

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

This print shows the Specification as it became open to public inspection on Feb. 13, 1935, under Section 91 (4) (a) of the Patents and Designs Acts, 1907 to 1932.

PATENT SPECIFICATION

Application Date: Aug. 7, 1934. No. 22874/34.

447,031

Specification not Accepted



COMPLETE SPECIFICATION

Improvements in or relating to Lighters

We, CARTIER, SOCIÉTÉ ANONYME, a Body Corporate organised according to the laws of France, of 13, Rue de la Paix, Paris, France, 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 has for its object a lighter comprising essentially a casing provided with a sliding lid, which is normally maintained in the closed position, in which it covers the wick and the spark wheel, by suitable locking means, said lid being caused to slide into the open position, when said locking means are brought out of action, by a spring which is normally compressed when the lid is closed. The sliding displacement of said lid, when it is opened, is suitably utilized for producing the rotation of the spark wheel, for instance by means of a rack meshing with a toothed wheel rotatably connected with the spark wheel through a free wheel device, a ratched coupling, of the like, in such manner that the spark wheel is not driven and does not rotate when the lid is brought back to its closed position.

Preferred embodiments of our invention will be hereinafter described, with reference to the accompanying drawings, given merely by way of example, and in which:

Fig. 1 is a perspective view of the lighter in the closed position;

Fig. 2 is a similar view in the open position;

Fig. 3 is a sectional view on the line 3—3 of Fig. 4;

Fig. 4 is a sectional view on the line 4—4 of Fig. 3;

Figs. 5 and 6 are vertical sectional views showing the lighter in the closed and open positions respectively;

Fig. 7 shows a modification of the locking means.

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The lighter shown in the drawing is constituted by a casing which comprises a body 1 (Figs. 1 and 2) and a sliding lid 2, this casing containing all the organs of the lighter. As shown by sectional views 3 and 4, the body 1 of the lighter forms a fuel reservoir 3 provided with a suitable filling material and it includes, on one of its small sides, a housing for the bolt 4 of the lid 2. Said lid slides on the upper plate 5 of body 1 on which it is guided by a slideway 6 fixed on said upper plate by means of screws 7. As shown by Fig. 4, this slideway forms, with said plate 5, guiding grooves for the bent edges 2^a of lid 2. Slideway 6 is provided, at one of its ends, with a fork 9 in which the spindle 10 of spark wheel 11 is journalled at a suitable distance from wick 26. A rack 12 is fixed, in any suitable manner, on the inside of said sliding lid. This rack meshes with a toothed pinion 13 which is free to rotate about spindle 10 and serves to drive spark wheel 11 in the suitable direction through a coupling 29 consisting of two crown wheels, when the lid is opening. The opening displacement of the lid is obtained by means of spring 14 which bears at one end against the bottom of a tube 15 rigidly connected with slideway 6, and, at the other end, against the bottom of a tube 16 slidable in tube 15 and bearing against the wall 2^b of lid 2. This spring is normally compressed when the lid is closed, in which said closed position said lid is maintained by the end of bolt 4 which coacts with a transverse bar 18 of the lid.

Finally, the flint 19 is inserted in a conduit 20 and it is applied against the spark wheel 11 by a spring 21. The latter may be fixed to plug 22 which is engaged, for instance into the end face of the casing, through a bayonet joint. The bottom of the casing is also provided with a plug 23 for the filling orifice of

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the reservoir. The last mentioned plug may be provided with a tubular extension 24 screwed thereon and adapted to contain spare flints, 25. A small conduit 31 permits the air present in the reservoir when the latter is being filled to escape to the atmosphere. This small outlet port is stopped by the edge of plug 23 when the latter is fully screwed.

10 The operation of this lighter is illustrated by Figs. 5 and 6 of the drawings. It takes place as follows:

The lighter being in the closed position (shown by Fig. 5) it suffices to depress 15 button 27 carried by bolt 4 in the direction of the arrow *f* of Fig. 5, against the action of spring 28. The end of said bolt 4 then releases bar 18 and lid 2, being no longer locked, is suddenly displaced 20 in the direction of the arrow *f'* of Fig. 6, under the action of its spring 14 which expands. In the course of this sliding movement, rack 12 causes toothed pinion 13 to rotate, transmitting through teeth 25 29, its rotary movement to spark wheel 11.

When the lid is brought back into the closed position, spring 14 is compressed, but spark wheel 11 is not rotated because 30 the cooperating teeth 29 do not mesh together, since pinion 13 can move laterally along its spindle against the action of spring 30 (Fig. 4).

In a modification shown in Fig. 7, the 35 locking of lid 2 on casing 1 is obtained by means of a catch 41 pivotally mounted at 32 and replacing bar 19. This catch is urged by a spring 33 in a downward direction. When the lid is closed, this 40 catch bears against a stop 34 carried by the casing 1. The member 4 which, in the above described embodiment, acted as a catch serves in this embodiment to actuate this pivoting catch 31.

45 The operation of this embodiment is the following:

In order to open the lighter, button 27¹ is pushed in the direction of arrow *f*¹, 50 against the action of spring 28¹ and piece 4¹, which is rigidly connected with said button, causes catch 31 to pivot upwardly. As soon as this catch 31 is moved out of contact with stop 34, the lid is released and moves toward the right hand side of 55 the figure under the action of spring 14.

When the lid is closed, as soon as catch 31 has moved past this stop 34 it is engaged therewith by the action of its spring 33.

60 While we have, in the above descrip-

tion, disclosed what we deem to be preferred embodiments of the present invention, it should be well understood that we do not wish to be limited thereto as there might be changes made in the arrangement, disposition and form of the parts without departing from the principle of the present invention as comprehended within the scope of the appended claims.

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:—

1. A lighter consisting of a casing the fixed part of which forms the fuel reservoir and the lid of which, which covers the wick and the spark wheel, is slidably mounted and opens, when it is unlocked, under the action of a spring, normally compressed when the lid is closed, the sliding movement corresponding to the opening of the lid producing the rotation of the spark wheel.

2. A lighter according to claim 1 further characterized in that the lid is provided on the inside with a rack meshing with a small toothed wheel driving, through a free wheel device or a tooth coupling, the spark wheel carried by a spindle rigid with the body of the lighter.

3. A lighter according to either of the preceding claims, further characterized in that a spring catch operated by means of an external button and housed in the casing keeps the lid in the closed position.

4. A lighter according to either of the preceding claims further characterized in that the catch pivots about a spindle integral with the lid or slides in this lid and rests, when the latter is closed, against a stop integral with the casing, the lifting and the releasing of the catch being obtained by means of a button disposed on the side of the casing.

5. A lighter according to either of the preceding claims further characterized by a small conduit provided close to the filling orifice, with a view to permitting the escape of air, this conduit being stopped by the edge of the plug.

6. A lighter substantially as described and illustrated with reference to the 115 accompanying drawings.

Dated this 7th day of August, 1934.
MEWBURN, ELLIS & CO.,
70 & 72, Chancery Lane, London, W.C.2,
Chartered Patent Agents.

Fig:1

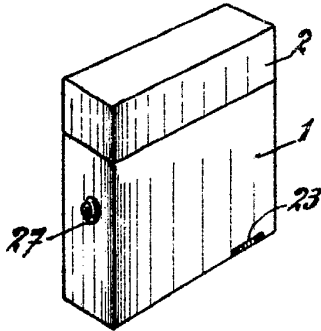


Fig:2

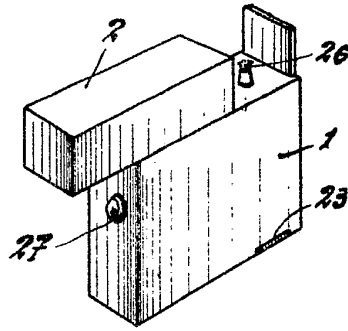


Fig:3

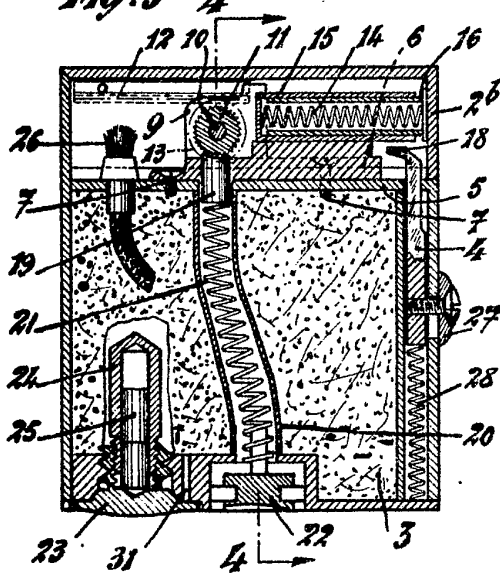


Fig:4

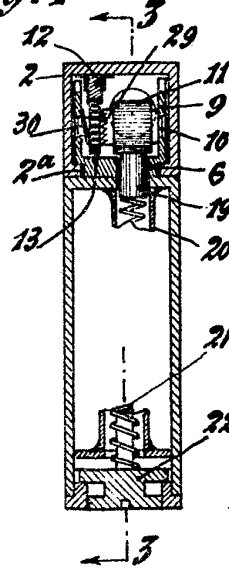


Fig:5

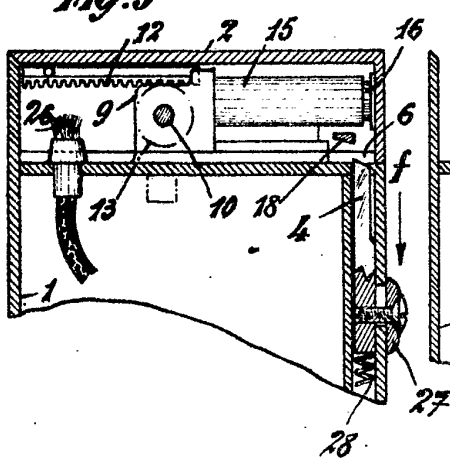


Fig:6

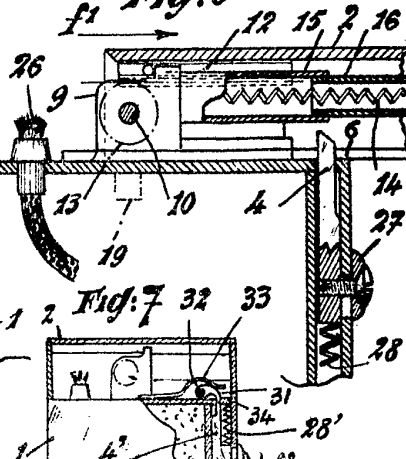


Fig:7

