May 20, 1930. L. V. ARONSON 1,759,340

LIGHTER

Filed Oct. 26, 1927

Fig. 1.

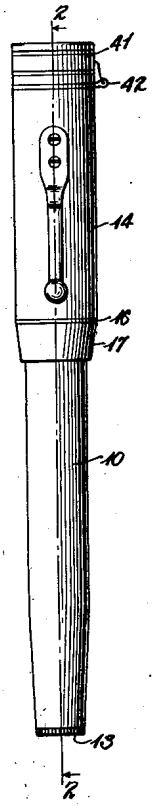


Fig. 2.

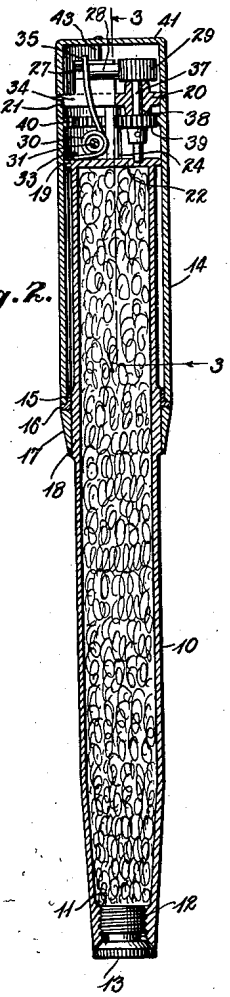


Fig. 3.

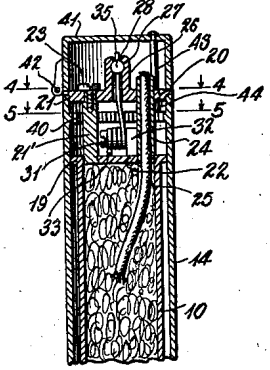


Fig. 4.

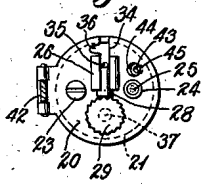
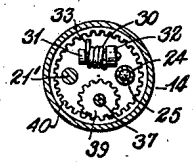


Fig. 5.



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UNITED STATES PATENT OFFICE

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LIGHTER

Application filed October 26, 1927. Serial No. 228,816.

This invention relates to lighters and has as an object the provision of an improved lighter of convenient shape and dimensions and which, according to one phase of the invention, may be formed to simulate a fountain pen or the like.

It is a further object of the invention to provide a lighter, the operating parts of which are simple and dependable in operation and convenient to manipulate.

Further objects, features and advantages of the invention will more clearly appear from the detailed description given below taken in connection with the accompanying drawings which form a part of this specification.

Figure 1 is a side elevation;

Fig. 2 is a central vertical section on line 2—2 of Fig. 1 upon an enlarged scale, parts being shown in elevation;

Fig. 3 is a detail vertical section on line 3—3 of Fig. 2; and

Figs. 4 and 5 are horizontal sections on lines 4—4 and 5—5 respectively of Fig. 3.

As shown the device comprises a fuel receptacle 10 simulating the barrel of a fountain pen having a filling opening 11 at its lower end closed by a screw plug 12 having a knurled head 13 lying substantially flush with the end of barrel 10. The device may further comprise a fountain pen cap-simulating member 14 revolubly carried by the fuel repectacle 10. The cap 14 is shown as journalled upon a ring 15 at its lower end, said ring being shown as formed with an annular flange 16 extending outwardly flush with the surface of member 14, and a member 17 is provided seating over a slightly enlarged portion 18 of the barrel or receptacle 10 upon which the member 17 may be brazed if desired. The member 14 further engages and is revoluble about an upper flange 19 carried by the top wall of receptacle 10.

To carry the ignition apparatus, there is shown a disc member 20 formed with a rabbet 21 seating in the upper end of member 14 and about which the member 14 is adapted to revolve.

To retain the member 20 in position, there is shown a post 21′ rigidly carried by the end wall 22 of receptacle 10 upon which post the member 20 is shown as secured as by means of a screw 23.

A wick tube 24 is shown rigidly secured to the wall 22 and projecting through an opening in the member 20. To provide sparks to ignite fuel with which the wick 25 may be saturated, there is shown a member 26 rigidly carried by the member 20 and formed with a socket 27 for reception of the pyrophoric element 28 which is spring pressed toward a wheel 29 having an abradant periphery, by means of a spring 30 coiled about a screw 31. The screw 31 may be mounted on a lug 32 rigidly carried by the member 22. One end, 33 of spring 30 abuts against the surface of wall 22 and the other end projects upwardly through a slot 34 in the member 20 and presses against the pyrophoric element 28.

To enable the removal of the pyrophoric element, the end 35 of spring 30 may be engaged by one's finger, and the spring may be retracted and pressed laterally into a lateral enlargement 36 of slot 34 out of the path of entry of the pyrophoric element into the socket.

The wheel 29 is shown as rigidly mounted upon a shaft 37 journalled at 38 in the member 20. To cause revolution of the wheel 29, there is shown a pinion 39 rigidly secured upon shaft 37 and meshing with interior teeth on an annular gear 40 rigidly carried by the inner surface of the wall of member 14. Revolution of member 14 upon the barrel 10 will thus cause revolution of the abradant surfaced wheel 29, thereby producing sparks for the ignition of the fuel with which the wick 25 may be saturated. Obviously, due to the gear ratio between the pinion 39

and annular gear 40, the wheel 29 is rotated at greater speed than is said annular gear 40.

To cover the ignition apparatus when not in use, there is shown a cap 41 pivoted upon the member 20 as by means of a hinge 42 and retained in closed position by means of a pin 43 rigidly carried by the cap and having an enlarged head 44 adapted to pass through an opening 45 in the member 20, the resilience of the pin 43 permitting the enlarged head to snap under the surface of member 20 adjacent the opening 45 and to be deflected out of engagement with the member 20 by upward pressure upon the cap 41 to swing the same upon hinge 42.

While I have described my invention in detail with respect to a certain particular preferred example which gives satisfactory results, it will be understood by those skilled in the art, after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention, and it is intended, therefore, in the appended claims to cover all such changes and modifications.

I claim:

1. A lighter comprising in combination, a fuel receptacle, a wick tube projecting therefrom, ignition apparatus mounted adjacent said tube for igniting fuel carried by a wick housed in said tube, said apparatus comprising a revoluble member, a pinion rigidly secured to said member, a cylindrical member revolubly mounted adjacent said receptacle, and an annular gear carried by said cylindrical member and meshing with said pinion whereby revolution of said cylindrical member actuates said ignition apparatus.

2. A lighter comprising in combination, a cylindrical fuel receptacle, a cylindrical member revolubly mounted in a position surrounding said receptacle, a disc rigidly supported in spaced relation to an end of said receptacle, ignition apparatus mounted upon said disc comprising a wheel having an abradant periphery carried by a shaft journalled in said disc, a pyrophoric element housed in a socket carried by said disc, means to press said element against said abradant periphery, driving means for said wheel carried in the space between said receptacle and said disc and operable by revolution of said cylindrical member, and a wick tube projecting from said receptacle through said disc.

3. A lighter comprising in combination, a cylindrical fuel receptacle, a cylindrical member surrounding a portion of said receptacle and revoluble thereon, a disc rigidly mounted in spaced relation to an end of said receptacle, ignition means mounted upon said disc comprising an abradant surfaced wheel carried by a shaft journalled in said disc, a pyrophoric element housed in a socket carried by said disc and spring pressed against the periphery of said wheel, means housed in the space between said disc and said receptacle comprising a pinion secured to said shaft, an annular gear carried by said cylindrical member and having interior teeth meshing with said pinion, and a wick tube projecting from said receptacle through said disc whereby revolution of said cylindrical member may cause operation of said ignition apparatus to ignite fuel with which the wick housed in said tube may be saturated.

4. A lighter comprising a fuel reservoir having dimensions to simulate a fountain pen reservoir, a filling plug at one end thereof, a wick and lighting mechanism therefor at the other end of said reservoir, said lighting mechanism comprising an abrader wheel, and cylindrical rotatable means simulating a fountain pen cap member embracing said reservoir and operatively connected to actuate said mechanism, said last named means being rotatable on an axis different from the axis of said abrader wheel.

5. A lighter comprising a fuel reservoir having dimensions to simulate a fountain pen reservoir, a filling plug at one end thereof, a wick and lighting mechanism therefor at the other end of said reservoir, said lighting mechanism comprising an abrader wheel, cylindrical rotatable means simulating a fountain pen cap member embracing said reservoir and operatively connected to actuate said mechanism, and a hinged cover member for said mechanism surmounting said rotatable member, said last named means being rotatable on an axis different from the axis of said abrader wheel.

6. A lighter comprising a cylindrical reservoir member, a wick and lighting mechanism therefor mounted on one end of said reservoir, said lighting mechanism comprising an abrader wheel, a cylindrical operating member embracing said reservoir and operatively connected to actuate said mechanism, and a cover member for said mechanism surmounting the ends of said cylindrical members and displaceable to expose said mechanism when actuated, said cylindrical operating member being movable about an axis different from that of said abrader wheel.

7. Lighter mechanism comprising a wick, pyrophoric means and a cooperating abrader wheel, and manually operable annular means encircling said mechanism and operatively connected to rotate said abrader wheel at a speed greater than the rotational speed of said annular operating member.

8. A lighter comprising a cylindrical reservoir member, a wick and lighting mechanism therefor disposed at one end of said reservoir member, said lighting mechanism comprising an abrader wheel, a cylindrical operating member rotatable about the longitudinal axis of said reservoir member, and mechanism intervening between said operat-

ing member and said abrader wheel to effect actuation of the latter.

9. A lighter comprising a cylindrical reservoir member, a wick and lighting mechanism therefor disposed at one end of said reservoir member, said lighting mechanism comprising an abrader wheel, an arcuate operating member movable about the longitudinal axis of said reservoir member and operable in a region beyond said one end of the latter, and mechanism intervening between said operating member and said abrader wheel to effect actuation of the latter.

LOUIS V. ARONSON.