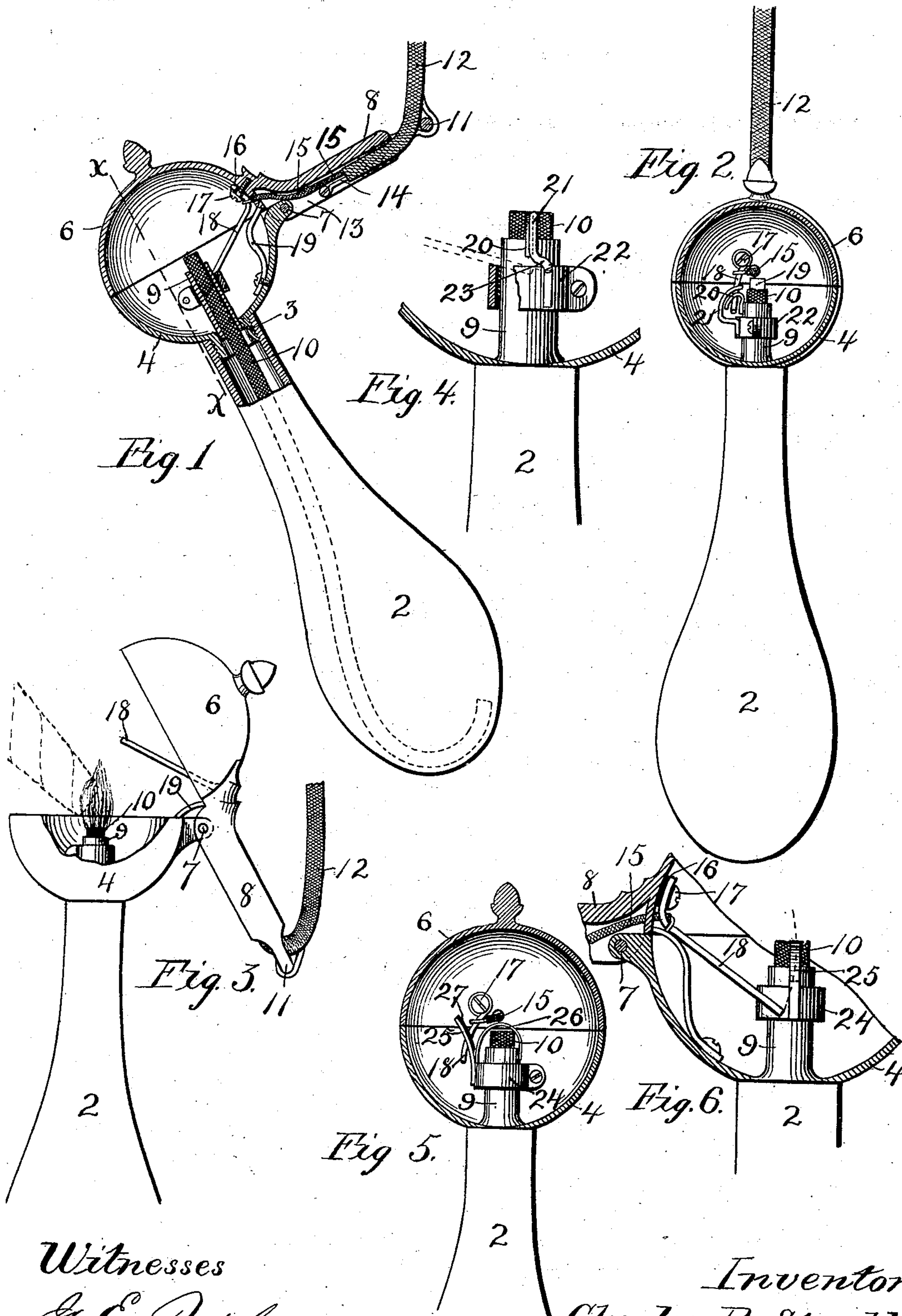


(No Model.)

C. B. STRUBLE.
ELECTRIC CIGAR LIGHTER.

No. 506,347.

Patented Oct. 10, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES BRUCE STRUBLE, OF MINNEAPOLIS, MINNESOTA.

ELECTRIC CIGAR-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 506,347, dated October 10, 1893.

Application filed January 10, 1893. Serial No. 457,878. (No model.)

To all whom it may concern:

Be it known that I, CHARLES BRUCE STRUBLE, of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented certain Improvements in Electric Cigar-Lighters, of which the following is a specification.

My invention relates to means for lighting cigars and especially to electric means for lighting an alcoholic wick.

The object of the invention is to provide a permanent electric cigar lighter for use especially in places where gas is not at hand; and further, which may be used with a few cells of battery or current from the ordinary electric mains.

To this end my invention consists in the combination with a bulb, of a wick therefor, an inclosing cap or ball by which air is excluded from the wick when the device is not in use, and a sparking device arranged within said cap and adapted to be operated by the opening of the cap.

The invention consists further in various details of construction and will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 shows a hanging cigar lighter embodying my invention, the upper part being broken away to show the interior construction. Fig. 2 is a sectional view thereof on the line $x-x$ of Fig. 1. Fig. 3 shows the cap opened. Fig. 4 is an enlarged detail side view of the wick tube and the sparking points. Fig. 5 is a sectional front view of the cap showing another form of striker. Fig. 6 is an enlarged sectional side view thereof.

As shown in the drawings 2 represents a bulb of metal or glass and adapted to contain alcohol. Screwed into the upper end of the bulb or handle is the boss 3 of the lower half 4 of the cap or ball which is completed by the upper half 6 secured thereto by the hinge 7 and having the arm 8. The lower part 4 of the ball has the wick tube 9 for the wick 10 which passes down into the bulb. Alcohol vapor is constantly present at the upper end of the wick and this vapor is ignited to light the wick, by an electric spark. The arm 8 has a ring or eye 11 in which the cord 12 is fastened to support the weight of the device. The cord is accommodated in the groove 13

provided in the under side of the arm. One strand or electric conductor 14 is connected direct to the arm and hence to the entire metal cap or frame. The other strand 15 is carried through the upper part and electrically connected with the striking finger or wire 18 normally extending down into the lower part of the cap but secured to the upper half by a screw 17 from which and from the frame it is insulated by a bushing 16. A spring 19 is secured to the lower part of the ball and presses against the upper part to throw the same open when relieved by the weight of the bulb or handle. On the wick tube I arrange a bent wire or hook 20 beneath which the striking finger 18 stands when the cap is closed, but against which it is adapted to strike and pass when the cap is opened, thereby making and then breaking the electric circuit to make a spark, and thus light the wick. The cap or ball being then open a cigar may be lighted by the flame. Upon the closing down of the upper part the air is excluded and the wick flame is extinguished. At this time the finger 18 descends and is warded off the hook 20 by the overhanging wire 21 fastened on the ring 22 insulated from the tube. This guard 21 has the bend 23 in its lower part so that after passing below the hook the contact finger 18 springs into the normal position beneath the contact hook in readiness to again strike the same when the ball or cap is again opened. The sparking points may be replaced by the devices shown in Figs. 5 and 6 where the lighter is included in a lighting circuit. The ring 24 is insulated from the tube 9 and is provided with a lug 25 curved outwardly as shown in Fig. 5. A small platinum wire passes from the insulated ring into close proximity to the wick and is electrically connected with the tube. When the finger 18 therefore strikes the lug 25 on its upward movement the circuit is completed and the platinum wire heated to the igniting point. To avoid relighting the wick when the cap is closed I provide a thin insulation 27 on the upper side of the lug against which the finger descends. The circular movement of the finger carries it away from the lug at the last part of the movement, as indicated by the

dotted line in Fig. 6. Two or three cells of battery with a spark coil in the circuit are sufficient for use with my lighter.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of an electric circuit and a source of electricity included therein, with a bulb to contain the inflammable fluid, a tube leading therefrom, a hinged cap inclosing the same, and electric contacts connected with opposite sides of said electric circuit and adapted to engage when said cap is opened, substantially as described and for the purpose specified.

2. The combination with a bulb serving as a handle and adapted to contain alcohol, with a wick, a wick tube, a cap tightly inclosing the same and arranged to be opened, electric sparking contacts arranged within said cap in proximity to said wick and adapted to engage with one another when said cap is opened, and an electric circuit and source of electricity connected with said contacts, substantially as described.

3. The combination with a bulb adapted to contain alcohol, of a wick tube and a wick arranged therein, and an inclosing cap composed of two parts, one of which is hinged upon the other and provided with an arm, an electric contact provided upon said wick tube, a second contact or finger arranged upon the hinged part of the cap to engage the tube contact when the cap is opened, and a supporting cord provided with conductor strands connected with said contacts respectively and included in the circuit of a suitable source of electricity, substantially as described.

4. The combination with a bulb to contain alcohol or like fluid, of a wick tube connected therewith, a wick arranged in the same and in said bulb, an inclosing cap or ball ar-

ranged about said wick tube and composed of two parts one of which is hinged, an electric contact provided in proximity to the end of the wick, a striking finger provided upon the hinged part of said cap, and a guard adapted to protect said contact from the downward stroke of said finger, and an electric circuit including said contacts whereby when said cap is opened a spark is made to ignite said wick, substantially as described.

5. The combination of a bulb serving as a handle with a part 4 arranged upon the end of the bulb and having a wick tube, a wick arranged therein, a part 6 hinged upon the lower part and provided with an arm, a contact 20 provided upon said tube, a finger provided upon the part 6 and adapted to engage said contact when said part is raised, said finger and said contact being connected with opposite sides of an electric circuit, and an insulated guard 21 to protect the contact 20 from the down stroke of said finger to prevent a second completion of the circuit on the closing of the cap, substantially as described.

6. The combination with a bulb 2, of the ball or cap arranged thereon and composed of the lower part 4 having the wick tube, and the upper part 6 hinged on the lower part, the arm 8 of said upper part, said arm provided with a loop or ring and a recess, a spring 19, the contacts arranged within said ball, the electric conductor cord 12 having strands 14 and 15 arranged in said recess of the arm 8 and connected with said contacts, substantially as described.

In testimony whereof I have hereunto set my hand this 5th day of December, 1892.

CHARLES BRUCE STRUBLE.

In presence of—

FREDERICK S. LYON,
CHAS. E. VAN DOREN.