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PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in Pyrophoric Lighters

I, FRITZ WERNER STURMANN, of 67, Parkview Court, Fulham, London, S.W.6, a British Subject, do hereby declare the nature of this invention to be as follows:—

This invention relates to pyrophoric lighters for cigarettes or the like, having a friction wheel rotatable against a flint or pyrophoric material, of the kind in which manual actuation of a lever causes the rotation of said friction wheel as well as the movement of a snuffer cap away from a wick and also the storing of energy in a preloaded spring in such a manner that, on releasing the manually actuated lever, said spring will cause the mechanism to move back into the initial position thereof so that the snuffer cap covers the wick.

The invention is particularly concerned with pyrophoric lighters embodying the aforementioned mechanical arrangement constructed from metal and having a fuel receptacle made from plastic material, said receptacle being fitted to the metal portion of the lighter in such a manner as to prevent the evaporation of the liquid fuel contained in the receptacle.

It is an object of the invention to provide a pyrophoric lighter incorporating a simple but effective mechanism comprising a minimum number of parts combined with a body serving as fuel receptacle, the body being made from plastic material in such manner that an attractive finish of the lighter can be produced by an inexpensive method of manufacture.

In a preferred embodiment of the invention a snuffer cap carrier is pivotally mounted on a spindle carrying a friction wheel, the ends of said spindle being journaled in the sides of a U-shaped bracket. One end of an actuating lever of bifurcated shape is connected to the snuffer cap carrier by means of a pin sufficiently distanced from the aforementioned spindle as to clearly pass by

the circumference of the friction wheel. The friction wheel is provided with ratchet teeth and is actuated by a pawl pivoted on the friction wheel spindle and anchored to the aforementioned pin by means of a bifurcated extension. The other end of the aforementioned actuating lever is hinged to the sides of the U-shaped bracket by means of a connecting link. A helical spring is attached on one end to a pin representing the pivot of actuating lever and connecting link and on the other end to a stud by which the U-shaped bracket is attached to a plate forming the base of the mechanism and/or the top of the fuel receptacle.

On manual operation of the actuating lever, energy is stored in the aforementioned spring and on release of the actuating lever the spring causes the mechanism to return to the initial position thereof so that the snuffer cap covers the wick protruding from the wick tube, the latter being so formed as to serve as additional means for securing the U-shaped bracket to the base plate.

The base plate having the shape of an inverted shallow cup fits over the open end of a fuel receptacle made from plastic material. A flint tube undetachably fixed to the base plate and extending right through the fuel receptacle is provided with an external thread on its outer end to take a circular nut by means of which the fuel receptacle is tightly held against the base plate. On assembly a suitable kind of adhesive is preferably applied to the joint edges of the fuel receptacle abutting against the base plate. The bottom of the fuel receptacle is provided with a removable cap screw to allow for replenishing the fuel supply. The flint tube containing a flint and a helical compression spring is closed on its outer end by means of a removable cap screw thereby facilitating the insertion of a new flint.

It is understood that, according to the invention, in an arrangement of a metal

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mechanism in combination with a plastic fuel receptacle the latter may be so formed as to make the lighter suitable for use as a pocket lighter or as a table

lighter or as part of a smokers' stand. 5

Dated this 1st day of June, 1946.
WERNER STURMANN.

COMPLETE SPECIFICATION

Improvements in Pyrophoric Lighters

I, FRITZ WERNER STURMANN, of 67, Parkview Court, Fulham, London, S.W.6, a British Subject, 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 lighters for cigarettes or the like, having a friction wheel rotatable against a flint or pyrophoric material of the kind in which manual actuation of a lever causes the rotation of said friction wheel as well as the movement of a snuffer cap away from a wick and also the storing of energy in a preloaded spring in such a manner that, on releasing the manually actuated lever, said spring will cause the mechanism to move back into the initial position thereof so that the snuffer cap covers the wick.

According to the present invention, in lighter mechanism of the kind described, the actuating lever is hinged to the sides of a U-shaped bracket through the intermediary of a link one end of a helical spring being attached directly to a pin providing the pivot pin of the actuating lever and link, the other end of the helical spring being connected to a stud at the base of the mechanism.

In order that the invention may be clearly understood and readily carried into effect, reference is directed to the accompanying drawing, wherein:—

Fig. 1 is a side elevation partly in section of a pyrophoric lighter constructed according to the invention.

Fig. 2 is a side elevation, and

Fig. 3 is a plan of the lighter shown in Fig. 1.

Fig. 4 shows in section a modified form of lighter mechanism.

Referring to the drawing which shows a preferred form of pyrophoric lighter according to the invention and comprising a metal fuel reservoir 7 upon which is mounted the improved lighter mechanism. The lighter mechanism embodies a snuffer cap 8 pivotally mounted on a spindle 9 which also supports a friction wheel 10, the ends of said spindle being journaled in the sides 11 of a U-shaped

bracket 12. One end of an actuating lever 13 of bifurcated shape is pivotally connected to the snuffer cap 8 by means of a pin 14 sufficiently distanced from the spindle 9 as to clearly pass by the circumference of the friction wheel 10. The friction wheel 10 is provided with ratchet teeth, in the known manner, and is actuated by a pawl pivoted on the friction wheel spindle 9 and anchored to the pin 14 by means of a bifurcated extension 15. The other end of the actuating lever 13 is hinged to the sides 11 of the U-shaped bracket 12 by means of a connecting link 16. A helical spring 17 is directly attached at one end to a pin 18 constituting the pivot of actuating lever 13 and one end of the connecting link 16, the spring at the other end being connected to a stud 19 by which the U-shaped bracket 12 is attached to the top of the fuel receptacle 7. The link 16 is pivotally connected at its lower end between the sides 11 of the bracket 12 by a pivot pin 20. In the modification shown in Figure 4, one end of the spring 17 is connected to a lug 21 secured by a screw 22 to the top of the fuel receptacle 7 and serving to hold the bracket 12 in place. A flint tube 23 extending right through the fuel receptacle is fitted and provided with a removable metal cap screw to allow the insertion of a new flint to be effected.

On manual operation of the actuating lever 13 energy is stored in the aforementioned spring 17 and on release of the actuating lever, the spring causes the mechanism to return to the initial position thereof, as shown in Fig. 1, so that the snuffer cap covers the wick protruding from a wick tube 24, the latter being formed with a screw-threaded extension 25 to serve as additional means for securing the U-shaped bracket 12 to the fuel reservoir.

The invention provides a pyrophoric lighter incorporating a simple, but effective mechanism comprising a minimum number of parts to be easily associated with a body serving as fuel receptacle, the body being made from metal in the form of extruded tubing or other suitable material in such manner that an attrac-

tive finish of the lighter can be produced by an inexpensive method of manufacture.

5 It is understood that, according to the invention, in an arrangement of the described mechanism in combination with a fuel receptacle, the latter may be so formed as to make the lighter suitable for use as a pocket lighter or as a table
10 lighter or as part of a smoker's stand.

I am aware that it has been proposed in a pyrophoric lighter of the kind described to anchor one end of the spring at the base of a U-shaped bracket to which
15 the actuating arm is pivotally connected by a link, the other end of the spring being attached to the link at a point adjacent the pivot of the actuating arm.

20 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. A pyrophoric lighter embodying

lighter mechanism of the kind described, 25 wherein the actuating lever is hinged to the sides of a U-shaped bracket through the intermediary of a link, one end of a helical spring being attached directly to a pin providing the pivot pin of the
30 actuating lever and link, the other end of the helical spring being connected to a stud at the base of the mechanism.

2. A pyrophoric lighter mechanism as claimed in claim 1, wherein the link is
35 pivoted to the sides of the U-shaped bracket and the said bracket is secured to the top of a fuel receptacle by a screw holding a lug to which one end of the helical spring is connected. 40

3. The improved pyrophoric lighters substantially as herein described with reference to Figs. 1, 2 and 3 or Fig. 4 of the accompanying drawing.

Dated this 30th day of May, 1947.

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copies, price 1s. 0d. each (inland) 1s. 1d. (abroad) may be obtained.

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

