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Improved Lighter for Cigarettes, Cigars or the like.

I, JOHN JAMES VICTOR ARMSTRONG, Chartered Patent Agent, of 12, Church Street, Liverpool, in the County of Lancaster, subject of the King of Great Britain, do hereby declare the nature of this invention, which has been communicated to me by Louis Vincent Aronson, a citizen of the United States of America, of 7-15, Mulberry Street, Newark, New Jersey, United States of America, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The invention relates to frictional cigar lighters of the type which includes a sparking device comprising an abradant wheel and a pyrophoric element mounted on a fuel receptacle, a wick depending within said fuel receptacle and sliding means for rotating the abradant wheel and has as an object the provision of a device of this character which is of compact form and of simple structure and which is convenient to operate.

A pyrophoric lighter is already known in which a wick is interposed between the sparking device and sliding means on a container for causing rotation of the abradant wheel. In this case, a wick cap shrouds the wick and is removed from its position covering the wick on actuation of the sliding means.

A cigar and cigarette lighter is also known in which a sliding element is adapted to cause rotation of the abradant wheel of a sparking device to ignite a wick placed on the opposite side of the sparking device to that occupied by the sliding means. In such a case no wick cap is provided.

The present invention has for its object the provision of a more compact cigar or cigarette lighter than the known forms without having to eliminate the wick cap to provide for such compactness of construction.

According to the present invention the sparking device is interposed between the sliding means and the wick, whilst on relative movement between the sliding means and the fuel receptacle, a wick cap, rigidly connected with the means for

rotating the abradant wheel of the sparking device, is removed from its position shrouding 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:—

Figure 1 is a side elevation;
Figure 2 is a plan view; and
Figures 3 and 4 are vertical sections on lines 3-3 and 4-4 respectively of Figure 2.

As shown the device comprises a fuel receptacle having a side wall 10 preferably defining an elliptical receptacle and walls 11 and 12 rigidly secured to the side wall. Mounted upon the end wall 12 there are shown standards 13, 14 in which standards is journaled shaft 15, upon which shaft are mounted for free revolution the pinions 16, 17. The wick tube 18 is shown mounted upon the end wall 12 housing a wick 19 projecting into the receptacle and adapted to be saturated with fuel from the receptacle, which fuel is held in absorption by filling material 20 such as cotton or the like.

A wick cap 25 is carried by arms 22, 23, rigidly secured to pinions 16, 17, an upper closure for the space between the arms being shown at 24 which is rigidly secured to the arms 22, 23. The combination of arms 22, 23 and closure 24 is termed the wick cap carrier 21.

To prevent evaporation from the wick when the device is in the normal position shown in Figures 1 and 3, the wick cap 25 is shown as provided with a resilient collar or gasket 26 fitting, when the cap is closed, about the tapered end of the wick tube.

To produce sparks for ignition of the fuel with which the wick is saturated, there is shown a pyrophoric element 28 housed in a tube 29 opening at the bottom of the receptacle. To press the pyrophoric element against the abradant surfaced wheel 30, a spring 31 is mounted upon the end of plug 32, which plug has screw threaded engagement with the lower end of tube 29 and which spring

carries an element 33 adapted to press against the pyrophoric element 28.

To cause motion of the abradant wheel there is shown a thumb piece 34 mounted upon a column 35 desirably of tubular form telescopically mounted in a cylinder 36 housed in the fuel receptacle and rigidly carried by the end wall 12 thereof, a spring abutting against the end of bottom 36 and against the inner end of cylinder 35 to press the column 35 upwardly.

A pair of racks 38 are rigidly carried by the thumb piece 34 and mesh with the pinions 16, 17.

To transmit motion of the pinions 16, 17 produced by the racks 38 to the abradant wheel 30, there is shown a ratchet wheel 39 rigidly carried by the abradant surfaced wheel 30 and a pawl 40 pivoted to one of the arms 22, 23 and pressed by means of a spring 41 into contact with the ratchet wheel 30. By the described mechanism downward movement of racks 38 will raise the arms 22, 23 and thereby pull upwardly upon the pawl 40 causing revolution of the abradant surfaced wheel and upon return to normal of the arms 22, 23 the pawl will slip over the ratchet allowing the abradant surfaced wheel to remain stationary. Since the diameter of the pinions 16, 17 is smaller than that of the abradant surfaced wheel, it follows that any motion transmitted from the sliding means to the abradant surfaced wheel will be multiplied.

To protect the flame of the wick there is shown a windshield in the form of a U-shaped member 42 pivoted upon the ends of shaft 15 and encircling the wick. The shield 42 is shown as retained in its closed position by means of a latch member 43 engaging about a rim 44 carried by a cover member 45 overlying the end wall 12 and secured thereto as by means of a screw 46.

The cover member 45 has openings surrounding the wick tube 18, the opening of the cylinder 36 and the standards 13, 14 providing a pleasing appearance to the finished article.

To admit air to the flame when the wick 19 is ignited, the windshield is shown as formed with recesses 53 to provide openings between its bottom edge and the cover member 45.

To supply fuel to the receptacle there is shown an opening 47 closed by a screw plug 48, the edges of the head 49 thereof projecting slightly at the sides of bottom wall 11 whereby the disc 49 may be grasped to unscrew the plug. The disc 50 upon the plug 32 is similarly constructed for removal.

To feed the wick 19 upwardly in the

tube 18, there is shown a needle-like projection 51 mounted upon the plug 48 which needle may be inserted into a notch 52 in the wick tube whereby the wick may be brought upwardly in the tube (Fig. 3).

The member 51 may be utilized also to loosen the absorptive material 20 in the receptacle if the same becomes unduly packed.

Minor changes may be made in the physical embodiment of the invention within the scope of the appended claims without departing from the spirit thereof.

A suitable cover 54 surrounding the side wall 10 is provided.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A cigar lighter of the type set forth in which the sparking device is interposed between the sliding means and the wick, whilst, on relative movement between the sliding means and the fuel receptacle, a wick cap, rigidly connected with means for rotating the abradant wheel of the sparking device, is removed from its position shrouding the wick substantially as described.

2. A cigar lighter as claimed in Claim 1 in which the abradant wheel is journaled in standards projecting from the upper wall of the receptacle the shaft of the wheel having journaled thereon a wick-cap carrying member which is rotated about said shaft to cause revolution of said wheel substantially as described.

3. A cigar lighter as claimed in Claims 1 and 2, in which the wick cap carrier is freely journaled for revolution on the shaft of the abradant surfaced wheel and carries pinions which are in mesh with rack members on the sliding means whilst a pawl, carried by the wick cap carrier, is spring pressed into engagement with ratchet teeth carried by the abradant surfaced wheel so that any motion transmitted from the sliding means to the wheel is multiplied substantially as described.

4. A cigar lighter as claimed in Claim 3 in which racks meshing with the pinions are rigidly carried by a column sliding within a tube carried by the receptacle, spring means being provided for pressing the column outwardly in said tube, whilst the pawl and ratchet means carried by the wick cap carrier transmits the motion of the pinions to the wheel, substantially as described.

5. A cigar lighter as claimed in Claim 1 in which a pivoted windshield laterally surrounds the wick tube in normal posi-

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tion and is adapted to be swung from its wick-surrounding position substantially as described.

5 6. A cigar lighter as claimed in Claim 5 in which the windshield is pivoted upon arms projecting from the receptacle and carrying the abradant wheel substantially as described.

10 7. A cigar lighter as claimed in Claim 5 having air admitting recesses in the

receptacle-engaging edge of said windshield substantially as described.

8. A cigar lighter constructed and arranged to operate substantially as described with reference to the accompanying drawings. 15

Dated this 23rd day of December, 1927.

W. P. THOMPSON & Co.,
12, Church Street, Liverpool,
Chartered & Registered Patent Agents.

[This Drawing is a reproduction of the Original on a reduced scale.]

