

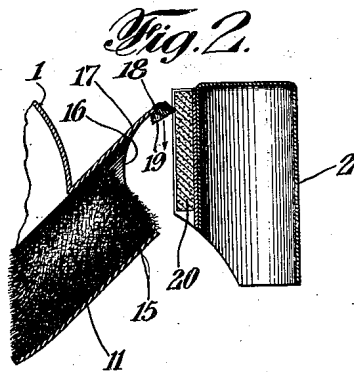
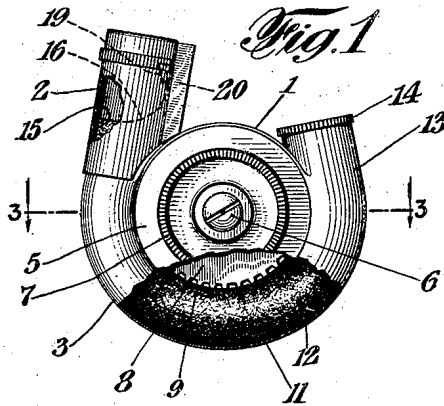
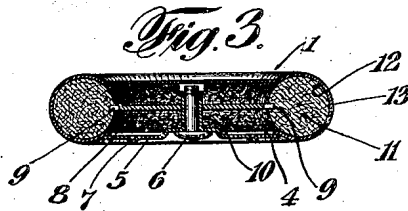
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L. V. ARONSON

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LIGHTER

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Inventor

*Louis V. Aronson*

By his Attorneys

*Ward Crosby & Smith*

## UNITED STATES PATENT OFFICE

LOUIS V. ARONSON, OF NEWARK, NEW JERSEY, ASSIGNOR TO ART METAL WORKS, INC., A CORPORATION OF NEW JERSEY

## LIGHTER

Application filed September 16, 1927. Serial No. 219,865.

The invention relates to lighters, and more particularly to pocket lighters in which a pyrophoric element is utilized as a means for igniting a combustible means. The invention is particularly adaptable in embodiments wherein the combustible means is in the form of a tinder wick, although it may be used in other forms of lighters.

The invention consists in the novel features, arrangements and combination of parts embodied by way of example, in the apparatus hereinafter described, as illustrating a preferred form of the invention, and the invention will be more particularly pointed out in the appended claims.

The objects and advantages of the invention will clearly appear from the detailed description following, taken in connection with the drawings forming a part of this specification.

Referring to the drawings, illustrating a preferred form of the invention, Fig. 1 is a side elevation of the device with certain parts broken away to show certain interior parts, Fig. 2 is an enlargement of certain parts, shown in section, to more clearly show the details of construction, and Fig. 3 is a section at 3-3 of Fig. 2.

The lighter is, in general, formed of two separable parts, a body part 1 and a cap part 2 adapted for relative removable engagement.

The body 1 is in general in the form of a hollow, thin, curved case 3, provided with a side opening 4 which is closed by a cover 5 rotatably journaled on a spindle screw 6 attached to the other side of the case. The cover is provided with a knurled portion 7 adapted for manual engagement to rotate the cover 5. A feed device 8, comprising a toothed wheel 9 provided with teeth 9, is fixed to the cover 5 by means of a hub 10.

The wick is curved within the casing in a curved recess 12, following substantially the path of a circle (Fig. 1), and the recess or passage 12 is substantially semi-circular in cross section (Fig. 3), to accommodate the round wick 11 shown in the present embodiment. A tubular extension 13 is formed as a continuation of the passage 12, and is provided with a closure 14. The corresponding

opposite end of the recess 12 extends outwardly in the form of a tubular throat 15 (see also Fig. 2) projecting tangentially from the circular path of the wick and is cut away as at 16 to form a lip 17 to the inside of which is freely pivotally journaled a striking element 18 in the general form of a disc or wheel, preferably of hardened or tempered steel, having a sharply defined edge 19 around its outer periphery. The disc 18 is preferably provided with an inwardly beveled peripheral edge, which presents an acute edge at 19; the edge being substantially smooth in its preferred form, and for ease of production.

The cap 2 is of cylindrical form with a closed top and open bottom, and is adapted to fit over the tubular throat 15 in removable engagement therewith. A strip of pyrophoric material 20 is secured to the cap 2, longitudinally thereof, and is provided with a substantially plane, exposed front surface or striking face along which the striking element may be moved longitudinally.

Referring to Fig. 2, the cap 2 is shown removed, and the wick 11 has been adjusted to its proper position in the throat 15, by means of the feed wheel 8, rotated from the outside by the cover 5. The cap 2 is now held in one hand and the body 1 in the other and the two parts moved to effect a resulting relative longitudinal movement of the striking element 18 along the face of the pyrophoric element 20 in a direction transverse to the striking edge 19. This strikes sparks which are thrown on the exposed end of the wick or tinder 11 causing it to become ignited. It will be noted that the operation is due to the longitudinal relative movement between the striking and pyrophoric elements; but the former being freely pivotally mounted will be induced to some slight rotative movement, thereby presenting a different striking point from time to time, thus providing a striking element which is capable of long wear and use.

By using a striking element which has a rotatable striking edge so as to present a large number of striking points, not only is the usefulness of the device prolonged, but

by making this element in the form of a disc or wheel with the striking edge around its outer periphery, a large number of striking points may be provided on a striking member very small in size, thus contributing materially to the compactness and simplicity of the device. By arranging the wick in a substantially circular casing forming a circular path for the wick and arranging the feed wheel on the inside thereof, the teeth of the feed wheel may be made to engage the wick along a very considerable portion of its length thus resulting in a more efficient feed of the wick as well as contributing to the compactness and simplicity of the arrangement.

While I have thus described my improvements in great detail and with respect to preferred forms, I do not desire to be limited to such details and forms since many changes may be made and the improvements embodied in widely different forms without departing from the spirit and scope thereof in their broader aspects. Hence I desire to cover all modifications and forms coming within the language or scope of any one or more of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. In a lighter, the combination of means for slidably holding a wick with its longitudinal axis in curved position, rotatable feed means coaxially arranged with said curved wick and provided with means for engaging said wick along a curved path to feed said wick forward, and means for igniting said wick, a part of said last named means being carried by and necessarily detachable from said first named means before ignition may be effected.

2. In a lighter, the combination of a case provided with a curved passage-forming member for receiving a wick slidably therein, a toothed wheel rotatably supported within said case and having teeth for engaging the wick along its inner curved surface to feed it forward along a curved path, and a cap detachably carried by said passage-forming member, said cap comprising means for igniting said wick.

3. The combination with cooperating detachably related members, one of said members comprising a casing and another of said members comprising a casing cap, of spark producing mechanism, said mechanism comprising a sparking element carried by one of said members, a wheel having a sharp peripheral edge coactable with said sparking element, and a pin projecting interiorly of the wall structure of another of said members, said wheel being freely rotatable on said pin.

4. A lighter comprising a casing open at one end, a wick disposed therein, means for feeding said wick through said casing to-

ward said open end, and lighting mechanism for said wick, said mechanism comprising a member carried by said casing at the open end thereof and interposed in the path of said wick, said member forming a stop preventing movement therebeyond of said wick under the influence of said feeding means.

In testimony whereof I have signed my name to this specification.

LOUIS V. ARONSON.