PATENT SPECIFICATION

Convention Date (Germany): Aug. 8, 1931. 382,820

Application Date in United Kingdom): Jan. 28, 1932. No. 2594/32.

Complete Accepted: Nov. 3, 1932.

COMPLETE SPECIFICATION.

Improvements in or relating to Pocket Lighters.

I, FRIEDRICH VON FALKENBERG, of Luitpoldstrasse 35, Berlin, W. 30, Germany, a German citizen, 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:—

The present invention relates to a pyrophoric pocket lighter of the kind in which the opening of the lighter is adapted to operate the ignition wheel.

According to my invention the lighter comprises two rigid relatively movable housing components arranged in crosswise relation, one section of each component sliding in telescopic relationship to separate the other sections of the components and cause operation of the ignition mechanism.

According to a further feature of my invention the ignition mechanism consists of a pivotal member held in normal position by means of a spring, a pawl member secured thereto and an ignition wheel constructed on one side as a ratchet wheel, the pivotal member having a lug thereon actuated by means on the component not supporting the ignition mechanism. On relative movement of the components said pivotal member is first moved against the action of the spring and is then released to cause the pawl member to rotate the ratchet wheel to effect ignition.

Pyrophoric lighters with housing portions slidable one within the other are already known. In these known devices when a pressure portion is depressed a slide member is actuated to expose a window located within which is the wick. The pressure portion and the slide member closing the window are connected by a pivotal bridge which is hinged to the two parts, the direction of motion of the slide member being opposite to that of the pressure portion. This construction has the disadvantage that a considerable number of movable parts linked together is present the manufacture of which is expensive and which can readily become disarranged during use. In addition, if any replacement is desired the entire lighter must be taken to pieces.

Pyrophoric lighters are also known of the telescopic type in which one part can be slid wholly within another. These, however, exhibit the disadvantage of a large constructional length and thus a large waste space because the length of the housing by which the one part must be pushed within the other on lighting must be uselessly present in the normal position of the lighter.

Pyrophoric lighters associated with a cigarette case are also known in which the lighter construction is adapted to slide, and is normally housed within, the cigarette case.

The novel construction obviates the drawbacks which have been found to be present in the known devices. The novel lighter can be readily taken to pieces and again as easily be assembled and provides ready access to the ignition device. By the crosswise arrangement of the interfitting housing components economy in space is attained. The lighter can be as small as those provided with a spring cover. The working reliability is good, as there are no toothed racks or like parts.

The improved lighter is illustrated by way of example in the accompanying drawings, in which:—

Fig. 1 illustrates a lateral view of one of the housing components partly in section and of the operating parts of the ignition mechanism.

Fig. 2 is a lateral view partly in section of the other housing component.

Fig. 3 shows in lateral view the assembled lighter in closed position.

Fig. 4 is a lateral view of the lighter in open position and showing the operating parts of the ignition mechanism.

Fig. 5 is a view of the front end of the component of the lighter supporting the ignition mechanism.

The housing component 1 is a self-contained unit. It embraces in its lower portion 1*a* the fuel container 2 with wick 3 and ignition stone 4. Arranged on the support formed between the upper portion 1*b* and the upper edge of the lower portion 1*a* is the ignition device. This comprises a bearing block constituted essentially by two lateral walls 5 and a spindle 6 journalled therein. Mounted

[*Price* 1/-]

on this spindle is an oscillable member 7 embodying a lug 8. Connected to this oscillable member 7 is a further member 9. This member 9 is provided with a slot 10 by which two ears 10^1 are formed. A leaf spring 11 is supported on the one hand against a pin 12 secured in the block 5 and, on the other hand, against a pin 13 which is secured on the oscillating member 7. This spring has for its effect that normally the oscillating member 7 is maintained always in the position shown in Figs. 1 and 4. Mounted, moreover, on the spindle 6 is the ignition wheel 14. This wheel is on one side formed as a ratchet wheel so as to enable it to co-operate with the member 9 through one of the ears 10^1.

The second housing component is composed of three parts namely the lid 15, an operating part 16 and a bridge piece 17 formed between the two. The lid portion 15 has the thickness of the housing portion 1 and when closed is adapted precisely to fit the latter. The thickness of the parts 16 and 17, however, is such as to enable these parts to slide in the component 1. In the normal condition of this lighter the part 16 is freely exposed, fitting the recess formed in part 1 so that in lateral view a closed rectangle is completed. In this position the bridge piece 17 lies inside the housing component 1 and a pressure spring 18 tends to hold the part 1*b* and the part 16 apart. Through an aperture in the bridge 17 extends a lug 20 on a leaf spring 19.

The operation of the lighter is as follows: By compression between the two fingers, for example, thumb and fore-finger, the part 16 is forced into the interior of part 1*b* in opposition to the pressure of the spring 18. In this action the lid 15 moves away from the ignition device, thereby exposing the wick. The lug 20 comes to bear on the lug 8 of the oscillating member 7, thus rocking the part 7 in opposition to the action of spring 11. The ignition wheel 14 remains at rest on the spindle 6 while the member 9 is carried along by the member 6 sliding along the teeth 21 on the ratchet-shaped face of the ignition wheel 14. As soon as the part 16 has nearly completely entered the upper portion of 1, the lug 8 becomes disengaged from the lug 20, striking back under the action of the spring 11. At the same time the pawl 10^1 is taken into the ratchet wheel, carrying the latter, or in other words, the ignition wheel, with it causing it to rub on the stone 4 and effecting the ignition. After use pressure on the part 16 is relaxed enabling the latter to return to its initial position thus closing the lighter. In the return movement the lug 20 moves past the lug 8 against the action of the leaf spring 19.

The upper end of the part 1*b* is closed by a plate (not shown) retained in position by means of screws. Hence, merely by removing these screws the spring 18 may be extracted and the lighter taken to pieces by pushing the part 16 through the part 1*b* whereupon its two components will be separated.

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 pocket lighter comprising two rigid relatively movable housing components arranged in cross-wise relation, one section of each component sliding in telescopic relationship to separate the other sections of the components and ignition mechanism on one component adapted to be operated by means on the other component during the relative movement of said components.

2. A lighter as claimed in claim 1 in which the ignition mechanism consists of a pivotal member held in normal position by means of a spring, a pawl member secured thereto and an ignition wheel constructed on one side as a ratchet wheel, the pivotal member having a lug thereon actuated by means on the component not supporting the ignition mechanism, whereby on relative movement of the components said pivotal member is first moved against the action of the spring and is then released to cause the pawl member to rotate the ratchet wheel to effect ignition.

3. A lighter as claimed in claim 2 in which the means actuating the ignition mechanism comprises a lug mounted on a leaf spring, carried by the component not supporting said mechanism, said lug being adapted to engage the lug on the pivotal member of the ignition mechanism during initial relative movement of the components and to return past the same by movement of the leaf spring on the return motion of the components.

4. A lighter as claimed in any of the preceding claims in which a compression spring is disposed between the sections of the components sliding in telescopic relationship to return the same to initial position after cessation of the pressure exerted thereupon.

5. The pyrophoric lighter substantially as described with reference to the accompanying drawings.

Dated this 28th day of January, 1931.

DICKER, POLLAK & MERCER, Chartered Patent Agents, 20 to 23, Holborn, London, E.C. 1, Agents for the Applicant.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1932.

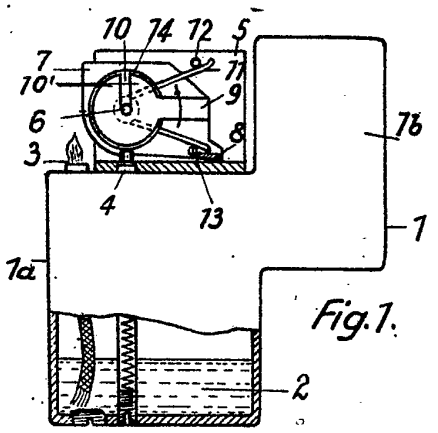


Fig. 1.

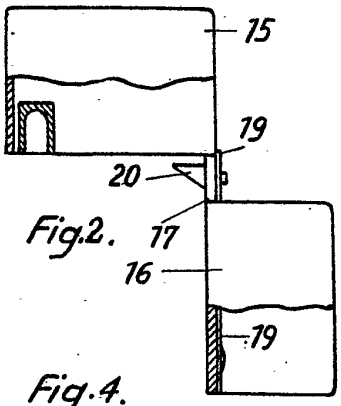


Fig. 2.

Fig. 4.

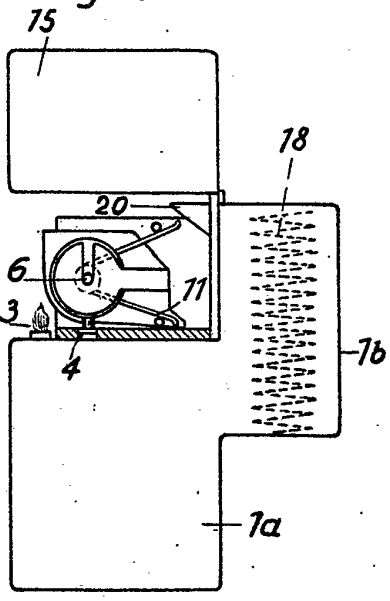
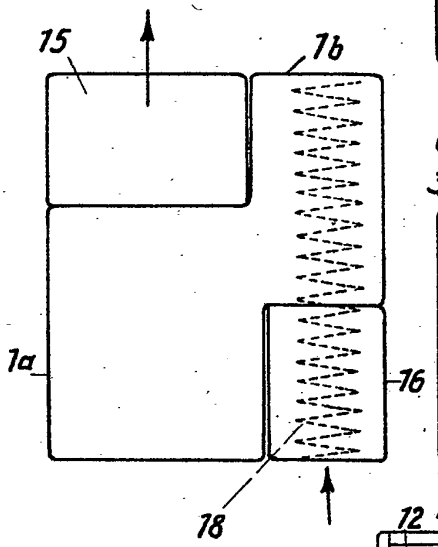


Fig. 3



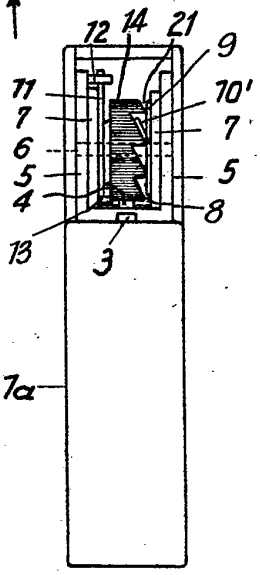


Fig. 5

Malby & Sons, Photo-Litho