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PATENT SPECIFICATION



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COMPLETE SPECIFICATION

Improvements in Pyrophoric Pocket Lighters

We, HEINRICH MALTNER G.m.b.H., of 15, Fichtestrasse, Offenbach-on-the-Main, Germany, a German Company, 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:—

This invention relates to pyrophoric pocket lighters and has for its object to provide an efficient lighter with a rod-shaped casing as opposed to a flat casing.

With this object in view, in the rod-shaped pyrophoric pocket lighter according to the invention the spark-producing means which is arranged on top of a fuel reservoir includes a friction wheel and an upwardly pivotable arm which is coupled therewith and carries an extinguishing cap, and in addition the arm is positively coupled with and is spring-controlled in conjunction with a hinged cover which when closed contacts with the casing serving as fuel reservoir in a plane which is inclined downwardly from the back whereas when opened the cover is retained at right angles to its closed position.

According to a further feature of the invention, the cover is held in the closed position by a pair of locking elements which can be moved inwardly to release the cover. Preferably spring urged locking arms are pivotally mounted in a compartment separate from the fuel reservoir and have hook-shaped ends which are adapted to engage in slots in the cover when the cover is closed.

These and other features of the invention will now be described with reference to the accompanying drawing which shows one embodiment by way of example.

Fig. 1 shows a side elevation of the closed pocket lighter and a cross section through the same on the line G-H.

Fig. 2 is a section on the line A-B of Fig. 3.

Fig. 3 is a section on the line C-D of Fig. 2.

Fig. 4 shows a side elevation of the pocket lighter with the cover open.

Fig. 5 is a section on line E-F of Fig 3, but with the cover in the open position.

The casing *a* constituting the fuel reservoir is in the form of a flat sided rod

and its upper limiting surface *f* is inclined downwardly towards the front and the hood-like cover *d* hinged to the back of the casing at *g* has a similarly inclined seating surface *f*¹ which in the closed position contacts with the inclined surface *f*. A sheet metal plate *e*¹, *e*², *e*³ bent twice at right angles is inserted in the casing and extends across it to provide an upper closure for the reservoir. The horizontal top portion *e*¹ of this sheet metal plate carries the wick tube *h* and the cheeks *i* with a pin *s*. Mounted on the pin *s* are the friction wheel *r* and the arm *k* which is coupled with the latter and carries the extinguishing cap *m*. The arm *k* is controlled in known manner by a spring *n* which tends to cause it to pivot upwardly. Two arms *o*, *o* are pivotally mounted in the compartment *q* formed by the vertical and short horizontal portions *e*², *e*³ of the sheet metal plate and the front plate of the casing *a*. These arms are shaped the one as the mirror image of the other and each arm has a projection *o*¹, *o*¹ projecting each through a slit *p* in the corresponding side wall of the casing to serve as finger piece. The upper end of each arm *o* is bent outwards to form a hook *o*². When the cover is in the closed position these hooks *o*² are urged into slots *t* of the cover *d* by the action of a spring *v* (Fig. 3). Fixed on the inside of the top plate of cover *d* is a guide plate *x* with an aperture *w* through which angular projections *y* on the top end of arm *k* extend, the horizontal shanks of the projections engaging behind the plate. In this way a coupling between this arm *k* and the cover *d* is obtained so that they are pivoted in common into the open position by the spring *n* when the cover is released. The arm *k* carries the extinguishing cap *m* at its free end. A bent blade spring *z* fixed on guide plate *x* acts upon cap *m* to force the same tightly on to the top end of the wick tube *h* when the cover *d* is closed. The cap *m* is pivoted loosely between the shanks of the fork-shaped end of arm *k* so that it can slide in vertical direction.

By pressing the curved projections *o*¹ together by means of the index finger and thumb of the hand holding the casing *a* the hooks *o*² are removed from the slots *t*

of the cover. The spring *n* which acts upon the arm carrying the extinguishing cap *m* and which was compressed on closing the cover can then swing this arm *k* upwards suddenly. By this sudden movement the arm *k* lifts the cover *d* and causes the same to pivot about the hinge pin *g* thus rotating the friction wheel *r* which produces the spark by rubbing on the cerium stone *u*.

To prevent the cover from exceeding the vertical position and to hold it securely in this position, the forked arm *k* is coupled with the cover as described above. During the simultaneous turning of the arm *k* and of the cover *d* around two different axes, the hook-shaped projections *y* of the arm *k* slide in the slot *w* of guide plate *x* and securely hold the cover in the upright position. As the top face of the casing and the bottom face of the cover are inclined downwardly from the back of the reservoir, a wide open mouth is formed between the open cover and the casing so as to permit the insertion of even a very big cigar for example.

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 rod-shaped pyrophoric pocket lighter in which the spark producing means arranged on top of a fuel reservoir includes a friction wheel and, coupled with the friction wheel, an arm which is adapted to pivot upwardly and carries an extinguishing cap, and in which the arm is positively coupled with and is spring-controlled in conjunction with a hinged cover which in the closed position contacts with the casing serving as the fuel reservoir in a plane inclined downwardly from the back, while in the open position the cover is retained at right angles to its closed position.

2. A rod-shaped pyrophoric pocket lighter as claimed in claim 1, in which the cover is securely held in the closed position by a pair of locking elements adapted to be moved inwards both at the same time by the hand gripping the fuel reservoir for releasing the cover.

3. A rod-shaped pyrophoric pocket lighter as claimed in claim 2, in which locking arms, pivotally mounted in a compartment separate from the fuel reservoir, are adapted to be pressed inwards in opposite directions by the hand and are urged outwardly by a spring so that hook-shaped portions at the upper ends of said arms engage in slits in the side walls of the closed cover.

4. A rod-shaped pyrophoric pocket lighter as claimed in claim 1, in which an apertured guide plate is provided inside the cover and projections on the arm carrying the extinguishing cap protrude through the aperture of the guide plate and engage behind the same so that the coupling produced thereby securely holds the cover in the open position.

5. A rod-shaped pyrophoric pocket lighter as claimed in claim 4, in which a spring is arranged on the inner side of the top plate of the cover and bears on top of the extinguishing cap to press the cap on the wick tube when the cover is closed.

6. A pyrophoric pocket lighter substantially as described and shown in the accompanying drawing.

Dated this 3rd day of February, 1936.

DICKER, POLLAK, MERCER,
TENCH & MEYER,

(Chartered Patent Agents,
20-23 Holborn, London, E.C.1.
Agents for the Applicants.

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

