

PATENT SPECIFICATION

464,600

Application Date: March 30, 1936. No. 9437/36.
(Patent of Addition to No. 338,762: dated Dec. 13, 1929.)

Complete Specification Left: Nov. 17, 1936.

Complete Specification Accepted: April 21, 1937.



PROVISIONAL SPECIFICATION

Improvements in or relating to Smokers' Lighters

I, JOHN HANNY SCOTT, a British Subject, of 65, New Church Road, Hove, in the County of Sussex, do hereby declare the nature of this invention to be as follows:—

This invention relates to smokers' lighters, constructed according to my Patent No. 338,762 in which the manipulation of spark-producing means causes a wick burner to be ignited and the flame of this then plays upon a jet nozzle so as to bring about the vaporization of liquid fuel therein and produce a projected flame which is extremely useful for smokers, more especially for lighting pipes.

It is the object of the present invention to provide an improved construction of lighter which is not only neat in appearance but is found to operate in a very efficient manner.

According to one feature of the invention in a lighter according to Patent No. 338,762, the body is composed of a pair of hollow telescopically slidable members, one of which is fitted with the reservoir arranged to feed the jet nozzle, the space surrounding or adjacent said reservoir being occupied by absorbent material serving to feed the wick burner.

Further, the invention provides an improved lighter having a jet tube which is secured in a manner rendering it capable of easy removal, a screw-threaded union nut preferably being employed for holding the jet tube in position.

As a still further feature of the invention the improved lighter is fitted with actuating means for a pyrophoric igniting device, said actuating means comprising a pair of spaced knurled wheels or equivalent disposed upon a spindle with the usual friction wheel between them, the arrangement preferably being such that the jet from the nozzle is directed in a plane extending substantially midway between the two actuating wheels.

In the preferred construction of smokers' lighter according to the invention the body comprises a hollow container of rectangular or any other suitable cross-section, said container being open at its bottom and being normally enshrouded in

a telescopically fitting casing having an open top and a closed bottom.

A portion of the interior of the body is partitioned off to form a closed container having at its lower end a screw-threaded aperture closed by an airtight plug, the upper part of said container being provided with a tubular fitting which passes through the upper wall of the body and terminates in a screw-threaded union adapted for the attachment of the nozzle tube. Any suitable means may be used for securing the nozzle tube to the union in a gas-tight manner, and according to one method the end of the tube is slightly constricted and is surrounded by a ring having a triangular radial section. This ring is held in firm contact with the end of the fitting by means of a union nut and thus enables the nozzle tube to be readily adjusted and interchanged. The preferred form of nozzle tube has an ogee curve, the nozzle itself being directed obliquely upwards at an angle of approximately 40° to the horizontal.

The upper part of the lighter is constituted by a windshield member shaped to conform to the cross-section of the body, and comprising side walls and a bottom. This bottom is clamped to the top of the body by the tubular fitting previously referred to and also by a wick tube and the tube of the pyrophoric lighter, a sheet of heat-insulating material preferably being interposed so as to minimise the conduction of heat from the windshield to the body. The windshield may be conveniently formed with elongated apertures serving to admit air to the wick burner and the nozzle, and said windshield is preferably cut away adjacent the end of the nozzle tube in order that proper combustion may be obtained. The windshield is fitted with a hinged lid extending for the whole length of the lighter, said shield being influenced by a spring and being provided with a loosely fitted cap adapted to locate itself over the wick tube when the lighter is out of use, thus preventing waste of spirit due to evaporation.

The pyrophoric lighter is substantially tubular in form, and is provided with a

[Price 1/-]

head which is disposed within the windshield, the stem of said lighter being adapted to extend downwardly into the space within the body used for the storage of spirit supplying the wick burner. This stem accommodates the usual flint and spring, its lower end being closed by a screw-threaded plug having a fine wire or pricker disposed normally within the spring and adapted to be used for cleaning the nozzle. The head of the pyrophoric lighter carries a transverse spindle having the usual friction wheel at its centre, said spindle being fitted at each extremity with a knurled wheel or disc so that the lighter can conveniently be operated from either side. The hinged cover of the windshield may, if desired,

be cut away adjacent these two wheels so that the latter are at all times exposed, although a tongue on the cover encloses the friction wheel when the lighter is closed.

It will be understood that the lighter described is given merely by way of example and that the actual construction and shape of the parts may be modified without departing from the invention.

Dated this 30th day of March, 1936.

For the Applicant,

F. J. CLEVELAND & CO.,
Chartered Patent Agents,
29, Southampton Buildings,
Chancery Lane,
London, W.C.2.

COMPLETE SPECIFICATION

Improvements in or relating to Smokers' Lighters

I, JOHN HANNY SCOTT, a British Subject, of 65, New Church Road, Hove, in the County of Sussex, 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 smokers' lighters constructed according to my Patent No. 338,762, in which the manipulation of spark-producing means causes a wick burner to be ignited and the flame of this then plays upon a jet nozzle so as to bring about the vaporization of liquid fuel therein and produce a projected flame which is extremely useful for smokers, more especially for lighting pipes.

It is the object of the present invention to provide an improved construction of lighter which is not only neat in appearance but is found to operate in a very efficient manner.

The invention accordingly provides an improvement in or modification of the lighter according to Specification No. 338,762, consisting in the fact that the body is composed of a pair of hollow telescopically slidable members, one of which is fitted with the reservoir arranged to feed the jet nozzle. Thus, in a lighter according to the above-mentioned Specification No. 338,762 the outer casing of the lighter may be slidably detachable from the inner part carrying the jet tube, the reservoir for feeding the jet nozzle, and the igniting means, said outer casing when in position for use serving to close the other reservoir which feeds the wick burner, and at the same time to allow any gas under pressure to escape from said

other reservoir by way of the natural clearance space where the outer casing slides upon the inner part of the lighter. Preferably, the jet tube is detachably mounted upon the inner part of the lighter body by means of a screw-threaded connection which can conveniently comprise a union nut, while for the purpose of reducing the transference of heat to the body comprising the two reservoirs a layer of heat insulating material may advantageously be interposed between the two burners and the corresponding reservoirs. Preferably a windshield is detachably carried by the inner telescopic member.

The invention is illustrated in the accompanying drawings in which

Figure 1 is a sectional elevation shown to a relatively large scale;

Figure 2 shows to a smaller scale a side elevation of the lighter during operation;

Figure 3 is a plan with the cover omitted;

Figure 4 is an enlarged fragmentary sectional elevation showing the manner of attaching the jet tube; and

Figure 5 is a fragmentary sectional elevation of the upper part of the lighter illustrating a modified construction.

The general arrangement of the improved lighter is shown in Figure 1, and it will be seen that the body comprises an outer casing 10 which is closed at its bottom 11 and is substantially rectangular in cross-section, said outer casing being a smooth sliding fit upon an inner casing 12 which is closed at the top 13. The inner casing 12 is divided by a partition 14 to form two reservoirs 15 and 16, the former being closed at its lower part by a wall 17 having a filling aperture which is

normally sealed by a screw-threaded cap 18. On the other hand the reservoir 16, which is used for feeding spirit to a tubular wick burner 19, is unsealed at its lower end, and is thus closed normally by the bottom 11 of the outer casing 10. This is advantageous, as the inevitable clearance between the two sliding casings 10 and 12 readily allows any gas generated in the reservoir 16 to escape, and thus avoids flooding of the wick burner 19 when the lighter is being used or when it is extinguished but is in a heated condition.

For igniting the wick in the burner 19 a pyrophoric lighter is incorporated, comprising a friction wheel 20 which is pivotally mounted between a pair of uprights 21 and 22 (see Figure 3) carried by a bush 23 secured to the top 13 of the casing 12 and axially bored for the reception of the usual flint 24 which is pressed upwardly by means of a plunger 25 and a spring 26. The latter is supported at its lower end by a screw-threaded plug 27, which for convenience is fitted with a wire pricker 28 adapted for cleaning the jet nozzle to be hereinafter described. A wind-shield 29, is secured to the top 13 for example by screws one of which is indicated at 46, and a cover 30 is pivotally mounted upon a pair of lugs 31 and 32 (see Figure 3) secured to the top 13. The cover 30, which is influenced by means of a spring 43 and plunger 44 to remain in either its closed or its open position, is fitted with a cap 45 which engages the wick burner 19 for preventing evaporation, while at its front it embraces the friction wheel 20. The latter for convenience in operation is provided with a pair of knurled finger wheels as indicated at 33 and 34 in Figure 3, so that it can be manipulated easily by either hand to suit the convenience of the user.

At the upper part of the reservoir 15 the top 13 is screw-threaded to receive a fitting 35 which carries a union nut 36 for clamping a jet tube 37 in a readily removable manner, said jet tube being fitted at its lower end with a conical nipple 38 for this purpose. The jet tube 37 is curved as shown, and at its upper end is blocked with the exception of a fine nozzle 39.

In use, the two reservoirs 15 and 16 are normally occupied by an absorbent material, such as cotton wool, which is saturated with petrol or other convenient fuel. When the cover 30 is raised the wick burner 19 is lit by manipulating the friction wheel 20, and the lighter is then tilted as seen in Figure 2 so that the flame plays upon the jet tube 37. The heat produced evaporates the fuel in the tube 37, and the pressure so generated causes

the vapour to escape at high velocity through the nozzle 39 at which it is ignited by the wick flame to produce a fine projected flame 40, which can, if desired, be directed downwardly as required for lighting a pipe.

As shown in Figure 2, the wind-shield 29 is formed with two openings 41 for ventilating purposes. The outer case 10 and the other parts of the lighter which are normally visible can, of course, be ornamented to enhance the appearance of the device.

In the modification shown in Figure 5 a sheet 42 of any suitable heat insulating material is disposed upon the top 13, and is held in position by the fitting 35 and the wick burner 19, this being provided primarily for the purpose of reducing the transference of radiated heat from the wick burner 19 and the jet tube 37 to the top 13 and thence to the fuel contained in the reservoirs. By this means evaporation during and after use is reduced and fuel is saved.

The invention is, of course, not limited to the constructions illustrated, as the design may be modified in detail to suit requirements.

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. An improvement in or modification of the lighter according to Specification No. 338,762, consisting in the fact that the body is composed of a pair of hollow telescopically slidable members one of which is fitted with the reservoir arranged to feed the jet nozzle.

2. An improvement in or modification of the lighter according to Specification No. 338,762, consisting in making the outer casing of the lighter slidably detachable from the inner part carrying the jet tube, the reservoir for feeding the jet nozzle, and the igniting means, said outer casing when in position for use serving to close the other reservoir which feeds the wick burner, and at the same time to allow any gas under pressure to escape from said other reservoir by way of the natural clearance space where the outer casing slides upon the inner part of the lighter.

3. A lighter as claimed in Claim 1 or 2, wherein the jet tube is detachably mounted upon the inner part of the lighter by means of a screw-threaded connection.

4. A lighter as claimed in Claim 2 or 3, wherein a layer of non-metallic heat-insulating material is interposed between the two burners and the corresponding reservoirs.

5. A lighter as claimed in any preceding claim, having a windshield detachably carried by the inner telescopic member.
- 5 6. A lighter as claimed in any preceding claim, wherein the jet tube is detachably secured by means of a union nut and the wick burner comprises a tubular member which is screw-threaded
10 into the upper wall of the wick burner reservoir.
7. The improved lighter according to Specification No. 338,762 substantially as described with reference to the accompanying drawings. 15

Dated this 17th day of November, 1936.

For the Applicant,
F. J. CLEVELAND & COMPANY,
Chartered Patent Agents,
29, Southampton Buildings,
Chancery Lane,
London, W.C.2.

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

