

PATENT SPECIFICATION



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171,047

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COMPLETE SPECIFICATION.

Automatic Cerium Pocket Lighter.

We, EMILE DENIEL, of No. 24, rue Sorbier, Paris, France, and EMILE PIQUE, of No. 17, rue de la Mare, Paris, France, both of French nationality, do hereby
5 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:—

10 This invention relates to a cerium pocket lighter of the kind in which the lighting is provoked by the opening of the lid and in which the spring influenced
15 of the lid, ensures at the same time the revolution of the friction wheel. The improved pocket lighter is essentially characterized by the special arrangement
20 for ensuring the opening of the lid and the revolution of the friction wheel.

In order that the invention may be clearly understood, we will proceed to describe the same with reference to the
25 example of construction shown in the accompanying drawing; wherein:—

Fig. 1 shows in section the closed pocket lighter.

30 Fig. 2 is an elevation in part section, which represents the pocket lighter with open lid.

Fig. 3 is a side elevation of Fig. 2.

Fig. 4 is a rear view of the pocket lighter with closed lid.

35 Fig. 5 is a part section on line A—A of Fig. 1.

Figs. 6 and 7 show a second form of construction of the pocket lighter with closed lid and with open lid.

40 Fig. 8 is a section showing a third form of construction.

The improved pocket lighter comprises essentially a box 1 with two side disks
45 2—2 concentrically arranged around the axle 3 of the friction wheel 4. The lid 5

mounted upon the axle 3 has two cheeks which bear against said disks 2. In a groove 6 in the rear surface of the lid a string 7 is attached which passes between
50 the back of the lid and the corresponding side of the box 1 and is attached with its other end in said box to a spiral spring 8 (Fig. 1) which serves for maintaining the lid in the open position. The lid 5 is
55 maintained in the closed position (Fig. 1) by the locking hook 9 which is adapted to be pushed back by the depression of a button 10. The other end of the spring 7 is conducted through a slit in the upper
60 part of the lid and attached to a fork-shaped extension 11 of the pawl 12 designed to act upon the ratchet wheel 13 which is keyed upon the axle of the friction wheel 4 with which it is made in one
65 piece. The string 7 exposed to the elastic action of the spring 8 serves thus at the same time to provoke the opening of the lid and to ensure the engagement of the pawl 12 with the ratchet wheel 13 of the
70 friction wheel so that, when a pressure is exerted upon the button 10 the lid, released from the locking hook 9, is suddenly lifted causing at the same time the revolution of the friction wheel. This
75 friction wheel is—on the other hand—not revolved when the lid is being closed.

Under the friction wheel 4 a tubular holder 14 for the cerium stone 15 is arranged, said cerium being continuously pressed against the friction wheel by the
80 action of a spring 17 mounted upon a piston 16. The wick 18 projects from the benzine reservoir 19 which is filled with felt, sponge or other convenient material adapted to absorb benzine. The reservoir 85
19 which can be independent of box 1 or made in one piece with the same is closed by a plate 20 hingedly fixed at 21 and adapted to bear against the edges of the
90 reservoir and against the lower end of the

[Price 1/-]

tube 14. The bottom plate 22 of the box 1 is slidable.

Instead of a string 7, any other traction organ, a wire, metal band, chain or the like can be used, but said traction organ is preferably elastic.

According to Figs. 6 and 7 the friction wheel 24 is loosely mounted upon its axle 25. The brake lever 26 which is in engagement with said friction wheel is keyed upon an axle which is mounted in the lid. The brake lever 26 has a finger 27 which projects through a slot of the lid. When the lid is closed (Fig. 6) the metal band 28, tightly pulled against the upper surface of the lid through the action of a spiral spring 29 acts upon the finger 27 of the brake lever 26 and jams the same against the friction wheel 24 which is thus rigidly connected with said lid, so that, when the lid is suddenly released and opens, it draws the friction wheel along which, in revolving, rubs against the cerium stone, whereby sparks are produced. The spiral spring 29 being no longer under tension (Fig. 7) the metal band 28 does not tightly fit the upper surface of the lid and consequently exerts no pressure upon the brake lever 26, so that the friction wheel being not locked does not revolve when the lid is being closed.

Fig. 8 shows another modification of construction. The pawl 31, whose point is in engagement with the teeth of the ratchet wheel 32 made in one piece with the friction wheel 30 has a finger 33 upon which the flexible band 28 acts, so that the friction wheel is revolved when the lid opens but not when the lid closes.

Having now particularly described and

ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

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1. An automatic ferro-cerium pocket lighter in which the axle around which the lid pivots serves at the same time as axle for the friction wheel characterized in this that upon the back of the lid a flexible cord is arranged which is connected at one end to a spiral spring and fixed at the other end to a projection of the pawl which serves to revolve the friction wheel so that the action of the spring upon the flexible cord provokes at the same time the opening of the lid and the revolution of the friction wheel.

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2. A modification of the automatic pocket lighter as claimed in Claim 1 in which the tie organ fixed to the spiral spring consists preferably of a band which extending over the upper surface of the lid and being with its other end fixed to said lid exerts, through its being tightly pressed upon the lid, a pressure upon the pin projecting from a brake lever which being wedged upon the friction wheel provokes the revolution of the same when the lid is being suddenly lifted.

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3. An automatic pocket lighter as claimed in Claim 2 in which instead of the brake lever a pawl is used which acts upon a ratchet wheel rigidly connected with the friction wheel.

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Dated this 1st day of December, 1920.

FRANCIS HERON ROGERS,
Agent for Applicants,
Bridge House, 181, Queen Victoria Street,
London, E.C. 4.

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

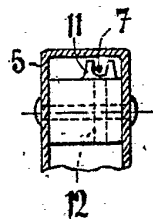
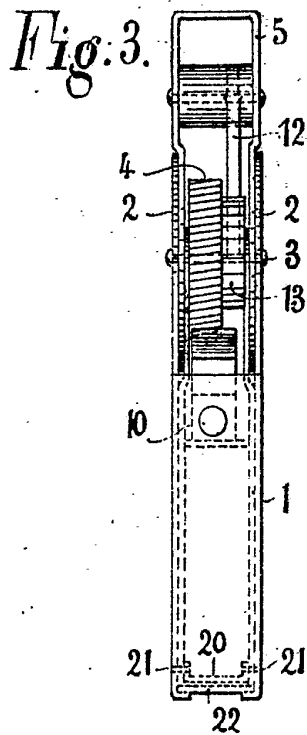
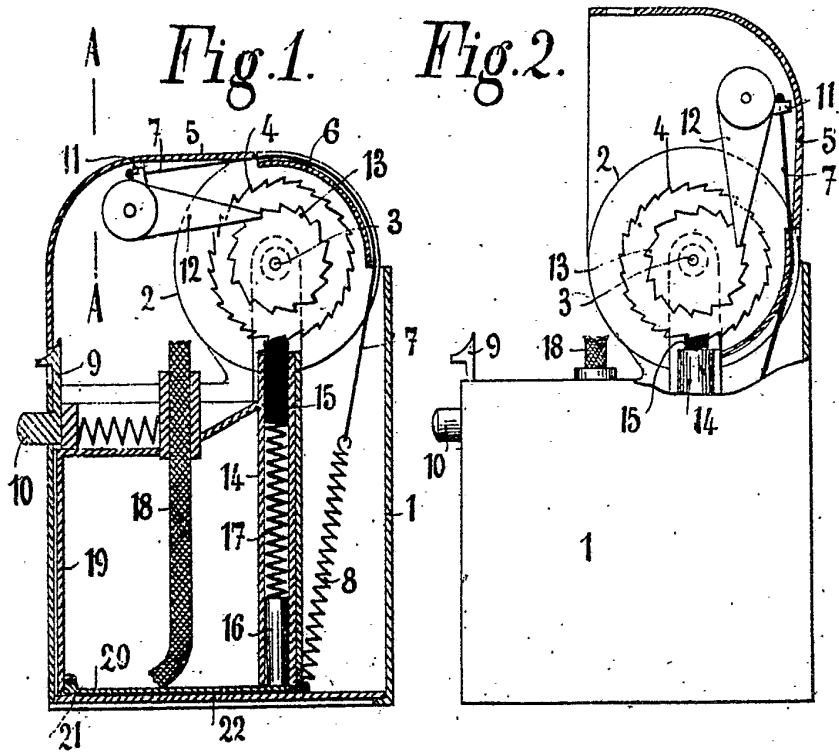


Fig. 5.

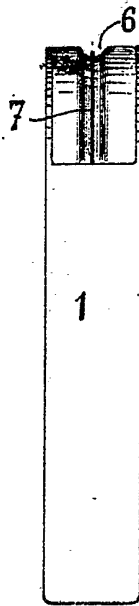
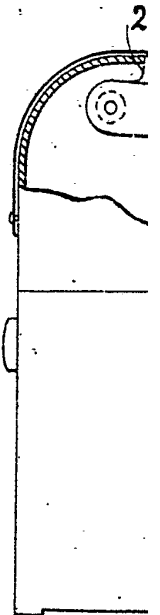


Fig. 4.



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Fig. 6.

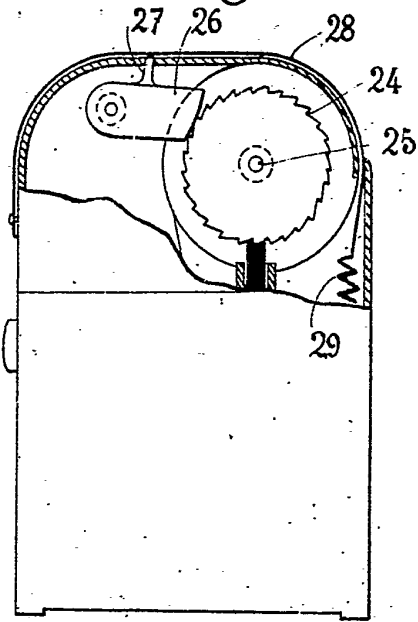
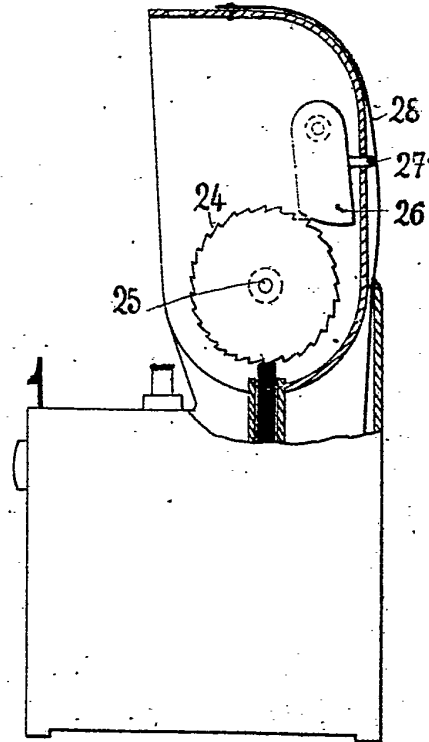
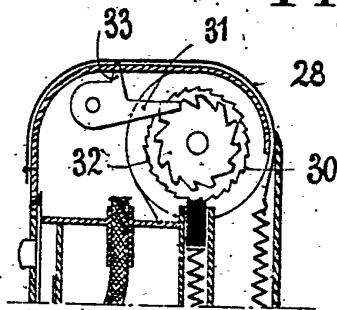


Fig. 7.



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Fig. 8.



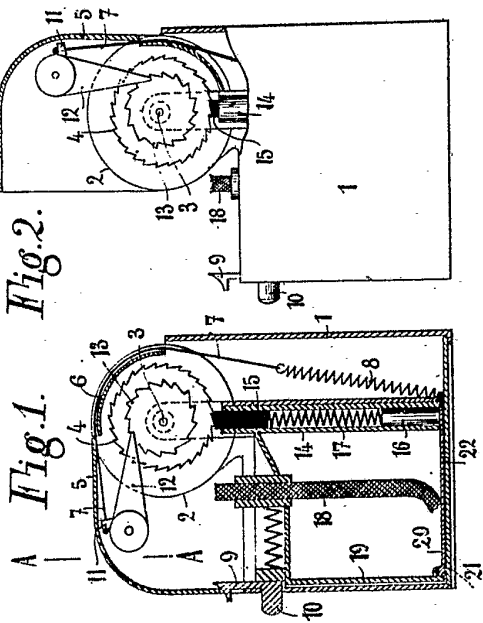


Fig. 1.

Fig. 2.

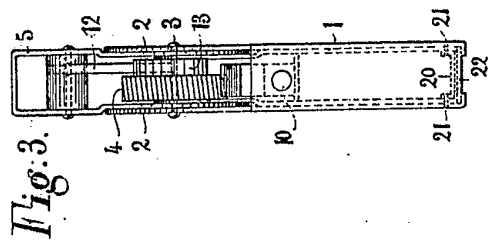


Fig. 3.

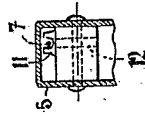


Fig. 4.

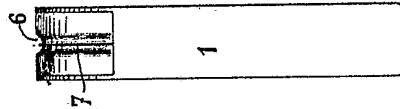


Fig. 5.

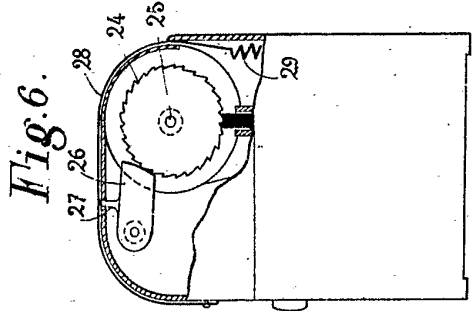


Fig. 6.

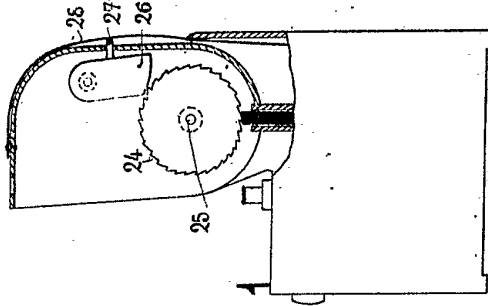


Fig. 7.

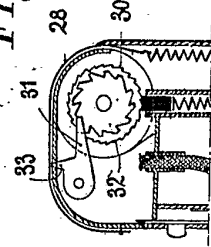


Fig. 8.

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