

PATENT SPECIFICATION



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COMPLETE SPECIFICATION

Improvements in or relating to Pyrophoric Lighters

We, LA NATIONALE SOCIÉTÉ ANONYME, a Company organised under the Laws of Switzerland, of 2, Rue des Falaises, Geneva, Switzerland, 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. Such lighters have previously been proposed in which the lighting device is arranged in two portions one of which can be swung in relation to the other in order to free the flint which can then be axially removed. In some cases this swinging takes place after, or on the release of a locking action produced by the flint spring. By means of this arrangement the insertion of a new flint is rendered more easy.

The present invention is primarily differentiated from those previously proposed by the fact that a division is actually made in the housing which contains the flint spring and the flint.

Thus the pyrophoric lighter according to the present invention is characterised by the provision of a break in the housing which contains the spring and the flint, somewhat behind the point of action of the force of the spring on the flint when it is longest, by means of which one of the parts so formed can be swung in relation to the other, and a stop member fixed to, or connected with, the flint-carrying part of the housing, which, when one of the parts is swung out of alignment or displaced, engages with that end of the flint spring (or the end of its retaining casing) which locks the two parts together, and thus retains the end of the spring within its part of the housing and releases it to enter the flint-carrying part of the housing when the previously displaced part is returned to its original position.

The insertion of a new flint is made still more easy if the movement of the part which can be swung is effected by means of a spring since the only operation then needed for the insertion of a new flint is the withdrawal of that end of the flint spring (or the end of its

retaining casing) which locks the two parts together. When this withdrawal has taken place the part which can be swung will then be automatically swung out of alignment or displaced to the position in which the flint can be axially removed, by the action of this spring. By this means an additional manual operation, i.e. the manual swinging of the part in question, is avoided.

In the accompanying drawings which show by way of example one embodiment of the invention;

Fig. 1 is a side elevation of the closed lighter.

Fig. 2 is a longitudinal section through the lighting device.

Fig. 3 is a view of this device in section from below along the line III—III of Fig. 2.

Fig. 4 is a view of the lighting device from above and partly in section along the line IV—IV of Fig. 2, on a larger scale and

Fig. 5 is the same view with part on an axial section through the lighting device (with the slide 16 removed).

The illustrated pyrophoric lighter consists of a fuel container forming a casing 1 with pivoted cover 2.

The lighting device consists essentially of a tubular housing 3 with an axially arranged pin 4, a flint spring 5 with an axially movable retaining casing 6 arranged thereover, a friction wheel 7, a milled wheel 8 for manual operation and a wick 9.

The retaining casing 6 presses the flint 10 against the friction wheel which is arranged in a part 12 which is separate from the other parts and capable of swinging about the axis 11 of the friction wheel. A spring 13 always tends to swing this portion of the housing outwards into the position shown in Fig. 5. This is however impossible because the retaining casing 6 even when the flint 10 is longest, engages slightly within the part 12 and locks it in the position shown in Figs. 2 and 4.

A projection 14 passes through a slot 15 of the housing 3 and engages a guided longitudinally movable slide 16 which is

easily accessible when the lighter is open so that it can be pressed backwards with the finger.

A lug 17 of part 12 also engages in a slot in the lighter casing in order to serve as an additional support for this part and to prevent the possibility of the axle 11 being bent outwardly.

When the flint is to be changed or removed, the lighter is opened and the slide 16 easily pressed back by hand. The projection 14 and the casing 6 partake of this movement and the spring 5 is slightly compressed. As soon as the end of the casing frees the swingable part 12, this latter is unlocked and springs, under the action of the spring 13, from the position shown in Fig. 4 into the position shown in Fig. 5, whereupon the flint 10 can be axially removed in the direction of the arrow 18. Simultaneously the portion 19 of the part 12 is pushed in front of the end of the retaining casing 6 and acts as a stop member to hold the casing back.

When a new flint has been inserted, pressure in the direction of the arrow 20 suffices to return the swingable part until the retaining casing 6, which is guided by the stop member 19, snaps into position and the whole device is locked in the position of use.

It is finally to be noted that the spring 5 is never compressed considerably beyond the amount by which it is compressed when the flint is longest.

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 pyrophoric lighter having a lighting device which is arranged in two

portions, one of which can be swung in relation to the other, on, or after, the release of a locking action produced by the flint spring, in order to free the flint which can then be axially removed, characterised by the provision of a break in the housing which contains the spring and the flint, somewhat behind the point of action of the force of the spring on the flint, so that one of the parts so formed can be swung in relation to the other, and a stop member fixed to, or connected with, the flint-carrying part of the housing, which, when one of the parts is swung out of alignment or displaced, engages with that end of the flint spring (or the end of its retaining casing) which locks the two parts together, and thus retains the end of the spring within its part of the housing and releases it to enter the flint-carrying part of the housing when the previously displaced part is returned to its original position.

2. A pyrophoric lighter as claimed in claim 1, characterised in that when the end of the flint spring (or of its retaining casing) is withdrawn to release the part which can be swung, the part is automatically swung into the position in which the flint can be axially removed by means of a spring.

3. A pyrophoric lighter substantially as described with reference to the accompanying drawings.

Dated this 5th day of June, 1936.
For LA NATIONALE SOCIÉTÉ
ANONYME,

Stevens, Langner, Parry & Rollinson,
Chartered Patent Agents,
5/9, Quality Court, Chancery Lane,
London, W.C.2, and at
120, East 41st Street, New York, U.S.A.

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

