

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Safety Mechanical Petrol Lighter

I, JOSEPH SMITH, British nationality, 7, Morley Crescent, East, Stanmore, Middlesex, 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 of the kind comprising a body constituting or containing a reservoir for the fuel, a friction wheel mounted on top of the body and rotatable over a flint in proximity to a wick to which fuel is supplied from the reservoir and a pivoted cap which is movable to cover and uncover the wick.

Hitherto, in lighters of this kind, the wick cap has been actuated by means including a spring which normally held the cap in its closed position and, after a small opening movement of the cap by hand, snapped the cap into its fully open position, the reverse procedure taking place on closing the cap.

The means hitherto employed for snapping the wick cap into its open and closed positions was somewhat complicated and liable to get out of order and the object of the present invention, is to provide a simpler means whereby the cap, after a slight movement by hand, is automatically snapped from its closed position into its fully open position and also from its open position into its closed position.

According to the invention, a tension spring is directly connected between the wick cap, or a stud or the like fixed thereon, and an anchor on top of the body or reservoir in front of the wick, the line of pull of the spring in the closed position of the cap being above the axis of the cap so as to hold the cap closed while, as the cap is opened, the line of pull of the spring is shifted to below the axis so as to snap the cap open.

Preferably, the width of the wick cap is less than that of the body or reservoir and the spring is accommodated in the space between the side of the wick cap and an upward extension of the body or reservoir.

In order that the invention may be easily understood, and readily carried into

effect, a pyrophoric lighter constructed in accordance with the invention is illustrated by way of example in the accompanying drawings, in which:—

Figure 1 is a side elevation of the lighter partly in section;

Figure 2 is an end elevation; and

Figure 3 is a plan.

Referring to the drawing, the lighter comprises a body or fuel reservoir 1 in an extension 5 of which is rotatably mounted a friction wheel 2 which rubs against a flint 3, contained in the usual manner in a tube 4 and pressed against the friction wheel by means of a spring which is not illustrated. In front of the friction wheel is fitted a wick 6 which is supplied with fuel from the reservoir 1. The wick is protected by means of a wick cap 7 which is pivoted on a screw 8 of which one end is fixed in a side wall of the extension 5 and the other end is supported by an L-shaped piece 15 which is fixed to the top of the reservoir 1. The friction wheel 2 together with a ratchet wheel 9 fixed thereto are also rotatably mounted on the screw 8. The extension 5 is perforated as at 16 so as to form a storm-cage surrounding the wick.

The width of the wick cap 7 is less than that of the body or reservoir 1, so as to provide a space within the extension 5 for the reception of a helical spring 11, of which one end is attached to a stud 10 fixed to the wick cap and the other end is attached to a lug 12 which is fixed by means of a screw 13 to the top of the body or reservoir 1. By adjusting the position of the lug 12 the tension of the spring can be varied. If desired, two springs might be fitted one on each side of the cap 7.

The position of the stud 10 is such that when the wick cap is closed, the line of pull of the spring lies above the axis of the cap 7 and the cap is held in its closed position. When the cap 7 is raised by means of the projecting tip 14 the stud 10 moves downwards until the line of pull of the spring is below the axis of the cap when the spring snaps the cap into its fully open position. The reverse procedure takes place on closing the wick cap.

When the wick cap is opened a pawl

which is connected to the cap and is not visible in the drawing rotates the ratchet wheel 9 together with the friction wheel 2, while when the cap is closed the pawl rides 5 freely over the teeth of the ratchet wheel so that the friction wheel is not rotated. A fresh surface of the friction wheel is consequently presented to the flint at each partial rotation. The means for actuating 10 the friction wheel however forms no part of the present invention and is therefore not described and illustrated in detail.

It will be seen that the arrangement is extremely simple, the spring 11 being 15 attached directly between a stud on the wick cap and an anchor on the top of the reservoir and exerts a direct pull both in opening and closing the wick cap; also there are no intermediate parts, as in previous arrangements which are liable to 20 get out of order.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to 25 be performed, I declare that what I claim is:—

1. A pyrophoric lighter of the kind set

forth, wherein a tension spring is directly connected between the wick cap or a stud or the like fixed thereto and an anchor on 30 the top of the body or reservoir in front of the wick, the arrangement being such that the line of pull of the spring lies above the axis of the wick cap when the cap is closed and is shifted below the axis 35 of the wick cap as the cap is opened.

2. A pyrophoric lighter in accordance with claim 1, in which the anchor on the body is adjustable, so that the tension of the spring can be varied. 40

3. A pyrophoric lighter in accordance with claim 1 or claim 2, in which the width of the wick cap is less than that of the body or reservoir, and the spring is accommodated in a space between the side of 45 the wick cap and an upward extension of the body or reservoir.

4. A pyrophoric lighter as shown in the accompanying drawings.

Dated this 16th day of November, 1942.

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

