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G. GIMERA ET AL

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POCKET LIGHTER

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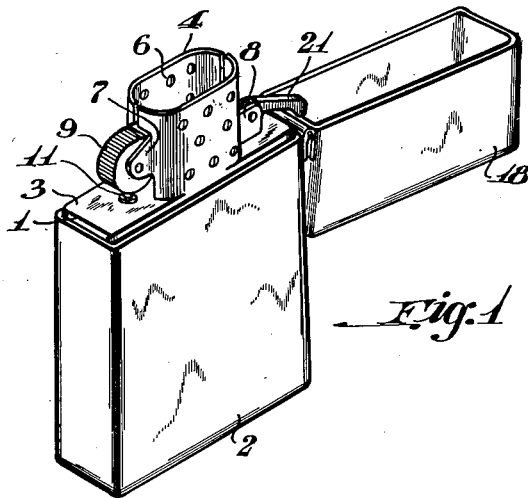


Fig. 1

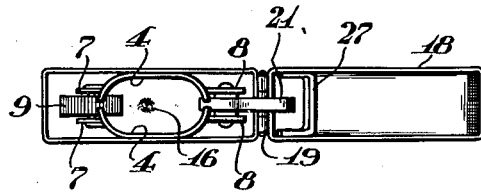


Fig. 3

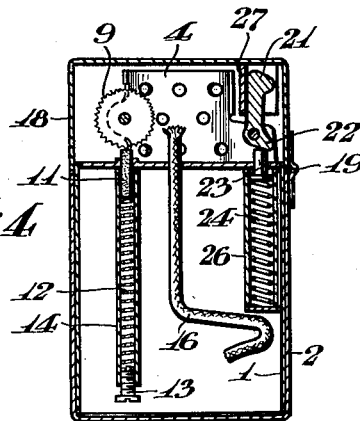


Fig. 4

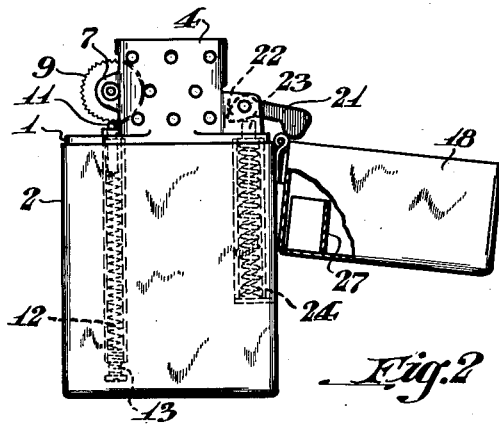


Fig. 2

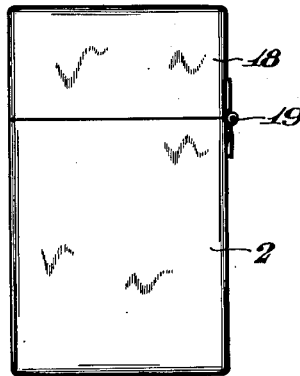


Fig. 5

WITNESSES

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UNITED STATES PATENT OFFICE

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POCKET LIGHTER

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1 Claim. (Cl. 67—7.1)

This invention relates to pocket lighters of the hinged cover type.

Pocket lighters having covers hinged on their upper ends must have means for holding them closed if they are to be satisfactory, and it is also desirable that they have means for preventing the covers from closing prematurely and extinguishing the flame after they are opened. In lighters known heretofore these means take the form of exposed latches and interior springs and levers which take up space in the lighters and reduce their storage capacity for inflammable lighter fluid. Furthermore, the exposed latches are apt to catch in and wear the clothing, to be accidentally actuated in the pocket, and to accumulate dirt. Such lighters are complex and frequently get out of order, while they must be constructed in a cheap manner in order to be salable at a low price.

It is among the objects of this invention to provide a pocket lighter having a minimum of projections from its closed case, and in which movement of the cover from either its fully open or its fully closed position is restrained by simple means concealed when the lighter is closed.

Further objects are to provide such a lighter having large storage capacity for lighter fuel, which is easy to fill, is strong and durable, and is simple in design and construction with a minimum of moving parts.

The preferred embodiment of the invention is illustrated in the accompanying drawing, of which Figs. 1, 2 and 3 are, respectively, perspective, side and top views with the cover open; Fig. 4 is a central vertical section through the lighter with its cover closed; and Fig. 5 is a side view with the cover closed.

Referring to the drawing, a casing is provided consisting of two telescopically disposed hollow members, the inner member 1 being substantially coextensive with the outer member 2 and having a very snug sliding fit therewith. The outer member is closed at its lower end. A top plate 3 closes the upper end of inner member 1, which is preferably formed from a section of seamless tubing. This forms in the casing a reservoir for inflammable lighter fuel, such as gasoline, which is carried by a stuffing of saturated cotton waste.

The upper edges of the side walls of the inner member are provided with upright integral extensions, the central portion 4 of each having its sides curved inward over the top plate toward the opposite extension to form a generally elliptical wind screen in which a plurality of draft openings 5 are punched (Figs. 1 and 3). These

curved sides are likewise provided with integral extensions or lugs 7 and 8 disposed in pairs at the front and rear, respectively, of the wind screen, the lugs of each pair being disposed in spaced parallel relation longitudinally of top plate 3.

In the front pair of lugs 7 there is journaled a toothed wheel 9 which engages the upper end of an elongate flint 11 slidably disposed in an opening through top plate 3. The flint is constantly held in frictional engagement with the toothed wheel by a coil spring 12 (Fig. 4) compressed between the bottom of the flint and a set screw 13 threaded in the lower end of a tube 14 depending from top plate 3. The toothed wheel is adapted to throw sparks, when rotated by the thumb, from the flint to a wick 16 surrounded by the wind screen and projecting into the fuel reservoir through a hole in top plate 3.

In order to protect the projections at the top of the casing, as well as the clothing, the casing is provided with a cover 18 which is connected at its rear wall to the rear wall of outer telescoping member 2 by means of a small hinge 19. As will be observed in Fig. 5 of the drawing, there are no projections from the lighter other than this hinge when the cover is closed. However, as it is desirable that the cover remain closed except when the operator opens it, means is provided for accomplishing this object without exposing anything which might catch in and wear the pocket or be accidentally actuated.

Accordingly, a lever 21 is pivotally mounted at one end between the rear pair of lugs 8 so that it can be swung from an upright position, as shown in Fig. 4, to a substantially horizontal position, as shown in Fig. 2, and vice versa. The lever resists movement from both its upright and horizontal position because its pivoted end is provided with a laterally projecting toe portion 22 which must depress a spring-biased plunger 23, slidably disposed in an opening through top plate 3, as the lever moves from one of said positions to the other. The spring 24, which biases the plunger against the pivoted end of the lever radially of its pivot axis, is compressed between the bottom of the plunger and the lower end of a closed tube 26 secured in the inner telescoping member 1. When the lever is substantially upright the pressure of the plunger against the under side of toe 22 biases the lever toward the wind screen (Fig. 4).

When the cover is closed it is held in that position by the upright lever bearing against the rear side of a cross member 27 secured in the

cover transversely thereof adjacent its rear wall (Fig. 4). As the cover is swung open by the thumb, cross member 27 swings the lever backward and downward, toe 22 depressing the plunger against the resistance of spring 24 as the toe slides over the plunger. Continued movement of the lever causes the end of the toe to slip off the plunger, whereupon the latter quickly rises and snaps the lever to its horizontal position, as shown in Fig. 2, the outer end of the lever snapping against the rear wall of the cover which is thereby thrown wide open.

Self-closing or premature closing of the cover is prevented by this rear wall striking the end of the lever whose upward and forward movement the plunger and toe 22 cooperate in restraining. However, the cover is easily closed by the operator by applying sufficient pressure to it to cause the toe to overcome the resistance of spring 24 when the lever is swung upward by the rear wall of the cover. Once again, as the end of the toe slips off the plunger the latter is forced upward against the under side of the toe and snaps the lever against cross member 27 which causes the cover to swing shut (Fig. 4).

Besides being a lighter which has a cover operated in the above-described manner with no parts projecting beyond the closed case except a hinge, it has a larger storage capacity for lighter fuel than lighters now known having the same over-all area that this one has. Unobstructed access to the fuel reservoir is readily gained by merely grasping the wind screen and pulling the two telescoping members apart. There are no screw plugs to remove or become lost, nor small openings through which to attempt to introduce the lighter fuel. The snug sliding fit of the telescoping members insures a leaf-proof reservoir.

The projections on top of the inner member are strong and well constructed, because the wind screen and the wheel-supporting and lever-supporting lugs are all integral with the inner

member, and not separate parts soldered in place and apt to break off. This integral structure also simplifies the manufacture of the lighter and decreases its cost. Finally, this lighter is provided with a minimum of moving parts, thereby obviating the possibility of its getting out of order.

According to the provisions of the patent statutes, we have explained the principle and operation of our invention, and have illustrated and described what we now consider to represent its best embodiment. However, we desire to have it understood that, within the scope of the appended claim, the invention may be practiced otherwise than as specifically illustrated and described.

We claim:

A pocket lighter comprising a hollow member having a closed bottom and an open top, a second hollow member telescoped therein, and having an open bottom, a plate permanently closing the top of the inner member whereby a reservoir for inflammable fuel is formed, the side walls of the inner member projecting above said plate and being formed to provide a wind screen and front and rear pairs of lugs, a cover disposed over the tops of said telescoping members and hinged at its rear wall to the outer of said members, a cross member secured in the cover transversely thereof adjacent said rear wall, a lever pivotally mounted at one end between said rear pair of lugs with its opposite end projecting up between said rear wall and cross member and engaging the latter, a spring biased plunger slidably disposed in said top plate for biasing the lever against the cross member, whereby movement of the cover from its closed position is restrained, and a flint-engaging toothed wheel pivotally mounted between said front pair of lugs, the lighter being free of external latch-manipulating means.

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