

# AMENDED SPECIFICATION.

Reprinted as amended under Section 8 of the Patents and Designs Acts, 1907 to 1928.

## PATENT SPECIFICATION

Application Date: March 3, 1927. No. 5993/27.

276,253

Complete Accepted: Aug. 25, 1927.

COMPLETE SPECIFICATION (AMENDED).



### Improvements in or relating to Pyrophoric Lighters.

I, CHARLES LESLIE FRANKS, British subject, of 4, Cullum Street, in the County of London, E.C. 3, 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 improvements in pyrophoric lighters of the kind set forth in Specification of Letters Patent No. 257,411, said lighters comprising a container for inflammable liquid, a wick holder, a flint holder carrying an abrasive wheel and a spring-pressed adjusting screw adapted to hold the flint against the said wheel, the arrangement being such that the adjusting screw is capable of being withdrawn from the flint holder and turned to an angle so that the flint may be readily renewed.

The object of this invention is the provision of a lighter of improved constructional form of the above mentioned kind.

According to this invention there is provided a lighter of the kind above referred to wherein the operating mechanism is arranged in a recess or well formed in the petrol or like container, the said recess being formed by an extension or flange on the container and wherein a lid or cover is adapted to be positioned on the said extension or flange to enclose the operating mechanism.

The invention will now be described with reference to the accompanying drawings, in which:—

Figure 1 is a perspective view partly broken away, showing one form of lighter constructed according to this invention;

Figure 2 is a perspective view of part of the lighter and looking in the opposite direction;

Figure 3 is a sectional detail showing the lid retaining means;

Figure 4 is a part sectional elevation of the flint and operating mechanism;

Figure 5 is a perspective view showing the spring-pressed adjusting screw moved

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outwardly and in position for renewing the flint;

Figure 6 is a plan of the lighter and

Figure 7 is an inverted plan showing the case of the container.

As shown, the usual petrol or like container 1 is of substantially rectangular shape and is adapted to receive the inflammable liquid through an inlet 2 which is closed by a screw cap 3. The inlet 2 is formed in a cut away portion 4 at one end of the base of the container 1 and the screw cap 3 is formed with an enlarged flanged head 5 of a thickness substantially equal to the thickness of the bottom plate 6 of the container. The diameter of this enlarged flanged head 5 is slightly larger than the width of the bottom plate 6, consequently it extends for a considerable part of its circumference slightly beyond the body portion of the container 1 so that the cap 3 can be readily manipulated by the fingers and unscrewed when it is desired to withdraw the same to fill the container 1. The upper plate 7 is arranged within the body of the container 1 so that a flange or extension 8 will be provided beyond the upper plate 7 similar to what has previously been proposed in connection with another type of pyrophoric lighter. On the upper plate 7 of the container is formed or secured a vertical pillar 9 carrying a pair of angularly arranged tubular members 10 and 11, one above the other. The upper tubular member 10 which carries a flint 12 is forked at 13 and adapted to carry a serrated wheel or the like 14 which is slightly inclined in relation to the top of the container so that the spark from the flint 12 upon the operation of the serrated wheel 14 will be projected downwardly upon the wick 15. This wick 15 is carried in a wick tube 16 arranged on the upper cover plate 7 and to one side of the said vertical pillar 9. Within the lower tubular member 11 is adapted to slide a cylindrical member 17 which is closed at one end and

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in this member is mounted a coiled spring 18 which is adapted to abut against the end of an arm 19 which is secured preferably by a screw 20 to the top cover plate 7 of the container 1. The tubular member 17 which is slidably mounted on the arm 19 is formed or provided with a bracket or extension 21 and in this extension 21 is threadedly mounted an adjusting screw 22 which has a cylindrical end 23 adapted to project into the upper tubular member 10. This adjusting screw 22 is formed with a milled enlargement 24 whereby it may be rotated to abut against the rear end of the flint 12 which is mounted in the upper tubular member 10. It will be seen that the spring pressure on the flint 12 may be adjusted as desired. On the top plate 7 and surrounding the tube 16 carrying the wick 15 is formed or provided in the known manner, a cylindrical shield or the like 25 which is formed with apertures such as slits 26. This shield or the like 25 is cut away at 27 to receive a portion of the abrasive wheel 14. It will be seen that this shield 25 will adequately prevent the flame from the wick 15 being extinguished when the lighter is used in the open air during windy weather and further the arrangement is such that the lighting of the wick 15 by the sparks from the flint 14 will be facilitated. On the extension 8 at one end of the casing 1 is hinged in any suitable manner at 28 a lid or cover 29 which is likewise of rectangular shape. This lid 28 is formed with an embossed flange 30 which is adapted to engage over the upper edges of the flanges 8 on the casing 1 so as to make an efficient closure for the lighter when not in use. Within the lid or cover 29 is mounted a tubular extinguisher 31 which is adapted to project over the wick 15 when the cover 29 is closed. On the hinged pin 28 or on the interior of the lid or cover 29 is formed or provided a cam or the like 32 which is adapted to be engaged by a roller 33 rotatably mounted on a pin 34 carried by one end of a spring plate or the like 35. The other end of this spring plate or the like 35 is secured by any suitable means such as by a set screw 36 to an inwardly bent flange or platform 37 formed or provided on the casing 1. Thus the spring-pressed roller 33 will co-operate with the cam 32 and the lid or cover 29 will, as heretofore proposed in another type of pyrophoric lighter, be retained in either its open or closed position. It will be seen that the opening and closing of the lid or cover 29 will be facilitated by the employment of the roller or the like 33. Any suitable means may be provided to lock the cover 29 in its closed position.

The bottom plate 6 of the container 1 at the other end to the inlet 2 is formed with a cut-away portion 38 for the reception of an enlarged flange 39 of a tubular container 40 which is adapted to screw into the said bottom plate 6. This container 40 may be of any length, preferably of the length slightly less than the interior height of the container 1. The tubular container 40 is fitted with a stopper or closure 41 and is adapted to contain a quantity of petrol or other inflammable liquid. Thus it will be seen the container 1 will be fitted with a spare reservoir 40 of petrol which may be used to replenish the main portion of the casing 1. As usual the inflammable liquid in the main portion of the casing 1 is soaked in cotton-wool or other like material. The enlarged flange 39 of the spare container or reservoir is of similar diameter to the flange-head 5, and substantially equal to the thickness of the bottom plate 6 of the container. Thus the spare reservoir 40 can be readily unscrewed to withdraw it from the casing 1 when it is desired to replenish the main casing with a supply of petrol. Further, the arrangement is such that the base of the container will have the symmetrical appearance. In a modified construction the lid or cover may be arranged to fit onto the flanges 8 so that it can be removed when it is desired to use the lighter.

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 lighter of the kind described wherein the operating mechanism is arranged in a recess or well formed in the petrol or like container, the said recess being formed by an extension or flange on the container and wherein a lid or cover is adapted to be positioned on the said extension or flange to enclose the operating mechanism.

2. A pyrophoric lighter as claimed in Claim 1, wherein the lid or cover is hinged to the container, means being provided to maintain the said lid or cover in either its open or closed position.

3. In a pyrophoric lighter as claimed in Claim 1 or Claim 2, the provision of an apertured shield or the like around the wick tube.

4. In a pyrophoric lighter as claimed in Claim 2, the provision of a spring-pressed roller adapted to co-operate with a cam or the like mounted on the hinge connecting the lid and container, or the said cam being mounted on the lid of the container.

5. A pyrophoric lighter as claimed in

Claim 1, wherein the bottom plate of the container is provided with means for the reception of a reservoir adapted to contain a spare supply of inflammable liquid, the said reservoir extending into the container.

6. A pyrophoric lighter as claimed in Claim 1, wherein the container is formed at each lower corner thereof with a threaded opening, one of which is adapted to serve as a filling opening, there being a closure member for the opening formed with a flange having a diameter larger than the width of the body portion of the container, the other opening being adapted to receive a reservoir formed with a flange having a diameter of a dimension substantially similar to that of the first mentioned flange, the said reservoir extend-

ing into the container and being adapted to contain a spare supply of inflammable liquid. 20

7. An improved pyrophoric lighter having the parts thereof constructed, arranged and adapted to operate substantially as hereinbefore described with reference to the accompanying drawings. 25

Dated this 3rd day of March, 1927.

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Reference has been directed, in pursuance of Section 8, Sub-section 2, of the Patents and Designs Acts, 1907 to 1928, to Specification No. 279,163.

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

