Note.—The application for a Patent has become void.

This print shows the Specification as it became open to public inspection on March 23, 1935, under Section 91 (4) (a) of the Patents and Designs Acts, 1907 to 1932.

PATENT SPECIFICATION

Application Date: Sept. 24, 1934. No. 27401/34. **449,519**

Specification not Accepted

COMPLETE SPECIFICATION

Improvements in or relating to Automatic Lighters

I, FRANCOIS LOUIS MORVAN, of 39, Rue Victor Hugo, Villemomble (Seine), France, a French Citizen, 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:—

The present invention relates to an improved automatic lighter in which the rotation of the striking wheel and the movement of the cap covering the wick are synchronised.

The invention consists essentially in arranging the control member in such a manner that successive operations in the same direction produce alternately the opening and closing of the cap. The user is therefore not obliged to maintain the control member stressed during the whole time of using the lighter and he is no longer obliged to operate two different members for opening and closing the cap.

A further feature of the invention resides in the fact that the control member when it is operated first causes the storage of potential energy (compression of a spring or like member) and then the release of this energy on the cap when the stored energy is sufficient to ensure the necessary speed of movement (particularly in the opening and lighting movement).

Finally, the invention includes arrangements for putting the above mechanisms into effect in a simple and efficient manner.

The accompanying figures show by way of example one embodiment of the invention in which in a lighter the cap and striking wheel are pivoted about a common axis.

Figure 1 is an elevation and Figure 2 a plan of the closed lighter; Figure 3 is an elevation of the open lighter.

[*Price* 1/-]

In these figures, like references denote like parts. On the body 1 of the lighter are mounted the wick-carrying member 2, the member 3 for carrying the striking wheel and two lugs 4. In order not to confuse the drawing neither the striking wheel nor the operating mechanism are shown these being known parts.

The cap 6 covering the wick is pivoted on the axis 7 of the striking wheel and is provided on its front side (Figs. 1 and 3) with an opening 8 and on its rear side an opening 8^1. The lugs 4 carry a shaft 9 about which the control lever 10 can oscillate it being returned to the position shown in the drawings by a returning spring 11. Plots 5 act as a guide for an operating member 12 formed of resilient metal and of which the arms 13—13^1 terminate in hoods 14—14^1 which engage respectively with the openings 8—8^1 of the cap 6.

The member 12 is itself connected by means of a yoke member 15 to a shaft 16 slidably mounted in curved slots 17 cut out from the sides of the lever 10 with the shaft 9 as centre. A spring 18 forked at its upper end and bearing against the shaft 9 and the stop 19 integral with 10 tends to maintain the shaft 16 at the end of the grooves 17. Finally is will be noted that the cap 6 is provided with a projection 20 which in the closed position (Fig. 1) slides in the slot 17.

The method of operation is as follows:— If a force is exerted on the end of the lever 10 (Fig. 1) a progressive tension is imparted to the spring 18 but the members 12, 15 and 16 cannot move towards the left since the hook 14 is held in the slot 8^{11} of the opening 8 and the cap 6 cannot turn since the projection 20 is engaged in the slot 17. Such a state continues while the rotation of the lever 10 is not sufficient for the projection 20 to reach the nose 10^1 but as soon as this

point is attained—preferably when the lever 10 is at the end of its angular travel—the spring 18 tensioned to its maximum, causes through the intermediary of the members above described the cap 6 to rotate sharply in the direction of the arrow *a* thereby causing striking and lighting. On releasing the lever 10 which is returned by the spring 11, the members take up the position shown in Fig. 3 without causing the closure of the cap 6 since the hooks 14—14¹ slide in 8—8¹ without operating the cap 6. It is to be noted that at the end of the return movement of the member 12 the hook 14¹ takes up a position in the slot 8¹¹¹ of the opening 8¹ to prepare for the closing movement.

When it is desired to close the lighter the end of the lever 10 is again depressed to cause the same movements with the sole difference that it is the hook 14¹ which tends to rotate the cap 6 to a point located under the shaft 7 (acting in the direction of closing) and that the projection 20 is not necessarily delayed to hold the cap 6 since in this case it is not necessary to obtain the sharp movement essential to the opening movement for the production of the spark.

It will be easily understood that again releasing the lever 10 brings the members to the position of Fig. 1.

Of course the embodiment above described and shown is given only by way of example and can be varied to a great extent without departing from the scope of the invention.

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. An automatic lighter in which the rotation of the striking wheel and the movement of the cap which covers the wick are synchronised characterised in that successive operations of the control member in the same direction produce alternately the opening and closing of the cap.

2. A lighter as claimed in claim 1 in which the control member first causes the storage of potential energy—compression of a spring or like member—and then the release of this energy on the cap when the stored energy is sufficient to ensure the necessary speed of movement for producing a spark.

3. A lighter as claimed in claims 1 and 2 in which the control member acts on the cap through the intermediary spring without substantially employing the flexing of the latter for closing.

4. A lighter as claimed in claims 1—3 in which alternate movements of an operating member are transmitted to the cap by a link, the elasticity of which ensures its alternate engagement in slots in the cap thereby causing the alternate opening and closing.

5. An automatic lighter substantially as described and illustrated in the accompanying drawings.

Dated this 21st day of September, 1934.

DICKER, POLLAK & MERCER,
20 to 23, Holborn, London, E.C. 1,
Agents for the Applicant.

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Fig. 1

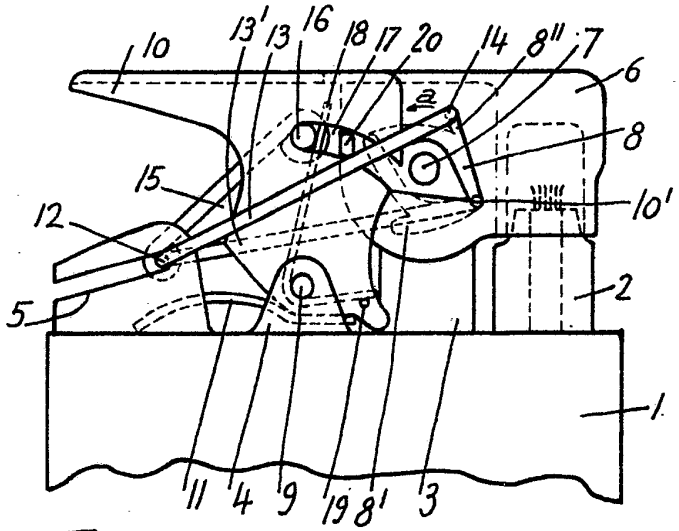


Fig. 2

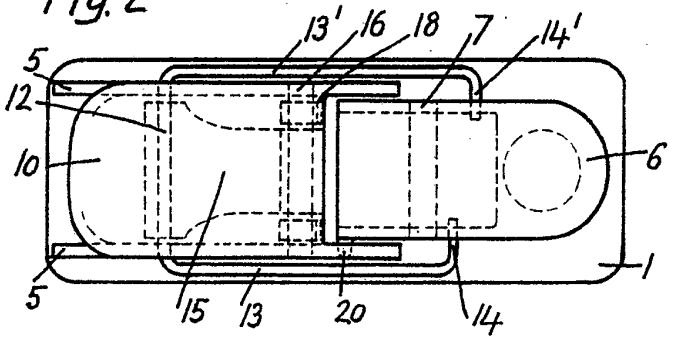
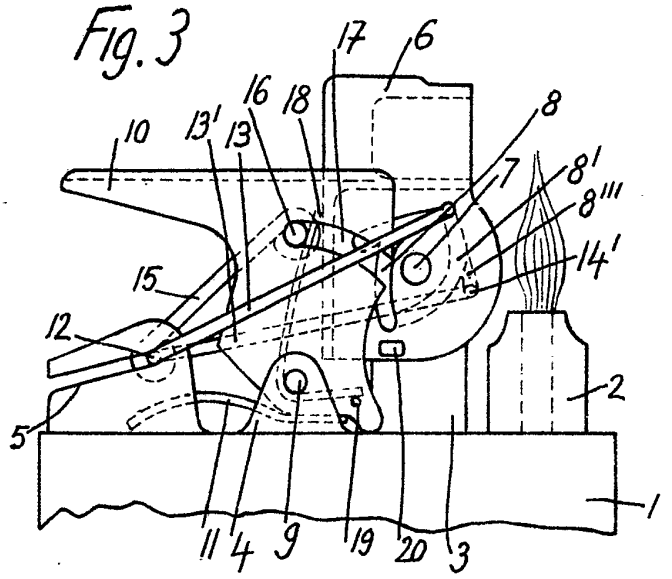


Fig. 3



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