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PATENT SPECIFICATION



Application Date: June 17, 1942. No. 8283/42.

558,155

Complete Specification Left: June 7, 1943.

Complete Specification Accepted: Dec. 23, 1943.

PROVISIONAL SPECIFICATION

Improvements in or relating to Pyrophoric Lighters

We, BELA SANDOR, Hungarian Nationality, and MECHANICAL LIGHTERS & ENGINEERING Co. LIMITED, a Company organised under the Laws of Great Britain, both of Flintop House, 1, Roman Way, London, N.7, do hereby declare the nature of this invention to be as follows:--

5 This invention relates to pyrophoric lighters or the like intended essentially for smoker's use though not limited thereto, its object being to provide simple means to improve the ignition and the flame.

10 A good flame can temporarily be obtained with a long exposure of wick but the wick soon burns away. It is therefore preferable to use a short exposure of wick if means are provided whereby a good flame can be ensured therefrom and that the wick will not burn away rapidly; with a short wick the spark must be directed towards or in line therewith in order to ensure that the wick is ignited at each attempt.

15 According to the present invention the fitting surrounding the wick that is to say the steel itself in the type of lighter in which the flint, carried by an extraneous part of the lighter, is rubbed along the edge of the steel is provided with a slot or slots, notches or grooves in the peripheral edge or rim of such steel, the effect of which is to improve the ignition and enhance the flame by producing a current of air through the said notches, slots or the like which is not obtained with a perforated wind-shield or striker tube.

20 Advantageously at least two notches or slots are provided which are arranged diametrically opposite each other and thereby the flame is increased by the current of air drawn along by the heat or in pipe lighting, by the inhalation of the smoker.

25 The invention is particularly useful when applied to the striker type of lighter as distinct from the wheel-type and in which the wick protrudes through or into a steel which may be in the form

of a tube, a ring, a dished-plate suitably secured to the spirit container or a cup-shaped steel forming plug for the spirit container.

30 The slots may be formed bayonet fashion so that if a closure cap or the like is provided with suitable pins to engage with such slots, said cap will be securely held in place.

35 If diametral slots are sufficiently wide the current of air carries along the flame and ensures better results in pipe lighting, without the need of a long wick since the flame is drawn through the passage formed by the slots.

40 The form of slot or slots or the like can be V-shaped, U-shaped, semi-circular or otherwise.

45 The manufacture of a steel with slots or the like according to the present invention is simple as they can be milled or ground or produced by pressing the metal into a mould to provide a cup-shaped steel or even a simple base plate with upstanding straight, inclined or curved edges for fitting to the container by rivetting or otherwise.

50 With the present improvements in the case where the steel surrounds the wick, the size of steel can be reduced to a minimum and the wick can be well embedded so that the steel surround acts as a wind-shield.

55 The slots may be used to hold the wick carrier for instance by means of tongues or the like on the latter which engage with said slots.

60 This method of holding the wick carrier also enables the use of a separate inner glass or gelatinous spirit container to be held to the underside of such carrier by a spring clip, frictional means or otherwise, the purpose of which is to enable commercial forms of spirit containers to be directly inserted in the body of the lighter.

Dated this 17th day of June, 1942.

CHATWIN & COMPANY,
253, Gray's Inn Road, London, W.C.1,
Patent Agents for the Applicants.

COMPLETE SPECIFICATION

Improvements in or relating to Pyrophoric Lighters

We, BELA SANDOR, Hungarian Nationality, and MECHANICAL LIGHTERS & ENGINEERING Co. LIMITED, a Company organised under the Laws of Great Britain, both of "Flintop House", 1, Roman Way, London, N.7, 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 or the like intended essentially for smoker's use though not limited thereto of the type in which the flint rubbed along the edge of the steel is carried by an extraneous part of the lighter, its object being to provide simple means to improve the ignition and the flame.

A good flame can temporarily be obtained with a long exposure of wick but the wick soon burns away. It is therefore preferable to use a short exposure of wick if means are provided whereby a good flame can be ensured therefrom and that the wick will not burn away rapidly; with a short wick the spark must be directed towards or in line therewith in order to ensure that the wick is ignited at each attempt.

Pyrophoric lighters of the type comprising a flint holder carrying an abrasive wheel and a flint bearing against said wheel are known to have the wick tube slit longitudinally and surrounded by a perforated tubular shield.

According to the present invention the fitting surrounding the wick that is to say the striking steel is provided with a central wick passage and diametral peripheral or open mouthed slots to produce a current of air in order to induce and strengthen the upward tendency of the flame or draw it through one slot when pipe lighting.

The flame is drawn through one slot in pipe lighting, by the inhalation of the smoker.

The wick protrudes through or into a steel which may be in the form of a tube, a ring, a dished-plate suitably secured to the spirit container or a cup-shaped steel forming a plug for the spirit container.

With diametral slots sufficiently wide the current of air carries along the flame and ensures better results especially in pipe lighting, without the need of a long wick since the flame, as stated, is drawn through the passage formed by the slots.

The invention is shown by way of simple example in the accompanying drawing in which:—

Fig. 1 is a part vertical section of a lighter with peripherally slotted cup-shaped steel;

Fig. 2 is a part vertical section of another form of lighter having a series of such slots in the steel.

Fig. 3 shows a still further form of lighter having a bayonet slot with which can engage a closing cap suitably provided with pins to co-act with the bayonet slots.

Figs. 4, 5 and 6 show several forms of steel.

Referring to Fig. 1 the lighter has a body portion 1 serving as fuel container in which is fitted a striking steel 2 with diametral open mouthed or peripheral slots 3 and central wick passage 4. A plastic heat resisting tube 5 is inserted between the steel and the body and a space 6 is formed for wadding by closing the free end of the plastic tube 5 with a plug 7 provided with a capillary passage 8, though more than one passage 8 may be provided.

The body is closed by a cap 9 with flint.

In Fig. 2, the container 1 is screw-threaded to receive two identical caps 9. By making such body of plastic material the steel 2 with its wick passage 4 can be moulded in position. Several open-mouthed slots 3a are provided in the steel.

In Fig. 3 the steel is formed in one piece with the body 1a and provided with peripheral or open-mouthed slots 3 as well as bayonet slots 11 so that the cap, if provided with pins to correspond with such bayonet slots can be readily secured in place. Obviously the bayonet slots can serve the equivalent purpose of the slots 3 as shown in the circular type of steel at Fig. 6. A wick passage is provided in a carrier or disc 12 inserted in the body 1a. Such carrier may have clips or other means 18 for gripping an independent glass or other fuel container 17 as found on the market. The disc 12 may be fixed or detachable.

Fig. 4 shows a steel formed from a base 13 having a wick passage and two vertical ends 14 with acute edge which between them provide a diametral open-mouthed slot. Obviously the ends could be set at an angle to the base.

It will be clear that if the steel is deep as shown in Figs. 5 and 6 it will protect

the flame in strong wind and so acts as a wind shield, the slots inducing and strengthening the upward tendency of the flame.

5 The form of slot or slots or the like can of course be V-shaped, U-shaped, semi-circular or otherwise.

The manufacture of a steel with slots or the like according to the present invention is simple as it can be milled or ground or produced by pressing the metal into a mould to provide a cup-shaped steel or even a simple base plate with upstanding straight, inclined or curved edges for fitting to the container by riveting or otherwise.

The slots may incidentally serve to hold the wick carrier in place by forming tongues or the like on the latter which are adapted to engage in said slots.

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. A pyrophoric lighter of the type referred to characterised in that the fitting surrounding the wick that is to say the striking steel is provided with a central, wick passage and diametral peripheral or open mouthed slots to produce a current of air in order to induce and strengthen the upward tendency of the flame or draw it through one slot when pipe lighting.

2. A pyrophoric lighter as claimed in Claim 1, wherein the steel is formed by a base with two upstanding ends which between them provide an open mouthed peripheral slot.

3. A pyrophoric lighter as claimed in Claim 1 provided with bayonet slots to receive coacting pins carried by a closing cap.

4. A pyrophoric lighter as claimed in Claim 1 wherein the slotted steel is mounted in a body portion forming a fuel receptacle with an intervening plastic tube whose free end is closed by a plug provided with a capillary passage.

5. A pyrophoric lighter as claimed in Claim 1 wherein the slotted steel is moulded into a plastic fuel container externally screw-threaded to receive two identical caps and a flint carried by each cap.

6. A pyrophoric lighter as claimed in Claim 1 wherein the slotted steel is integral with the end of the reservoir, the wick carrier being pressed into the end of said reservoir.

7. A pyrophoric lighter as claimed in Claims 1 and 6 wherein the wick carrier has spring clips or the like to hold a separate inner glass or other spirit container.

8. A pyrophoric lighter as claimed in Claims 1 and 7 wherein a wick carrier is provided with tongues which engage in the slots of the shield.

9. A pyrophoric lighter as claimed in the preceding Claims, constructed and arranged substantially as shown in the accompanying drawing.

Dated this 7th day of June, 1943.

CHATWIN & COMPANY,
253, Gray's Inn Road, London, W.C.1,
Patent Agents for the Applicants.

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

Fig 1

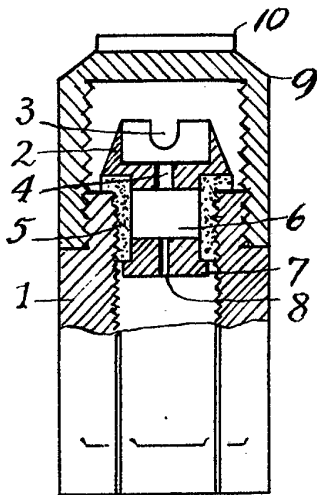


Fig 2

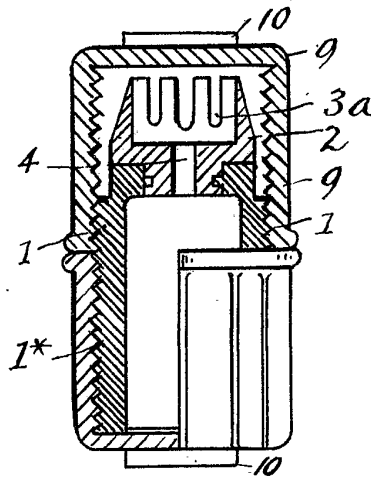


Fig 3

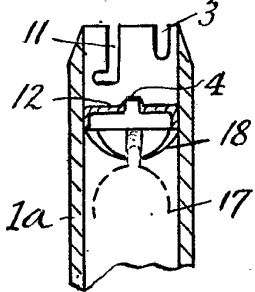


Fig 4

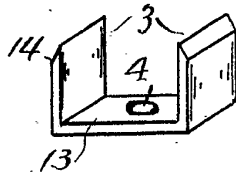


Fig 5

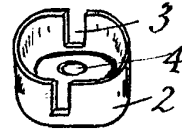


Fig 6

