PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

Improvements in and relating to Inflammable Liquid Lighters.

I, RENE COMBEAU, a citizen of the French Republic, manufacturing goldsmith, of 118, Rue du Temple, Paris, France, 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:—

The present invention relates to inflammable liquid lighters of the type wherein a friction roller is rotatably disposed in contact with an igniting body, such as ferro-cerrium, for example, and the spark produced by the igniting device is caught by a small wick fed with an inflammable liquid from a reservoir or container, the latter being usually packed with cotton wool or the like soaked in petrol or other inflammable hydro-carbon. The wick and the friction roller are covered by a hinged cap. The flint is held by spring pressure against the friction wheel. It has been proposed in connection with lighters of this type to provide the friction roller with an external knob so as to avoid dirtying the fingers when actuating the roller. It has also been proposed to mount the friction roller upon a shaft permanently supported above the top of the reservoir or container for inflammable liquid, the shaft extending lengthwise of the reservoir or container and carrying at its one end the friction roller and at its other end a hand wheel.

In this construction the shaft was revolubly supported in a tube extending for the full length of the shaft between the friction roller at one end and the hand wheel at the other end.

According to the present invention the friction roller is mounted upon a revoluble shaft supported upon the top of the reservoir for inflammable liquid and extending lengthwise of the reservoir, but the shaft is journalled at both ends in fixed bearings. The friction roller is mounted upon one end of the shaft near one of the bearings and the remaining length of the shaft is formed as a long serrated cylindrical body or a series of such bodies for actuating the friction roller. In this manner a very long actuating surface is obtained so that the friction roller may be readily and easily operated. The invention also consists in subsidiary features of construction which will hereinafter be described with reference to the drawings and set out in the appended claims.

Figs. 1 and 2 show in perspective lighters according to the invention, the hood or cap being in depressed posiiton in Fig. 1 and in raised position in Fig. 2;

Fig. 3 is a plan view of the lighter shown in Fig. 1 from beneath;

Figs. 4 and 5 are two detail views in section;

Fig. 6 shows a modification in perspective;

Fig. 7 is a section of the modification in Fig. 6 along the roller shaft.

The lighter normally comprises a body a provided with a bottom a^1 and a top a^2. A friction roller b is rigidly mounted on a shaft c carrying a fixed serrated cylindrical body d. The whole is rotatably mounted on fixed screws e, one of the extremities thereof being lodged as a pivot in the shaft c while the other is lodged in the cylindrical body d as a pivot, each of said screws being screwed in a foot f fixed on the top a^2 of the lighter. A tube g containing ferro-cerium g^1 and a wick-carrying tube h are disposed as usual in proper relation on the top a^2 of the lighter.

It will be obvious from this arrangement, that for obtaining the lighting spark it is merely necessary to turn the cylindrical body d which transmits its movement directly to the roller b.

A tubular wick cover i forms part of a cap j provided with two notches j^1 adapted to fit over the shaft c and the body d.

In Figs. 1 to 5, the cap j is fixed to the extremity of an arm k carrying a pivoted member l oscillating in a bifurcated extremity m^1 of a tube m fixed to the top a^2 of the lighter. The member l is provided on its edge with notches l^1 which alternately engage a ball m^2 lodged in the tube m and adapted to be pushed out by a spring m^3.

These notches correspond to the raised and closing positions of the cap j.

In Figs. 6 and 7, the cap j is oscillatively mounted on the shaft c of the roller,

the said shaft freely traversing the two cheeks of the said cap through cylindrical holes provided for that purpose. Two "Grover" type washers *n* are intercalated on the shaft *c* between the cheeks of cap *j* and roller *b*.

By means of this arrangement of cap *j*, when the said cap is pressed down on the wick and the cylindrical body and hence the roller is actuated, the said roller drives the hood *j* by means of the washers *n* which press the roller and the cheeks of the hood with sufficient force. After use, the cap is pressed down with the hand, the pressure of the washers *n* being so calculated as to not drive the roller which tends to be retained in position by the pressure of the ferro-cerium.

It is of course to be understood that a single washer *n* may be utilized and that the driving of the cap by slightly hard friction thereon, directly or indirectly from the shaft of the roller, may be obtained by other means than those disclosed.

The threaded plug *o* (Fig. 3) closing the ferro-cerium carrying tube *g* is provided with several radial notches o^1 facilitating manipulation thereof with the finger-nail or other suitable means.

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 inflammable liquid lighter of the type described, characterised by the fact that the friction roller is mounted upon a revoluble shaft supported upon the top of the reservoir for inflammable liquid and journalled at both ends in fixed bearings, the friction roller being mounted upon one end of the shaft near one of the bearings and the remaining length of the shaft being formed as a long serrated cylindrical body or a series of such bodies for actuating the friction roller, substantially as described.

2. A lighter according to claim 1, in which a roller-covering cap provided with a wick covering cap is disposed at the extremity of an arm pivoted at its end in the bifurcation of a tube containing a ball pressed by a spring into engagement with the end of the arm the end of said arm being provided with two notches for engagement with the said ball.

3. A lighter according to claim 1 in which a roller covering cap provided with a wick covering cap is oscillatively disposed on the shaft of the roller and in engagement therewith by means of one or two slit washers of the "Grover" type.

4. A lighter according to claim 1 in which the screw-threaded plug, closing the base of the ferro-cerium carrying tube, slightly projects from the body of the lighter and is provided with several radial notches for engagement with the finger-nail.

5. A lighter as claimed in claim 1, constructed, arranged, and adapted to operate substantially as hereinbefore described.

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S. SOKAL,
1, Great James Street, Bedford Row,
London, W.C.,
Chartered Patent Agent.

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Fig.1

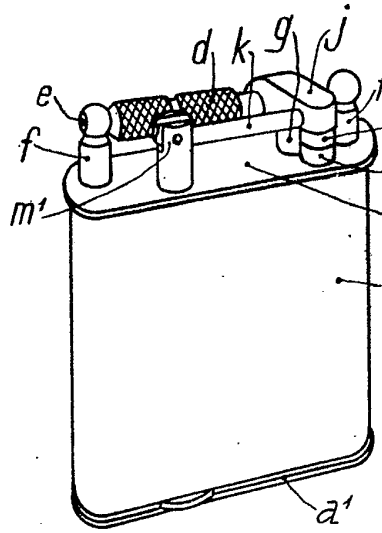
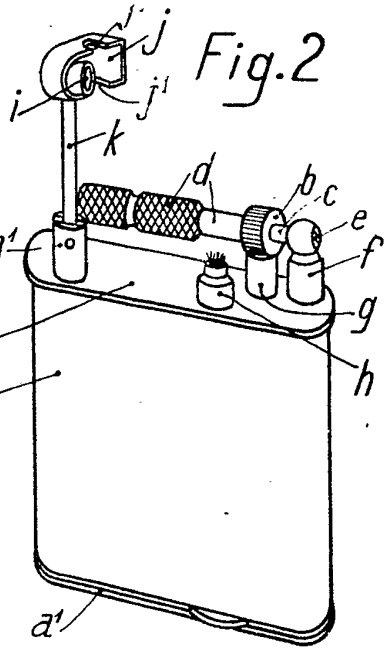


Fig.2



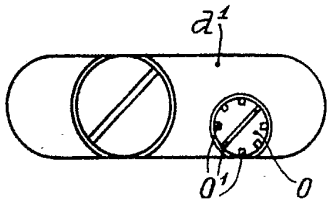


Fig.3

Fig.4

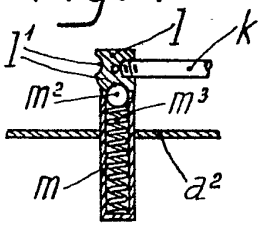


Fig.5

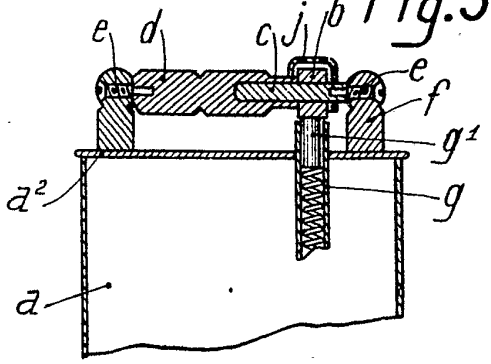


Fig.6

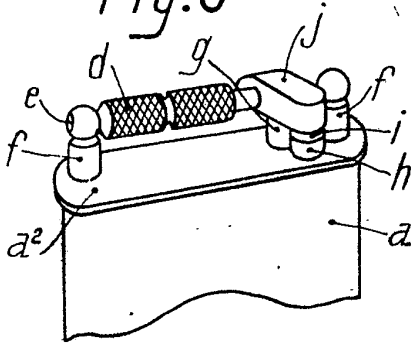
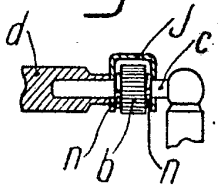


Fig.7



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