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PATENT



SPECIFICATION

Application Date, Jan. 24, 1919. No. 1764/19.

Complete Left, Aug. 25, 1919.

Complete Accepted, Mar. 25, 1920.

PROVISIONAL SPECIFICATION.

Improvements in Pocket Petrol Lighters.

I, FREDERICK HARRY BURGON, Engineer, of 13, Coverdale Road, City of Sheffield, do hereby declare the nature of this invention to be as follows:—

5 This invention relates to improvements in pocket petrol lighters of the kind in which a sparking wheel is rotated by means of a rack, said sparking wheel coming into frictional contact with a flint and so causing sparks to fire a wick, and has for its objects to produce a lighter which can be operated by one hand, which will automatically light upon being opened, and which extinguishes itself upon automatically closing.

10 It is also very simple in construction and convenient in shape for the pocket, and all mechanism is protected from damage by being within the lighter:

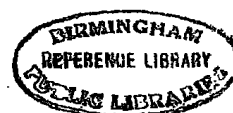
15 The invention consists in the lighter comprising two flat, or nearly flat, hollow members of more or less circular configuration, concentrically pivotted together. Each member has a depression on its circumference below the axis to form a hold, one for the thumb and one for the finger. These two members, are capable of making a partial revolution within one another upon the axis and are normally held in their closed position by means of an internal spring. One of the members contains the mechanism (except the rack) and also contains the petrol and wick vessel, and the other member acts as a revolving cover and contains the rack.

20 In one manner of carrying out the invention one member is slightly smaller both in diameter and in thickness than the other and fits partly within the larger, both being pivotted together so that they are capable of making a partial revolution one within the other.

25 Fitted within one member and preferably enclosed by a partition wall are the sparking wheel, clutch pinion, the flint and other usual firing mechanism, a portion of this member also forming a petrol and wick container or vessel and being fitted with a wick tube and filling hole and plug, and within the other member is secured the rack quadrant which operates the clutch pinion. On pressing the two members together below the axis they make a partial 30 revolution, one within the other, this action automatically operating the firing mechanism and lighting the wick which is at the same time exposed. On releasing the pressure upon the members, they close by the action of the spring and thus move in the reverse direction and automatically close over and extinguish the flame.

35 Means for enabling the clutch pinion to make its backward movement

[Price 1/-]



inoperable on the sparking wheel are provided such as teeth cut in the adjacent sides of the clutch pinion and sparking wheel respectively, in such a way that the teeth on the pinion drive the sparking wheel forward when opening the lighter, but slip on closing the lighter, a light spring on the other side of the clutch pinion holding the clutch teeth in position when the teeth are working 5 in their driving direction.

Dated this 23rd day of January, 1919.

R. F. DRURY & SONS,
Agents.

COMPLETE SPECIFICATION.

10

Improvements in Pocket Petrol Lighters.

I, FREDERICK HARRY BURGON, Engineer, of 13, Coverdale Road, City of Sheffield, 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:—

15

This invention relates to improvements in pocket petrol lighters of the kind in which a sparking wheel is rotated by means of a rack, said sparking wheel coming into frictional contact with a flint and so causing sparks to fire a wick, and has for its objects to produce a lighter which can be operated by one hand, which will automatically light upon being opened, and which 20 extinguishes itself upon automatically closing.

It is also very simple in construction and convenient in shape for the pocket, and all mechanism is protected from damage by being within the lighter.

The invention consists in the lighter comprising two flat, or nearly flat, hollow members of more or less circular configuration, concentrically pivoted 25 together, a portion of one member fitting within the other.

Each member has a depression on its circumference below the axis to form a hold, one for the thumb and one for the finger. These two members are capable of making a partial revolution within one another upon the axis and are normally held in their closed position by means of an internal spring. 30 One of the members contains the mechanism (except the rack) and also contains the petrol and wick vessel, and the other member acts as a revolving cover and contains the rack.

Referring to the drawings filed herewith:—

Fig. 1, is an elevation of one form of lighter made in accordance with this 35 invention in its closed position.

Fig. 2, is a similar view shewing the lighter open,

Fig. 3, is a section,

Fig. 4, is a cross section on line X, Y (Fig. 3).

The lighter is formed of two parts having in combination more or less circular 40 configuration, the body *a* and cover *b*, both slightly dished and provided with radiused edges. The two parts are mounted on a screwed sleeve *c* and held in position by a pin *d* and are maintained in this normal or closed position by a spring *e*. The cover *b* is slightly larger than the body *a* so that the latter will revolve within the former which it does to a limited extent when opening the 45 lighter. The body *a* forming the container adapted to hold a supply of petrol is provided with a wick tube *f* and a filling plug *g*. Each part *a* and *b* is provided with pinch holes *h* and *j*.

Fitted to the body *a* are a sparking wheel *k*, clutch pinion *l*, clutch spring *m*,

sparkling wheel spindle *n*, flint holder *o*, flint *p*, flint spring *q*, and rivet *r* for the flint spring. Fitted to the inside of the cover *b* and secured by two rivets *s s* is the quadrant *t* which operates the clutch pinion *l*, the teeth of the clutch pinion *l* and quadrant *t* being in mesh.

- 5 On pressing the pinch holds *h* and *j* together the quadrant *t* moves with the cover *b* in an anti-clockwise direction and the clutch pinion *l* which drives the sparking wheel *k* moves with the body *a*. The fact that the cover *b* and body *a* are moving in opposite directions simultaneously causes the sparking wheel *k* to revolve very quickly so that no violent jerk is necessary when
10 operating the lighter.

- The action of opening the device causes the quadrant *t* to revolve the sparking wheel *k* which sends sparks from the flint *h* on to the wick in the tube *f* and so ignites it. On releasing the pressure on the pinch holds *h* and *j*, the main spring *e* causes the reverse movement to take place so that the lighter
15 automatically closes and extinguishes itself, but in order not to wear the flint unnecessarily, the clutch pinion *l*, which, as well as the sparking wheel, *k*, is cut on one face to form a three-tooth dog clutch, slips the clutch by sliding laterally on the spindle *n* against the light pressure of the clutch spring *m* and so revolves backwards without turning the sparking wheel *k*. The pressure
20 of the clutch spring *m*, is sufficient to hold the clutch in gear when the lighter is opened.

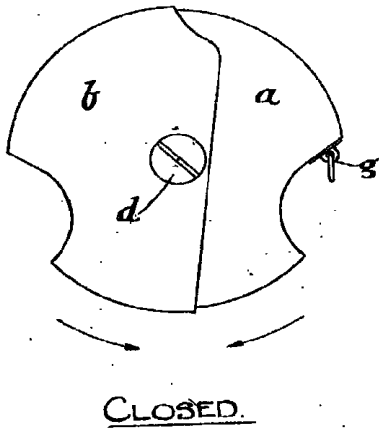
Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

- 25 1. A petrol lighter comprising two flat or nearly flat hollow members concentrically pivoted together and having in combination a substantially circular configuration, one part forming the body or container the other part forming the cover, the cover being slightly larger than the body so that the latter will revolve therein, both parts being provided with radiused edges to form pinch
30 holds whereby the body may be partially revolved within the cover against the action of a spring, the body or container being provided with any suitable and well known form of striking mechanism adapted to be operated by a rack on the other part substantially as described.
- 35 2. A petrol lighter constructed arranged and adapted for use substantially as described with reference to the accompanying drawings.

Dated this 23rd day of August, 1919.

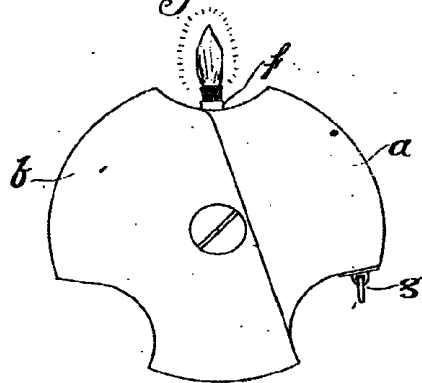
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Fig. 1.



CLOSED.

Fig. 2.



OPEN.

Fig. 3.

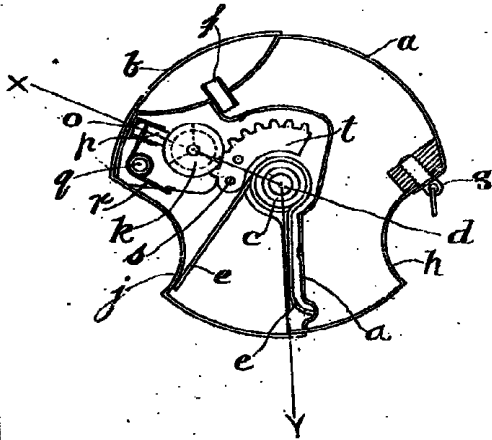
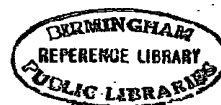
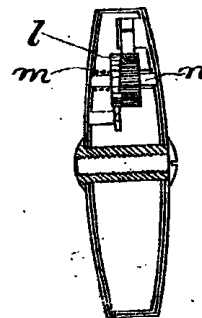


Fig. 4.



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