

RESERVE COPY PATENT SPECIFICATION

358,812

Application Date: Dec. 19, 1930. No. 38,325/30.

Complete Accepted: Oct. 15, 1931.

COMPLETE SPECIFICATION.



Improvements in and relating to Pyrophoric Lighters.

We, ALFRED DUNHILL LIMITED, a British Company, of 137—143, High Street, Notting Hill Gate, London, W. 11, and VERNON DUNHILL, a British Subject, of the same address, 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 and has for its object to provide such articles with improved means adapted to replace the usual loose spring and adjusting screw in the flint tube for taking up the wear of the flint or other pyrophoric material and ensuring that it is automatically kept in contact with the friction wheel or the like at the requisite working pressure.

It has previously been proposed to replace the usual loose spring and adjusting screw in the flint tube of a pyrophoric lighter, by a detachable unit comprising a tube having a plunger slidably mounted but retained in one end and a screw plug at the other end and a coiled spring abutting against the plunger and the screw plug. This unit is retained in the flint tube by the screw plug abutting against a screw stopper for the filling orifice of the fuel container or against the closed inner end of a tube into which the flint tube is inserted.

According to the present invention a detachable unit is provided which is adapted to replace the loose spring and adjusting screw in the flint tube. This unit comprises a hollow member with an externally screw threaded portion, permanently closed at one end and having a plunger slidably mounted but retained in the other end, a coiled spring or the like being arranged inside said member and abutting against the plunger and the closed end of the member. The length of the plunger and the strength of the spring are so arranged that when the screw is screwed into the flint tube the flint will be pressed into contact with the friction wheel or the like at the required working pressure and further as the flint wears the plunger will move forward and take up

[Price 1/-]

the wear while still maintaining the necessary working pressure. Some slight adjustment may, of course, be made by screwing the tube, but it can be screwed sufficiently far into the flint tube when the flint is new to prevent unnecessary projection or the danger of working loose. The forward movement of the plunger is limited by suitable abutments, and the length of the plunger head is approximately equal to that of a new flint, the arrangement being such that when the flint wears down to a small piece, the pressure of the plunger thereon ceases so that the small piece is not jammed into the friction wheel. Again the plunger may be formed with a stem of reduced diameter which fits into the spring thus acting as a guide for the plunger head. The end of the tube may be slightly inturned to meet an abutment on the inner end of the plunger head to limit the forward movement thereof. The screw-threaded portion of the tube is preferably only slightly longer than the flint used.

To enable the invention to be fully understood it will now be described by reference to the accompanying drawing which shews an elevation of a portion of a pocket lighter having a device according to one form of the invention applied thereto, the device being in section.

The lighter 1 is fitted with a wick tube 2, and a flint tube 3, the latter being mounted on a support 4. The friction wheel 5 is mounted in the end of the tube 3 in known manner and engages a flint or the like 6 within the tube. For pressing the flint against the wheel, a tube 7 is fitted into the free end of the flint tube. This tube is permanently closed at one end by a screw head and contains a coiled spring 8 and a slidable plunger. The plunger has a head 9, an abutment 10 and a stem portion 11 of reduced diameter which fits into the spring, the latter abutting against the inner side of the screw head and against the abutment 10 as shewn. The free end of the tube is slightly inturned at 12 to form a stop acting with the abutment 10 to limit the forward movement of the plunger head. The screw-threaded portion 13 of the tube

55

60

65

70

75

80

85

90

95

100

105

is relatively short as shewn and engages threads formed in the end of the flint tube just as in the case of the usual adjusting screw hereinbefore referred to.

- 5 The plunger head is preferably approximately equal in length to the flint and the screw-threaded portion 13 is preferably slightly longer than the flint. The spring is of sufficient strength to cause the plunger head to feed the flint forward as it wears, maintaining an effective working pressure at all times on the friction wheel. The tube 7 may be screwed firmly into the flint tube even when a new flint is inserted and it will be obvious that the insertion of a new flint is facilitated since there are no loose parts to be manipulated.
- 10 Further the abutment 10 ensures that the force of the plunger ceases when the flint wears down to a small fraction and thus prevents jamming of the friction wheel.

- 15 It will be understood that the word "flint" herein used is intended to include any suitable pyrophoric material, and that the invention is applicable to lighters of types other than that indicated in the drawing.

- 20 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. For use in a pyrophoric lighter a detachable unit adapted to replace the usual loose spring and adjusting screw in a flint tube, comprising a hollow member with an externally screw-threaded portion, permanently closed at one end, a plunger slidably mounted but retained in the other end, a coiled spring or the like arranged inside said member and abutting against the plunger and the closed end of the member for the purposes specified. 35 40

2. For use in a pyrophoric lighter a unit as claimed in claim 1, wherein the length of the plunger head is approximately equal to that of the flint, the external screw-threaded portion of the tube being slightly longer than the flint, for the purpose specified. 45 50

3. A pyrophoric lighter having a flint tube and unit substantially as hereinbefore described and illustrated in the accompanying drawing. 55

4. Units for use with pyrophoric lighters constructed and arranged substantially as hereinbefore described with reference to the accompanying drawing.

Dated this 19th day of December, 1930.

ABEL & IMRAY,
30, Southampton Buildings, London,
W.C. 2,
Agents for the Applicants.

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

