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PATENT SPECIFICATION



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COMPLETE SPECIFICATION.

Improvements in Automatic Lighters.

I, FELIPE CORTADA, of 32, Granados, Barcelona, Spain, Spanish Subject, 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 has for object improvements in mechanical petrol lighters of the type comprising a box with pivoted cover or flap the opening of which automatically causes the operation of a wheel and the giving of a spark.

The cover or flap is ordinarily drawn to the open position by one or two springs wound helically around a pin different to that of the wheel or around that of the wheel and in the latter case the spring or springs is or are placed on the side or sides of the wheel which causes cumbersomeness in width or the necessity of using a much thinner wheel.

According to the present invention the opening of the cover or flap is obtained by a single spring wound helically upon the axle of the wheel and the spirals of which are housed in an axial hole in said wheel, suitably dimensioned for this purpose; the spring therefore extends through the wheel and one of its ends bears against the box of the lighter and the other beneath the cover or flap, these two ends being arranged at either side of the wheel.

The invention is applicable equally to the ordinary massive type of wheel driven by a ratchet engaging in notches formed on one of the faces of the wheel, as well as to hollow wheels.

It is this latter case which will be particularly considered in the following description given with reference to the accompanying drawing, in which:

Fig. 1 shows by way of example an automatic lighter with flap forming extinguisher;

Fig. 2 is a cross section taken on the line II—II of fig. 1;

Fig. 3 is a diagrammatic representation of the arrangement.

The box 1 of the lighter carries at its upper part between the cheeks of a

strirrup 2, the wheel 3 fitted on its axle 4.

Around the same axle 4, pivots the cover 5 which in the example under consideration consists of a simple flap carrying the extinguisher 6 for the wick carried by the holder 7.

Instead of being bored simply for the passage of the axle 4, the wheel has a bore of sufficient size to house the spirals of a spring 8 wound around the axle 4 (without unnecessary tightening on this axle) and the ends 8₁, 8₂, protrude on opposite sides of the wheel 3, the one bearing on the casing 1, that is 8₁, the other 8₂, bearing beneath the cover 5 to cause the opening of this latter when it is freed.

A socket 11 surrounds the spirals of the spring 8 and the wheel is centred on this socket while being capable of turning freely in respect thereof.

On each face of the wheel is disposed a disc respectively 10, and 10₁, which bears without play by a portion having a flat, against the end of the cover 5 so that the pivoting of the latter causes the rotation of the discs 10, and 10₁. The flanges 11₁ provided on the ends of the socket 11, retain the discs 10, and 10₁, in contact with the faces of the wheel 3.

The cover 5 is held in the closed position by means of a spring catch 12 (fig. 1) mounted in a casing 13, provided on the box 1 of the lighter. The catch 12 engages a projection 14 on the inside wall of the cover 5, said spring catch 12 being bent back, to release said projection 14 and free the lid, by means of a button 15 bearing upon said catch 12.

In the example shown, the wheel is of the type having an internal spring 9 for the operative means, one end of which is secured to one of the discs 10. When the disc 10 is driven by the opening of the cover 5 it causes the spring 9 to press strongly on the internal wall of the wheel and couple the same with the disc driving it in its rotary movement and causing the giving of a spark.

Nevertheless it goes without saying that the invention is likewise applicable to the ordinary massive type of wheel the drive of which is caused by the

engagement of a pawl in notches formed on one of the faces of the wheel. In this case it is one of the discs 10, 10₁, which is cut out in known manner to 5 serve as pawl.

The invention is likewise applicable to all other types of wheel, it being understood that modifications of detail may be made without exceeding the scope of the 10 present invention.

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 15 claim is:—

1. An automatic lighter with pivoted cover or flap the opening of which automatically determines the action of a wheel and the formation of a spark 20 characterised in that the opening of the cover or flap is obtained by a single spring wound helically on the axle of the wheel the spirals whereof are housed in an axial hole in said wheel suitably 25 dimensioned for this purpose; the spring therefore extending through the wheel and one of its ends pressing against the box of the lighter and the other end

beneath the cover or flap these two ends being situated on either side of the wheel. 30

2. An automatic lighter as claimed in claim 1 wherein a socket or sleeve surrounds the spirals of the spring and the wheel is centred on this socket while nevertheless being free to turn in relation thereto, said socket keeping two discs 35 pressed against the side faces of the wheel which discs by means of a flat portion bear without play against the end of the cover so that the pivotal movement of this latter drives the discs which are connected with the wheel so as to 40 cause the operation thereof at the opening of the cover.

3. An automatic lighter as claimed in claims 1 and 2 wherein the connection 45 between one of the discs and the wheel is obtained by means of a driving spring lodged within the wheel and fixed by one end to the aforementioned disc. 50

Dated this 7th day of November, 1930.
CHATWIN & COMPANY,
253, Gray's Inn Road, London, W.C.1,
Patent Agents for the Applicant.

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

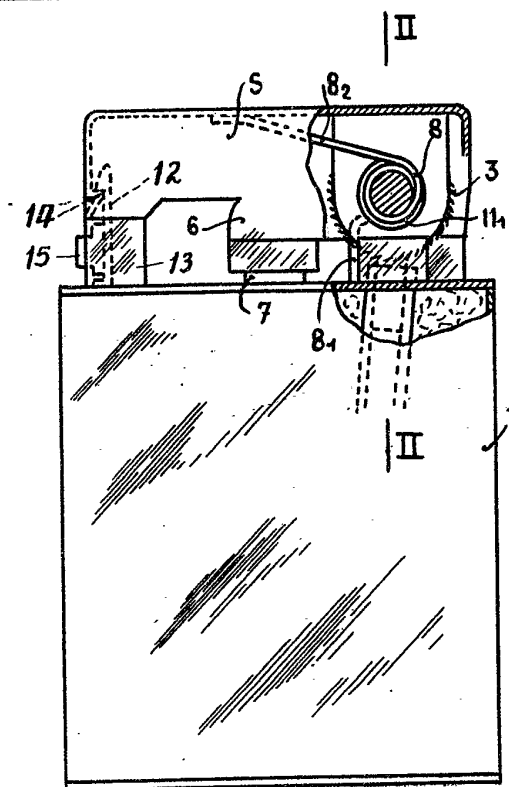


Fig. 1

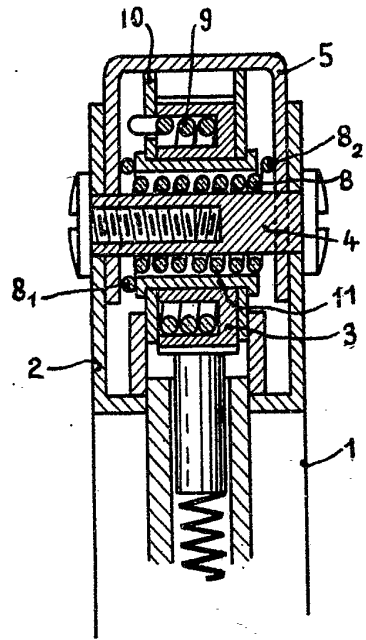


Fig. 2

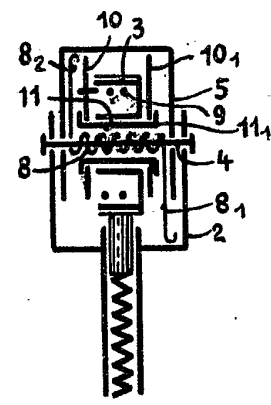


Fig. 3