PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in Pyrophoric Lighters

I, ALEXANDER BERNHARDT SIEGEL, a German citizen, of 8, Parliament Hill, London, N.W.3, 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 or frictionally operated lighters having a friction wheel which can be rotated against a flint or pyrophoric material to produce sparks therefrom for the ignition of a wick and the invention is concerned with lighters of this kind in which the friction wheel is rotated by opening movement of a pivoted wick-cap carrier.

The object of the present invention is to simplify the operating mechanism of a lighter of the kind abovementioned and to provide a compact construction of lighter which can be incorporated as part of another article. For instance, the lighter can be arranged for mounting on the end of a propelling pencil or fountain pen or on a combination pen and pencil. A further object is to provide a lighter which has few moving parts of simple construction so that manufacture and repairs are simplified and wear is practically negligible.

The lighter according to the invention is constructed so that the pivoted wick-cap carrier can be swung into open position by downward longitudinal movement of a member hinged directly to the carrier and slidable vertically on the exterior of the body or casing of the lighter, preferably against the action of a return spring which is tensioned by downward movement of the slidable member. When the slidable member is released, the upward movement thereof, under the action of the return spring, swings the wick-cap carrier back into closed position. The slidable operating member preferably consists of a flat strip guided on the outside of the casing and provided with a thumb grip. The top end of the strip is pivoted to the wick-cap carrier and the opening movement of the latter causes rotation of the friction wheel through the usual ratchet drive or through any other suitable means.

The accompanying drawing illustrates a construction of lighter according to the invention and in the drawing:—

Fig. 1 is a perspective view of the lighter, and

Fig. 2 is a longitudinal section through the operating mechanism.

The body 1 of the lighter is of tubular form and is provided at the bottom with an internal screw thread 2 by which the lighter can be screwed on to any other suitable article, for instance on to the top of a propelling pencil or fountain pen or a combination of both, and the body 1 is therefore provided with a pocket clip 3 (Fig. 1). The top of the body is closed and from it projects the usual wick tube 4 carrying the wick 5. The flint 6 also projects from the top of the body 1 and is pressed upwardly against a friction wheel 7 by means of the usual spring within the flint tube 8.

The friction wheel 7 is mounted on a spindle 9 which is supported at its ends in a pair of brackets attached to the top of the body and one of these brackets is indicated at 10 in Fig. 1. The spindle 9 also forms a pivot for a hollow arm 11 integral with the wick cap 12, and the end of the arm opposite the wick cap is provided with a pair of ears 13 (Fig. 1) by which the arm 11 is hinged to the top end of an operating member 14 through a pivot pin 15. The operating member 14 consists of a flat strip having a projecting thumb grip 16 and capable of longitudinal sliding movement in guides 17 on the outside of the casing 1. The strip 14 has a projection 18 (Fig. 2) which extends through an elongated opening 19 in the wall of the body 1 and the projection 18 is attached to the lower end of a tension spring 20 inside the body 1 and having its upper end secured to a hook 21 near the top of the body.

In operation, the body 1 is grasped by the fingers and the strip 14 pulled down, against the pull of the return spring 20, by thumb pressure on the grip 16. This causes the wick cap 12 to be swung to open position clear of the wick 5 and the swinging movement of arm 11 to

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raise the wick cap causes the friction wheel 7 to be rotated by the usual ratchet drive (not shown) or by any other suitable means. When the thumb grip 16 is released the stretched return spring 20 pulls the strip 14 upwards to its original position and the arm 11 and wick cap 12 are thereby swung back to the position shown without rotating the friction wheel. The strip 14 is sufficiently flexible to allow its upper end to follow the arcuate movements of the ears 13 during operation of the lighter.

It will be clear from the above description that the operating mechanism of the lighter is extremely simple and compact and enables the lighter to be of substantially tubular shape. Also the number of moving parts is relatively few and this enables construction and repair to be simplified.

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 of the kind in which a friction wheel is rotated by opening movement of a pivoted wick-cap carrier, characterised in that the opening and closing movements of the carrier are caused by endwise movement of an operating member hinged directly to the carrier and slidable longitudinally on the exterior of the body of the lighter.

2. A lighter according to Claim 1 in which the endwise movement of the operating member to swing the wick-cap carrier into open position stretches a return spring which causes closing movement of the wick-cap carrier when the operating member is released.

3. A lighter according to Claim 1 or Claim 2 wherein the operating member consists of a flat strip guided on the exterior of the body of the lighter and provided with a thumb grip and hinged at one end to the pivoted wick-cap carrier so that longitudinal movement of the strip causes swinging movement of the carrier.

4. A pyrophoric lighter substantially as hereinbefore described with reference to the accompanying drawing.

Dated this 25th day of May, 1939.

EDWARDS & CO.,
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296—302, High Holborn, London, W.C.1,
Agents for the Applicant.

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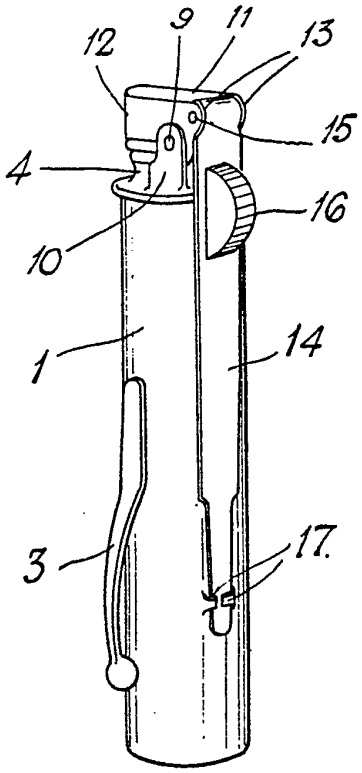

FIG. 1.

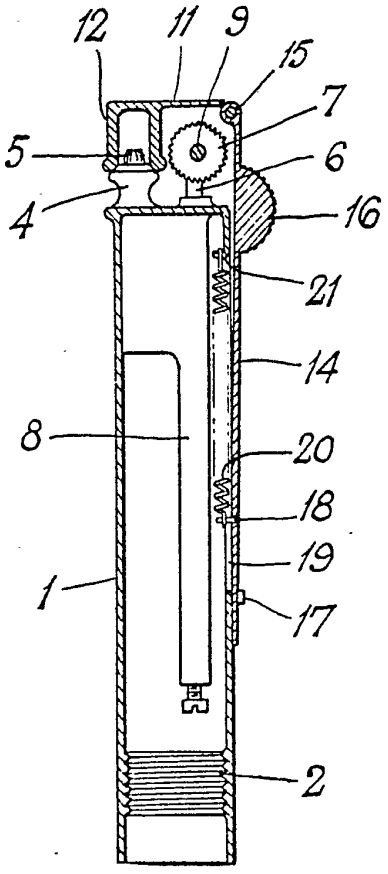

FIG. 2.

Malby & Sons, Photo-Litho.