected together by attaching adjacent terminals thereof to the bottom casting 13 of the torch 12 as by the securing means 38, these adjacent ends of the conductors being attached to a screw threaded lug 39 preferably formed integrally with the bottom 13 of the liquid receptacle, the said screw threaded lug providing means for attaching the liquid receptacle to the top of the box 10 as by means of a nut 40 threadedly engaging the said threaded lug 39. The secondary circuit of the induction coil includes the secondary winding *s* (see Figure 4) one end of the said secondary winding comprising the conductor 22, hereinbefore mentioned, terminating in the electrode 23, the other end of the said winding being connected to the conductor 37 which is directly attached to the torch 12, the neck 15 of the said torch thereby forming the second or opposed electrode for the secondary circuit.

In the normal position of the parts the primary circuit is open and in the operation of the lighter for producing the spark the primary circuit is closed across the contact elements 31 and 32. To this end the contact member 33 is movable into contact relation with the elements 31 and 32 and for this purpose we mount the said contact member 33 on a reciprocable push button or plunger 41 movable in a threaded bushing 42, the latter being threadedly attached to the box top 11, the threaded bushing receiving the correspondingly threaded cap 44, the latter being provided for housing a spring 45 surrounding the shank of the plunger 41 and operative for normally urging the plunger upwardly by engaging the block or head 46 of the said plunger. The plunger may be provided at its top with the operating button 47. It will be apparent from this construction that as the push button or plunger is forced downwardly the switch contact elements 31 and 32 are bridged by the contact member 33 for the closing of the primary circuit and for the producing of the spark.

For the purpose of preventing or minimizing sparking when the plunger 41 is returned to ascended or normal position, we preferably provide the insulating member 48 of frusto-conical configuration so arranged on the plunger 41 as to engage the contact elements 31 and 32 and move the same outwardly during the ascent of the plunger, upward movement of the plunger

taking place with sufficient rapidity to prevent contact between the elements 31 and 32 with the contact member 33.

For the purpose of producing or creating the blast or current of air hereinbefore referred to, we provide the bellows 49 attached to the box cover 11, the air tube 25 being arranged to communicate with the interior of the bellows 49, the air tube 25 comprising the intake and the exhaust for the said bellows. The bellows 49 is preferably operated during the production of the igniting spark, the said bellows being preferably further operated by the same means for energizing the electrical circuits, and more particularly by means of the plunger 41. To this end the bottom wall 50 of the bellows is extended to provide an operating arm 51 and the plunger 41 is provided at its bottom with a bell crank lever 52 for engaging the arm 51 to actuate the same downwardly to open the bellows upon the downward actuation of the said plunger 41.

For the purpose of permitting a quick return or collapsing of the bellows for extinguishing the flame, the bell crank lever 52 is preferably pivotally mounted on the plunger 41 with means provided for effecting the disconnection between the bell crank lever and the arm 51 when the plunger 41 is about to be released by the operator. To this end a cam 53 is provided which functions to constrain the lever 52 to engage the arm 51 when the plunger 41 moves downwardly and to release the arm 51 upon the upward movement of the plunger 41. For this purpose the arm 54 of the bell crank lever 52 is provided at its end with a follower 55 movable in the annular cam groove 56 of the cam 53, the said cam follower being constrained to move in the channel 57 of the groove 56 when the plunger 41 moves downwardly, thus effecting engagement between the other arm 58 of the lever 52 and the arm 51 of the bellows. In the downward motion of the bell crank lever the follower 55 passes a flapper 59 normally held in the position shown in Figure 3 by being weighted as at 60, the said flapper being effective for causing the follower 55 to ride thereunder when the said follower passes the flapper 59, this being shown in dotted line position in Figure 3 of the drawings. When this occurs the arm 58 of the bell crank lever disengages the arm 51 of the bellows and the bellows is quickly returned to collapsed condition by means of a spring 61 connected thereto and anchored to the box top 11. With the upward movement of the plunger 41 the follower 55 moves in the channel 62 of the cam groove and when the plunger reaches its uppermost position the bell crank lever moves by gravitation to its position as shown in the upper dotted line figure shown in Figure 3

of the drawings. For the purpose of preventing rotational movement of the plunger 41 the head 46 thereof is preferably squared as clearly shown in the drawings.

5 The use and operation of our cigar lighter will, in the main, be apparent from the above detailed description thereof. When it is desired to light a cigar the button 47 is pushed or urged downwardly, the primary
10 circuit of the induction coil being thereby closed and a spark being produced in the secondary circuit across the electrodes for igniting the wick 16. This downward motion of the push button 47 simultaneously
15 opens the bellows, a supply of air being inducted therein through the tube 25. When the push button 47 is released as after the lighting of a cigar, the bellows quickly collapses, creating a blast or jet of air at the
20 mouth of the torch and extinguishing the wick flame. This blast of air simultaneously forcibly blows away any cigar ashes which may have fallen upon the wick.

It will be apparent from the above that
25 we have provided a cigar lighter in which no exterior movable parts are provided, in which no carbonizing of parts above the wick takes place as in prior lighters and in which the wick may be kept in a clean and fit
30 condition for an indefinite period. It will be further apparent that although we have disclosed our invention with particularity, showing a specific embodiment thereof, that numerous changes may be made in the constructional features such, for example, as the
35 provision of a different type of spark producing means or the provision of a different type of air blast producing means, it being further apparent, for example, that the bellows in our present construction may be rigidly attached to the operating plunger, and that other constructional features within
40 wide variations may be made without departing from the spirit of the invention, defined in the following claims.

We claim:

1. A lighter comprising a torch, means for igniting the torch to produce a flame and instrumentalities for extinguishing the flame
50 by blowing action.

2. A lighter comprising a stationarily mounted torch, means for igniting the torch to produce a flame, the said means including stationary electrodes adjacent the torch and
55 instrumentalities for extinguishing the flame by blowing action.

3. A lighter comprising a receptacle holding a combustible fluid, the said receptacle being provided at its mouth with a wick, electrodes and a circuit therefor for producing a spark at the wick for igniting the same to produce a flame and instrumentalities for
60 extinguishing the flame by projecting a blast or current of air thereon.

65 4. A lighter comprising a stationarily

mounted receptacle holding a combustible fluid, the said receptacle being provided at its mouth with a wick, stationarily arranged electrodes and a circuit therefor for producing a spark at the wick for igniting the same
70 to produce a flame and instrumentalities for extinguishing the flame by projecting a blast or current of air thereon.

5. A lighter comprising a torch, means for igniting the torch to produce a flame
75 and instrumentalities for extinguishing the torch comprising means for conducting a jet of air to the torch for blowing out the flame.

6. In a cigar lighter or the like, a torch adapted to be ignited for producing a flame
80 and means for extinguishing the flame by projecting a blast or current of air thereon.

7. A cigar lighter comprising a torch, means for producing an electric spark for igniting the torch to produce a flame, the
85 said means including an electric circuit, provisions for producing a blast or current of air operative to extinguish the flame and unitary means for energizing the said circuit and operating the said provisions.

8. A cigar lighter comprising a torch, means for producing an electric spark for igniting the torch to produce a flame, the
90 said means including an electric circuit, provisions for producing a blast or current of air operative to extinguish the flame and unitary means for energizing the said circuit and operating the said provisions, the
95 said unitary means comprising a push button or plunger cooperating with the said circuit and the provisions for closing the circuit to produce the spark when the plunger is moved in one direction and for effecting the production of the said blast or
100 current of air when the plunger is moved in another direction.

9. A cigar lighter comprising a receptacle or tank holding a combustible fluid and being provided at its mouth with a wick, stationary electrodes located at the mouth of the receptacle for igniting the wick to produce a flame, an induction coil having its
105 secondary in circuit with the said electrodes, an interruptor and a normally open switch mechanism in circuit with the primary of the induction coil, provisions for producing a blast or current of air at the mouth of the receptacle for extinguishing the wick flame and unitary means for opening and closing
110 the circuit of the primary winding and for effecting the production of the blast of air.

10. In a cigar lighter, a torch adapted to be ignited for producing a flame, means for creating a blast or jet of air to extinguish the flame, the said means comprising a bellows and provisions for operating the same.

11. A lighter comprising a torch, means for igniting the torch to produce a flame and
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instrumentalities for extinguishing the flame by projecting a blast or current of air thereon, the said instrumentalities comprising a bellows and provisions for operating the same.

12. In a cigar lighter or the like, a torch, electrodes for producing an electric spark at the torch to ignite the same, a circuit for the said electrodes, a normally open switch mechanism in said circuit, a member movable in opposite directions and coacting with said switch mechanism, the construction being such that movement of the member in one direction effects the closing of the switch mechanism and movement of the said member in the opposite direction is effected without closing of the switch mechanism.

13. In a device of the class described, a bellows, means for operating the bellows comprising a member movable in opposite directions, provisions associated with said bellows and said means and arranged to connect the means to the bellows when the former moves in one direction and to disconnect the said means from the bellows when the said means moves in the opposite direction.

14. A lighter comprising a torch, means for igniting the torch to produce a flame, the said means including a spark producing circuit and instrumentalities for extinguishing the flame by projecting a blast or current of air thereon, the said instrumentalities comprising a bellows and provisions for operating the same.

15. A lighter comprising a torch, means for igniting the torch to produce a flame and instrumentalities for extinguishing the flame by projecting a blast or current of air thereon, the said instrumentalities comprising a bellows and a push button or plunger for operating the same.

16. In a device of the class described, a receptacle for holding a combustible fluid, the said receptacle being provided at its mouth with a wick, a tube for conducting air under pressure arranged adjacent to said receptacle, the said tube terminating adjacent the said wick, a conductor having a terminal adjacent the said mouth of the receptacle and forming one electrode of a circuit, the said receptacle comprising the other electrode of the circuit.

17. In a device of the class described, a receptacle for holding a combustible fluid,

the said receptacle being provided at its mouth with a wick, a tube for conducting air under pressure arranged adjacent to said receptacle, the said tube terminating adjacent the said wick, a conductor having a terminal adjacent the said mouth of the receptacle and forming one electrode of a circuit, the said receptacle comprising the other electrode of the circuit, a bellows for creating a blast or jet of air to be conducted through said tube, the tube being in communication with the bellows and means for operating the said bellows.

18. In a device of the class described, a receptacle for holding a combustible fluid, the said receptacle being provided at its mouth with a wick, a tube for conducting air under pressure arranged adjacent the said wick, a conductor having a terminal adjacent the said mouth of the receptacle and forming one electrode of a circuit, the said receptacle comprising the other electrode of the circuit, a bellows for creating a blast or jet of air to be conducted through said tube, the tube being in communication with the bellows and means for operating the bellows comprising provisions connectible to the bellows for opening the same and disconnectible from the bellows for permitting a quick return or collapsing of the same.

19. In a device of the class described, a tank or receptacle for holding a combustible fluid, said receptacle being provided with a wick at its mouth, a tube for conducting a blast or jet of air to the mouth of the receptacle, a bellows in communication with the said tube and means engageable with the said bellows to move the same to open position, the said means being disengageable from the bellows when the latter is moved to open position and means operable on the bellows to quickly return the same to collapsed condition upon disengagement of said means.

20. In a device of the class described, a tank or receptacle for holding a combustible fluid, said receptacle being provided with a wick at its mouth, a tube for conducting a blast or jet of air to the mouth of the receptacle, a bellows in communication with the said tube and means for operating the said bellows.

Signed at New York, in the county of New York and State of New York, this 9th day of January, A. D. 1922.

JULIUS C. LEHMANN.

GEORGE H. TIMMERMAN.