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PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Lighter with Fluid Reservoir

I, ALEXANDER SYDNEY WESTON, of 85, East 10th Street, New York, State of New York, United States of America, a Citizen of the United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 10 This invention relates to cigarette and cigar lighters and has for its main object to provide a device of this character and of novel construction which will be more efficient than the devices now used for such purposes.

15 Another object of my invention is to provide a device of this type in which reserve fluid for the lighter will be embodied in a convenient manner.

20 Still a further object of my invention is to provide a novel efficient cigar and cigarette lighter, having a reserve fluid container or tank incorporated therein, which also will have another container or chamber for reserve flints.

25 Still a further object of my invention is to provide a device, as characterized hereinbefore, in which the arrangement of the flame producing device proper will be the reverse to that now used, whereby a liquid container may be arranged in the lower part thereof so that said container in the usual position of the device will be in a normal vertical position in the base thereof, the bottom of the fluid container being downwardly, and the open top thereof, with its removable cover, being upwardly.

30 Other objects of this invention will be apparent as the specification of the same proceeds, and among others I may mention: to provide a lighter of the type indicated which still will be simple and compact in construction, comparatively inexpensive to manufacture, adapted to be manufactured from plastic or other materials, and which will have a novel attractive appearance.

35 In the drawings forming a part of this specification, and accompanying the same, Fig. 1 is an elevational view of my novel cigar and cigarette lighter in a closed position;

[Price 1]-]

Fig. 2 is a bottom view thereof;

Fig. 3 is a top or plan view;

Fig. 4 is a partly sectional elevational view, the section being indicated by line 4—4 of Fig. 2;

Figs. 5 and 6 are cross sectional views, the respective sections being indicated by the lines 5—5 and 6—6 of Fig. 4;

Fig. 7 is a top, or plan view of the lower part or base, of my invention with the upper part, or lighter proper, having been removed from the same.

Referring now to the drawings more in detail by characters of reference, the numeral 10 indicates my complete and closed lighter in general, the same being composed of a lower hollow cylindrical, or base portion, generally indicated by the numeral 11, and an upper lighter proper, or flame producing device generally indicated by the numeral 12.

As has been mentioned, the lower base portion is a hollow cylinder 13, which is divided by the wall 16 into the upper part 14, and a lower part 15. Both the upper end 17 and the lower end 18 of the base, are open.

The upper portion or lighter proper 12 of the device may also have a casing or outer housing 19 of any appropriate construction, well known in this art, from which projects cylindrical downward extension 20 of a reduced diameter, compared to the upper main portion 21 of the housing 19.

The lighter proper or flame producing device 22, arranged in the upper housing or casing 19, preferably is of the type which operates by a friction wheel 23, rubbing on a flint (not shown) producing sparks, and igniting the wick 24 fed by a combustible liquid from the housing 22, as it is well known.

Housing 22 of the flame producing device is secured in the casing 19 by friction so that anytime it is desired it may be pulled out from the same. It may have an open inner end, or it may have an opening at its inner end, to refill the same, that is, to again saturate the usual cotton mass, in the housing 22, with the combustible liquid.

The construction of and parts in the

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lighter proper, or flame producing device 22 are not shown as they are well known in this art.

It will be seen that the lighter proper, 5 or flame producing device 22, normally is arranged in my device in an inverted position and the wheel 23 and wick 24 are pointing downwardly, being housed in the space 14a in the upper part 14 of the hollow 10 base 11 of my device.

In the space 15a in the lower portion 15 of the base 13 is arranged a reserve fluid container or tank 25 having an open top 26 normally sealed by a screw threaded 15 cap 27.

Outer screw threads 28 are provided on the lower part of the reserve fluid tank 25, and corresponding inner threads are provided on the wall of the base 13, adjacent 20 to its open end 18, whereby said reserve container or tank may be removably secured in the lower part of the base, as will be obvious.

It will be seen that in a normal position 25 of my device the reserve container 25 will be in its normal position, its closed bottom 29 being downwardly and its opening 26 upwardly.

The upper end 30 of the casing or housing 19 for the lighter proper 22, is closed and preferably shaped as indicated in Figs. 1 and 4, and has an upwardly extending hollow sleeve projection 31 open at the top and provided with screw threads 32 35 cooperating with the screw threads in a corresponding recess in the closure ball 34.

The space 31a in the sleeve 31 may serve as a chamber or magazine for the reserve flints 35, and an additional cork, rubber, 40 or similar stopper 36 may be used to close the upper end of the sleeve 31, mainly to prevent the rattling of the flints 35.

From a shoulder 37 at the lower end of the casing 19, where the cylindrical projection 20 starts, semi-cylindrical guide and securing projections 38 extend downwardly, on the outer wall of the cylindrical projection 20, and corresponding recesses 39 are provided in the inner wall of the 50 upper end of the upper portion 14 of the base casing or housing 13, and when my device is in a closed position, as indicated in Figs. 1 and 4, said guide and securing projections 38 will be pushed into the recesses 39. In this manner the projection 20 and the upper casing 19 may be 55 pushed into the upper end of the base 13, said projections 38, in the recesses 39, guiding such a movement, and afterwards preventing, through their increased frictional action, an easy removal or dropping out of the upper casing 19 from the lower or base housing 13. Some noticeable force will be necessary to push 60 the extension 20 of the upper casing 19

into the upper portion of the base 13, and, similarly, some exertion will be necessary to pull the extension 20 out of the base.

The guide projections 38, and the corresponding recesses 39, also will prevent a 70 rotation of the upper portion 19 in the base 13.

Columns, or longitudinal projections, 40 may be provided on the outside of the base 11 and the upper portion 10 to reinforce the upper and lower casings or housings, and thereby to make it possible to 75 manufacture them out of plastic material, with desirable thin walls, said columns 40 also serving as grips on the two parts so that they may be pulled apart without causing them to rotate or turn with 80 reference to one another, and said columns obviously serve to give the device a more attractive and esthetic appearance. 85

The use and operation of my cigar and cigarette lighter will be obvious from the herein description.

Normally, my lighter is in the position 90 as indicated in Fig. 4. When it is desired to use the same, the upper casing 19 will be gripped with one hand and the base 13 with the other, and the upper casing 19 with its associated devices will be pulled 95 out of the base, and turned upwardly into a reverse position to that shown, and then operated as usual.

After having used the lighter, the upper portion 10 of the same will again 100 be turned into an inverted position with the extension 20 thereof downwardly, when the exposed part of the lighter proper 22 may be pushed into the upper end of the base.

When the combustible liquid in the 105 lighter proper 22 has been used up, and wick 24 does not produce the ready flame any more, said lighter proper 22 will be pulled out of the upper casing or housing 19 and refilled with combustible liquid 110 from the reserve tank 25.

For this purpose an operating slot or recess 41 is provided in the bottom 29 of said tank and by inserting any appropriate object, even a coin, into said slot, 115 the tank 25 may be removed from the space 15a in the base, by unscrewing, whereupon its cap may be removed to use a part of the fluid therein.

It will be obvious that in a reverse 120 manner, the reserve fluid container 25 again may be secured in the lower space of the base by said screw threaded engagement.

Similarly, when the flint in the lighter 125 proper, or flame producing device 22 has been used up, the same may be replaced by one of the reserve flints 35, in the sleeve chamber or magazine 31, at the upper end of the device, for which pur- 130

pose the ball shaped closure cap 34 will be unscrewed, stopper 36 removed, and after taking out a reserve flint 35, the stopper 36 and the closure ball 34 may be replaced into their original positions.

It will be obvious that said closure ball may also be used as a grip for pulling the housing 19 out of the base 11, and said ball, with an appropriate shaping of the closed upper end 30 of said housing, will aid in the attractive, esthetic appearance of my device.

As has been mentioned hereinbefore, my device may conveniently be made of plastic material by simple die operations, with the exception of the housing 22 for the lighter proper, which I prefer to make of sheet metal, as is the case with lighters used at present.

It also will be observed that the ornamental and reinforcing columns 40 may preferably be placed in the diameters where the recesses 39 are provided in the upper end of the base, so that the wall of said base may be kept comparatively thin and still have large enough recesses 39 for the guide projections 38 in the casing 19.

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 and cigarette lighter, comprising a hollow body for the housing of the lighter, a container of combustible fluid removably secured into one end of said housing, and a flame producing device removably secured into the other end.

2. A lighter, according to claim 1, in which said hollow body, in a normal position forms the base for the lighter, said fluid container being secured in the lower part thereof, and said flame producing device being secured into the upper part in a reverse position to the one when it is operated.

3. A lighter, according to claim 1, in which said hollow body, in a normal position forms the base for the lighter, said fluid container being secured in the lower part thereof and said flame producing device being secured into the upper part in a reverse position to the one when the same is operated, said fluid container having a closed bottom and an open top normally closed by a closure device, said bottom of the fluid container also forming the bottom of the base, so that in a normal position of the device said fluid container also will be in its normal position with its top upwardly.

4. A lighter, according to claim 1, in which said hollow body, in a normal position forms the base for the lighter,

said fluid container being secured in the lower part thereof and said flame producing device being secured into the upper part in a reverse position to the one when the same is operated, said fluid container having a closed bottom and an open top normally closed by a closure device, said bottom of the fluid container also forming the bottom of the base, so that in a normal position of the device said fluid container also will be in its normal position with its top upwardly, a grip member at the upper end of the flame producing device being provided whereby to grasp the same when removing it from said base by axial pull.

5. A lighter, comprising a hollow base having an open end, a flame producing device proper removably inserted into said open end, depressions in the inner surface of the wall of said open end, and registering projections on said flame producing device proper, adapted to engage said depressions when the same is inserted into the base.

6. A lighter, comprising a hollow base having an open end, a flame producing device proper removably inserted into said open end, depressions in the inner surface of the wall of said open end, registering projections on said flame producing device proper, adapted to engage said depressions when the same is inserted into the base, and outwardly projecting axial reinforcements on said base at the places of said depressions in said wall.

7. A lighter, comprising a hollow base having an open end, a flame producing device proper removably inserted into said open end, depressions in the inner surface of the wall of said open end, registering projections on said flame producing device proper, adapted to engage said depressions when the same is inserted in the base, and a casing for said flame producing device, the end of said casing tightly and sealingly, but slidably and removably fitting into the open end of the base, said projections being arranged on said end of the casing.

8. A lighter, comprising a hollow base having an open end, a flame producing device proper removably inserted into said open end, depressions in the inner surface of the wall of said open end, and registering projections on said flame producing device proper adapted to engage said depressions when the same is inserted into the base, the flame producing mechanism proper being arranged on the end of the flame producing device entering said base, and normally being in an inverted position.

9. A lighter, comprising a hollow base having an open end, a flame producing

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- device proper removably inserted into said open end, depressions in the inner surface of the wall of said end, and registering projections on said flame producing device proper adapted to engage said depressions when the same is inserted into the base, the flame producing mechanism proper being arranged on the end of said flame producing device entering the base, and normally being in an inverted position, and a combustible fluid container removably secured in said base underneath said flame producing device proper.
10. A lighter, comprising a hollow base having an open end, a flame producing device proper removably inserted into said open end, depressions in the inner surface of the wall of said open end, and registering projections on said flame producing device proper adapted to engage said depressions when the same is inserted into the base, the flame producing mechanism proper being arranged on the end of the flame producing device entering said base, and normally being in an inverted position, and a combustible fluid container removably secured in said base underneath said flame producing mechanism proper, the lower part of said base being cylindrical with an open lower end and having inner screw threads on its wall, a respective portion of said container for the fluid also being cylindrical, with outer screw threads thereon, whereby to effect said removable securing of the same into said base. 35
11. A lighter, according to claim 10, in which the bottom of said fluid container forms the bottom of said base. 40
12. A lighter, according to claim 10, in which the bottom of said fluid container forms the bottom of said base, and a slot is provided in said bottom to aid in the unscrewing of said container from said base. 45
13. A lighter, comprising a casing with an open lower end, and a hollow space thereabove in said casing, a fluid container in said space, the wall of said open end and the lower end of said container having cooperating screw threads, whereby to secure said container in said space, or to free it therefrom, the bottom of the container forming the bottom of said casing when in its final position in said space. 50
14. A lighter, according to claim 13, in which a transverse slot is provided in the bottom of said container adapted to receive an appropriate tool, or object, to aid in the securing or removing said container by the action of said screw threads. 55 60

Dated this 3rd day of November, 1943.

M. E. J. GHEURY DE BRAY,

Agent for the Applicant,

The Imperial Patent Service,

2, Belvidere, Weymouth, Dorset.

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

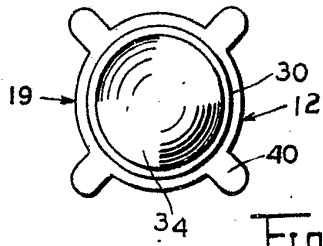


Fig. 3.

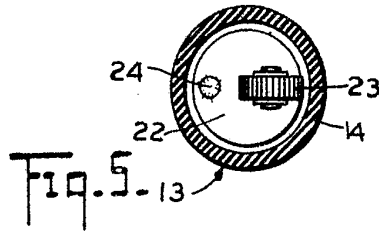


Fig. 5.

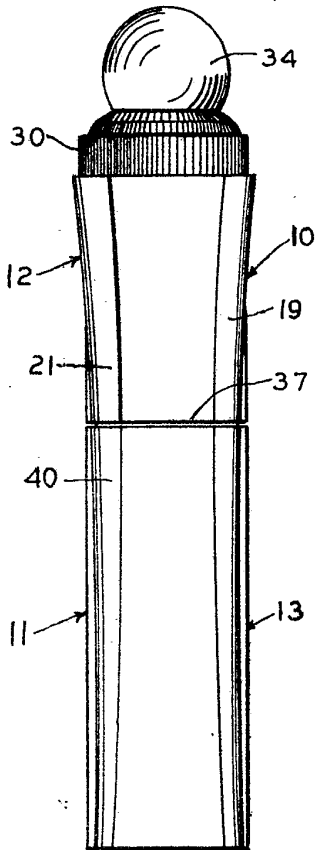


Fig. 1.

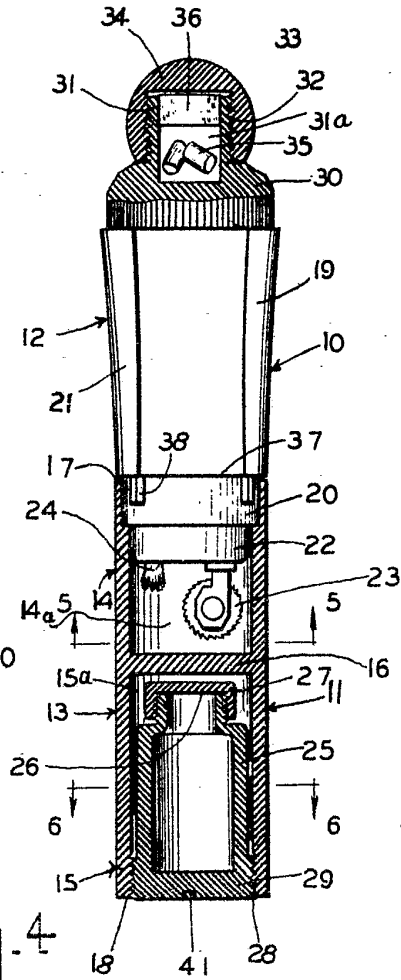


Fig. 4.

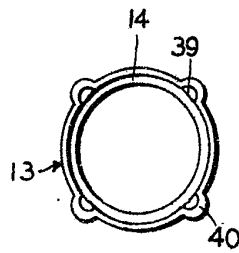


Fig. 7.

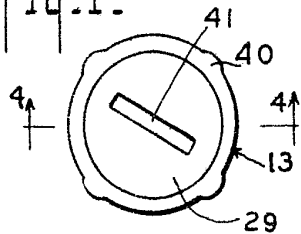


Fig. 2.

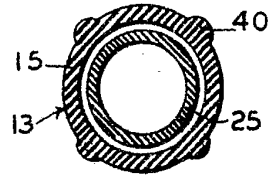


Fig. 6.