PATENT SPECIFICATION

333,329

Application Date: May 29, 1929. No. 16,560/29.

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Complete Accepted: Aug. 14, 1930.

PROVISIONAL SPECIFICATION.

Improvements in or relating to Pocket Lighters.

I, BRENCHLEY THOMAS PENDLEY GREENHALF, a subject of the King of Great Britain, of 39, Popes Lane, Ealing, in the County of London, Scientific Instrument Maker, do hereby declare the nature of this invention to be as follows:—

This invention relates to pocket lighters of the kind in which a friction member is movable in contact with an element for the emission of sparks serving to ignite a wick or its equivalent saturated with an easily ignitable combustible medium, and its primary object is to facilitate the introduction of the element into its holder, while another object is to enable efficient engagement between the element and the member to be readily effected and maintained.

According to the invention the lighter is so constructed as to permit of the said element being introduced into its holder at the friction member end thereof. The friction member may be movably mounted on the body of the lighter to facilitate freedom of access to the said holder. For this purpose the movable friction member may be mounted on a support pivotally attached to the body of the lighter in such a manner as to be movable in vertical plane while a spring controlled or other suitable detent may be provided for securing the friction member support in its normal position with the member in close proximity to the outer end of the holder of the element. The holder may be fitted with a spring and means for moving it and of adjusting the pressure thereof, while the said means may be adapted to be actuated without dismounting or removing any parts of the lighter, through a movable device comprising or engaged with a part capable of imparting forward movement to the element. The device is preferably provided with a sleeve which is internally screw threaded for a portion of its length and fitted with a screw threaded stud to which longitudinal movement is imparted by turning the sleeve through an enlarged part thereon freely accessible on the outside of the lighter. The stud is prevented from turning by engagement with the tube with which the body of the lighter is generally provided for receiving the element and the moving and adjusting means. The lighter may include a wind or storm guard which may or may not be movably mounted on the body of the lighter and a suitable extinguishing cap or cover for closing over the wick when the lighter is not required for use.

In one construction of lighter, the top plate of the body is formed with a circular recess which is concentric with the said tube and is open at the sides to enable the milled edges of a circular plate or disc fitting in the recess to project slightly beyond the edges of the plate. The plate or disc is attached to or forms part of the said sleeve which projects from either side of the plate and is adapted to receive at the upper or outer projecting end the element and is fitted at its lower or inner end with the stud to which longitudinal movement is imparted by the rotation of the plate or disc for moving forward the element. The spring is disposed in the usual manner between the element and the stud while the latter is provided with one or more longitudinally extending flat surfaces for engagement with corresponding surfaces on the sides of the receiving tube to prevent rotation of the stud. The upper surface of the plate or disc is flush with the outer or upper surface of the top plate and the plate or disc is adapted to be held in place by the wick tube extending over the edge thereof. The friction member in the form of a ribbed wheel is rotatably mounted between the sides of a wind guard which encloses the wick tube and is pivotally mounted on an upright on the aforesaid top plate and is fitted with a tongue projecting from the free end of the wind guard. The tongue engages with the spring controlled detent which serves to hold the guard and also the friction member in the position of use and comprises a double headed pin mounted in a slotted plate and controlled by a curved blade spring. The slotted plate is secured to the top plate over a cavity which is formed therein and contains the blade spring, the latter being so arranged as to bear against the lower head of the

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said pin while the upper head is not only adapted to engage the said tongue but facilitates the manipulation of the pin for releasing the tongue. The sides of the friction wheel are fitted with milled discs to facilitate rotating the wheel against the aforesaid element. The upright on which the guard is pivotally mounted also serves to support in a similar manner the extinguishing cap through the medium of a plate, the pivoted end of this plate co-acting with a spring with a snap action for holding it in the closed or full open position, while the free end of the cap carrying plate extends over and beyond the friction wheel and facilitates moving the plate and cap to the open position.

Dated this 29th day of May, 1929.
HASELTINE, LAKE & Co.,
28, Southampton Buildings, London, England, and
19—25, West 44th Street, New York, U.S.A.,
Agents for the Applicant.

COMPLETE SPECIFICATION.

Improvements in or relating to Pocket Lighters.

I, BRENCHLEY THOMAS PENDLEY GREENHALF, a subject of the King of Great Britain, of 39, Popes Lane, Ealing, in the County of London, Scientific Instrument Maker, 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 pocket lighters of the kind in which a friction member is movable in contact with a sparking element serving to ignite a wick or its equivalent saturated with an easily ignitable combustible medium, and its primary object is to facilitate the introduction of the element into its holder.

According to the invention the friction member is permanently mounted on the lighter so as to be displaceable for the purpose of renewing the sparking element in a direction substantially at right angles to the operative face of that element. That is, in the case of a lighter having a sparking element of elongated cylindrical form of which an end face is the operative face for example, the friction member is so mounted as to be displaceable substantially in the direction of the longitudinal axis of the sparking element. The friction member may be carried in a support pivotally mounted on the body of the lighter and the support may be arranged to act also as a wind or storm guard. A spring controlled or other suitable detent may be provided for securing the friction member support in its normal position with the member in close contact with the operative face of the element. The holder of the element may be fitted with a spring and with means for moving the spring and of adjusting the pressure exerted thereby on the element, while the said means may be adapted to be actuated without dismounting any part of the lighter and may comprise a movable device which engages with a part capable of imparting forward movement to the element. The lighter may be provided with an extinguishing cap or cover for the wick.

In order that the said invention may be clearly understood and readily carried into effect, the same will now be more fully described with reference to the accompanying drawings, in which:—

Figure 1 is a side elevation of a pocket lighter constructed according to the invention.

Figure 2 is a similar view to Figure 1 illustrating the friction member support raised to move the friction member away from the face of the sparking element.

Figure 3 is a plan view of the lighter with the wick cap raised.

Figure 4 is a detail view in section and to an enlarged scale, the section being taken on the line 4—4 of Figure 2 and shewing the means for adjusting the position of the sparking element.

Figure 5 is a sectional elevation to an enlarged scale and taken on the line 5—5 of Figure 3 of the device for holding the friction member in contact with the said element.

a is the sparking element, h the friction member, l the support therefor and l^1 the pivot on which the support is carried. The element a is mounted in a normally vertical position within the sleeve b which is provided with an enlarged part c in the form of a disc with a milled edge and also with a part b^1 which extends downwardly therefrom into a tube d attached to the upper plate e of the casing

f of the lighter. The downwardly projecting part b^1 is internally screw threaded and engages with a stud f^2 having diametrically disposed flats f^1 which engage with diametrically disposed flats d^1 on the inner wall of the tube d in order to prevent the stud turning when the sleeve b, b^1 is rotated through the enlarged disc part c. The rotation of the sleeve, b, b^1 serves to impart longitudinal movement to the stud f^2, and if such movement is upwards towards the element a the spring g between the element and the stud is compressed and the element a moved towards or pressed against the friction member h. The flats d^1 in the tube d are preferably formed therein by inwardly pressing the opposite sides of the tube d, as shewn in Figure 4. The stud f^2 is shewn as hollow and serves to receive the lower end of the spring g and to prevent engagement of the end thereof with the walls of the tube d. The sleeve b is adapted to be slid into the tube d and is held against longitudinal movement by the wick tube j and plate k on a detent device hereinafter explained. The wick tube j and the plate k take over the enlarged disc part c and thereby hold it in position. As will be seen from an inspection of Figure 3, the enlarged disc part c is of slightly larger diameter than the width of the part of the body of the pocket lighter where it is arranged and consequently parts of the periphery of the disc project beyond the side walls of the lighter and facilitate engagement thereof by the finger and thumb when it is necessary to adjust the position of the element a. The friction member h is rotatably mounted in an extension h^1 at one end of the support l the middle part of which surrounds the wick tube j and is formed as a storm or wind guard. A milled disc h^3 is provided on each side of the friction member h to facilitate rotating it. The lower part h^2 of the extension h^1 is adapted to be engaged by the detent device m, shewn to an enlarged scale in Figure 5, and comprising a slide bar m^1 with an upstanding projection m^2, the latter being adapted to engage with a spring n disposed within a chambered part k^1 of the plate k. The slide bar m^1 is formed with an extension m^3 which projects beyond the chamber k^1 and permits the operation of the slide bar m^1 for disengaging the detent m from the part h^2 of the support l. When the support l is released by operation of the detent it can be moved in a normally vertical plane about its pivot l^1 and the upper end of the sleeve b rendered accessible for recharging with a sparking element, there being no need to remove the sleeve b, b^1 or the tube d for this purpose. It will be understood that before the sleeve b, b^1 can be recharged with the element a it will be necessary to rotate the enlarged disc part c for moving the stud f^2 to its lowest position as well as the spring g. After the sleeve b, b^1 has been recharged, the support l may be restored to its initial position, the friction member being correctly positioned with regard to the sparking element merely by swinging the support about its pivot and thus rendering it unnecessary to provide a positioning means therefor. The engagement of part h^2 with the detent m causes the friction member h to be held in contact with the upper end of the element projecting from the sleeve b. The support is preferably free of any spring control in order that it may be raised to any intermediate position while the wick cap o is attached to a plate o^1 pivotally mounted on the same pivot l^1 as that of the support l. The wick cap plate o^1 is preferably spring controlled in a known manner for holding it in its extreme closed and open positions. I am aware of what is disclosed in Specification No. 297,188.

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 pocket lighter of the kind referred to on which the friction member is permanently mounted so as to be displaceable in a direction substantially at right angles to the operative face of the sparking element.

2. A pocket lighter as in claim 1, in which the friction member is carried in a support pivotally mounted on the lighter.

3. A pocket lighter as in claim 2, in which the support serves also as a wind or storm guard.

4. A pocket lighter as in claim 1, 2 or 3, wherein the friction member is adapted to be held normally in contact with the sparking element.

5. A pocket lighter as in claim 4, wherein a movable detent device serves to hold the friction member in its position of use.

6. A pocket lighter as in any one of the preceding claims, wherein the sparking element is provided with means for advancing it towards the friction member.

7. A pocket lighter constructed, arranged and adapted to operate substantially as hereinbefore described with reference to the accompanying drawings.

Dated this 12th day of February, 1930.

HASELTINE, LAKE & Co.,
28, Southampton Buildings, London,
England, and

19—25, West 44th Street, New York,
U.S.A.,
Agents for the Applicant.

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

Fig. 1.

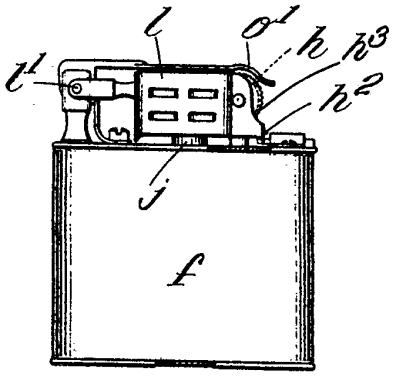
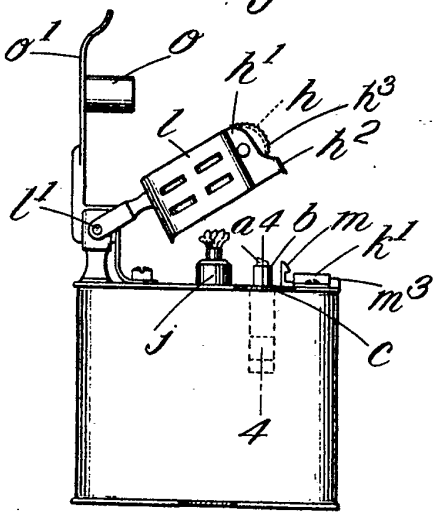


Fig. 2.



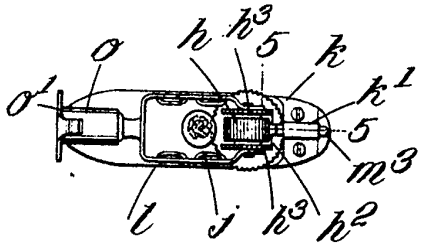


Fig. 3.

Fig. 4.

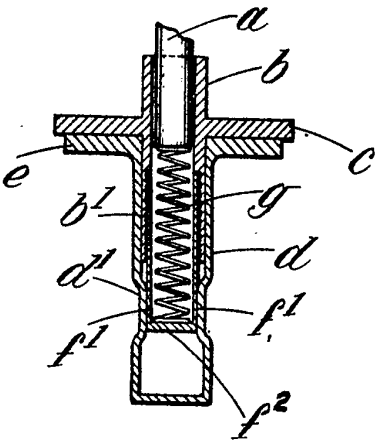
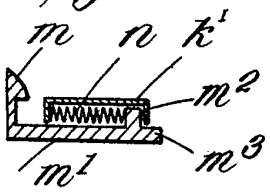


Fig. 5.



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