

NOTE.—The application for a Patent has become void.

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## PATENT SPECIFICATION

Convention Date (France): Feb. 8, 1929.

340,965

Application Date (in United Kingdom): June 7, 1929. No. 17,504/29.

Complete not Accepted.

COMPLETE SPECIFICATION.

### Improvements in Automatic Lighters.



I, Madame EULALIE HERMANN (nee Mezivard), a French citizen, of 55, Rue de Prony, 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 provides an improved lighter making use of petrol or other liquid into which dips a wick which is set alight by sparks produced by the friction of a ferro-cerium or other composition stone on a serrated metal wheel friction surface. The putting into action of the lighter is effected by the pressure of the finger on a metallic extension outside the friction wheel, the lighter shutting automatically as soon as the finger pressure ceases.

In accordance with the invention the petrol or like reservoir and a metallic member, which serves as a casing to the spark-producing contrivance of the lighter, are joined together by two clamping plates or equivalent—an arrangement enabling the reservoir to have the greatest possible capacity.

Preferably the spark-producing contrivance is mounted so as to be readily removable as a unit from the lighter. It may include a turnable hood held in the closed position by a laminar spring so arranged as to produce on the spindle of the hood a bending force whose friction serves to maintain said spindle seated at the bottom of bayonet-like bearing slots.

By way of example, a constructional form of the lighter is illustrated on the accompanying drawing whereon:—

Fig. 1 is an elevation, partly in section, of the lighter;

Fig. 2 is a corresponding side elevation;

Fig. 3 is a corresponding plan;

Fig. 4 represents the mechanism of the lighter in section on the line A—A of figure 5;

Fig. 5 represents a section on the line B—B of figure 4;

Fig. 6 represents a section on the line C—C of figure 5; and

[Price 1/-]

Figs. 7 and 8 shew, in section, a modification of the control of the friction wheel of the lighter.

A metal casing 1, forming a reservoir and containing the wick and the petrol, is joined with a metallic member 3, into which penetrates a tubular stock 4 supporting the mechanical part of the lighter and serving at the same time as a carrier for a ferro-cerium stone 7. A spring 6 presses on the stone under the action of a regulating screw 5. The casing 1 and the member 3 are held together by a cap 8 and a bottom plate 9, and the exterior of the whole is ornamented by nickel plating 10 or covered with any other decorated coating of skin or metal.

The lighting of the lighter is effected by means of a mechanical contrivance which can be completely independent of and removable from the casing of the lighter to which it is attached by the stock 4, or it may be united to the member 3 by means of a screw serving to secure it on this member.

The wick is enclosed by a movable hood 17: 20: 21 which makes an airtight joint with the wick carrier 2, in order to prevent evaporation, under the pressure of a flat spring 22. The hood is pivotally supported by a flanged metal mounting 12 having two parallel cheeks 13: 14 serving as bearings for a spindle 15 passing through the centre portion 17 of the hood. The rear portion 20 of the hood constitutes a lever for taking hand pressure while the front portion 21 carries a cap adapted to shut on the wick carrier 2. A friction wheel 18 of tempered steel is loosely mounted on the spindle 15 within the hood.

The aforesaid flat spring 22 is secured on the horizontal base of the fixed mounting 12, is bent at 22a round the spindle 15, and presses with its free end 23 on the interior surface of the part 20 of the hood in such a manner as to resist the turning of the latter on the spindle.

A small flat spring 19 secured within the hood acts as a pawl on the horizontal

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serrations of the friction wheel 18 which it thus drags round, in the proper direction for the lighting of the wick and in no other, when the hood is turned to uncover  
 5 the wick. During this turning movement of the hood, the corresponding movement of the friction wheel causes friction on the stone 7 and thus produces sparks which set fire to the wick. When the hand pressure on the part 20 ceases, the hood, under  
 10 the action of the spring 22, resumes its original position (without carrying with it the friction wheel) and the flame is thus extinguished.

15 In a modification (figs. 7 and 8) which will give the same result the friction wheel 18 is made integral with a small ratchet wheel 25 which is engaged by a pawl 19 pivoted within the hood at 24 and provided with a return spring. The pawl 19  
 20 may be readily replaced by a laminar spring mounted in the hood and the pressure of which spring on the ratchet wheel can be regulated by a small screw arranged  
 25 to limit the play of the spring.

If desired, the mounting 12 may be integral with the tubular stone-carrying stock 4 which is frictionally held in the member 3 forming part of the body of the  
 30 lighter.

The two parallel cheeks 13:14 of the mounting 12 forming the bearings for the spindle 15, have bayonet-like slots 16 extending to their centre, and the closed  
 35 ends of these slots constitute a seat for the spindle. In this way the mounting of the hood 17:20:21 furnished with its spindle 15 and friction wheel 18 is effected readily on the fixture 12 by first introducing  
 40 the free ends of the spindle into the bayonet slots 16 and then drawing the spindle back at 90° along the bottom of the slots. It will be readily seen that the position of the bent spring 22:22a:23 is  
 45 such that its action tends to push the spindle on to its seat, to keep it there and to resist its rotation by friction. A flat nut is secured on the free end of the spindle 15.

50 The described embodiment is such that the parts can be readily mounted; it avoids all adjustment for precision; and it does not necessitate serrations of the cheeks 13:14 to maintain the spindle in  
 55 place. Moreover, in spite of the fact that a torsion couple is put on the hood 17:20:21 no such effect is communicated to the spindle, but merely a bending force produced by the pushing action of the

spring 22:22a:23 and serving to maintain the whole in position. 60

The spring 22:22a:23 could be supported on the lower face of the base of the fixed mounting 12. This mounting would then rest on the cap 8 by means of an iron  
 65 plate whose thickness would be ample to take the portion of the spring which would come below the base, the whole (namely the fixed mounting 12, iron plate and cap 8) being securely fixed on the member 3  
 70 by means of two screws. In this modification the stock 4 serving as the stone carrier would be dispensed with and the stone would be put in the interior of the member 3 and kept in place by a cushioning  
 75 spring, the compression of which would be adjusted by a stopper screwing into the lower portion of the member 3 through the bottom plate 9.

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:— 80

1. An automatic lighter in which a petrol or like reservoir member and a metallic member, which serves as a casing to the mechanical spark-producing contrivance of the lighter, are joined together by two clamping plates or equivalent. 85 90

2. An automatic lighter according to claim 1, wherein the mechanical contrivance is readily removable as a unit from the lighter.

3. In an automatic lighter, a removable unit adapted to be opened by hand pressure and to shut automatically, characterised by a turnable hood held in the closed position by a laminar spring so arranged as to produce on the spindle of  
 100 the hood a bending force whose friction serves to maintain said spindle seated at the bottom of bayonet-like bearing slots which enables the rapid mounting and dismounting of the unit without previous  
 105 adjustment.

4. An automatic lighter substantially as described with reference to figs. 1—6 or under modification figs. 7 and 8 of the accompanying drawing. 110

Dated this 6th day of June, 1929.

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 and  
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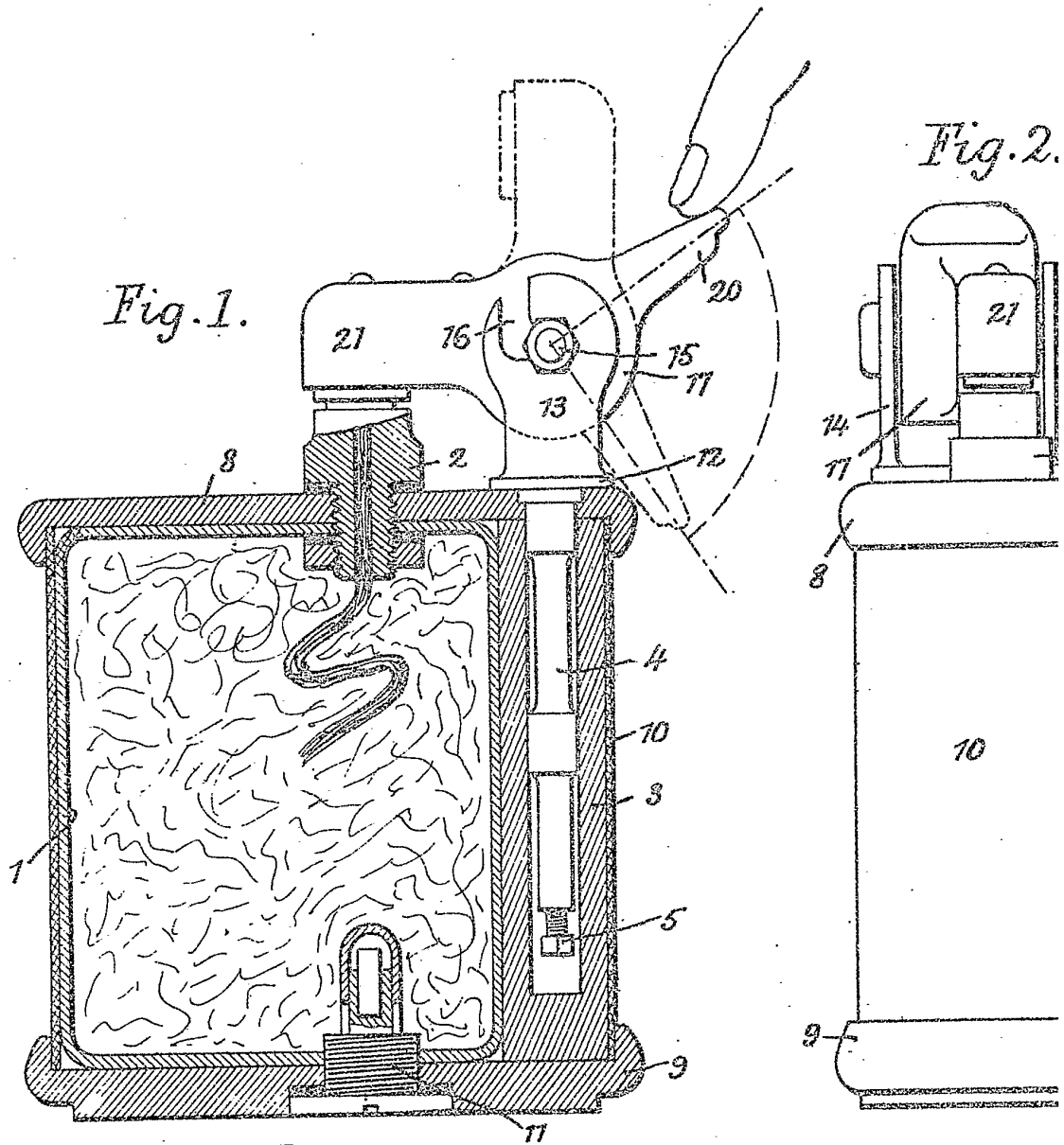


Fig. 1.

Fig. 2.

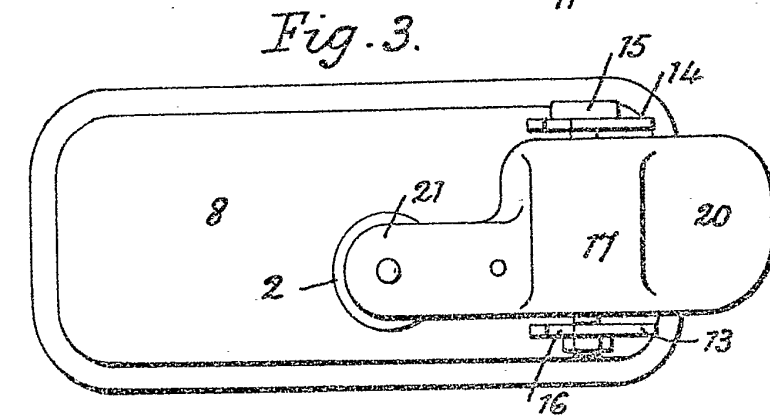
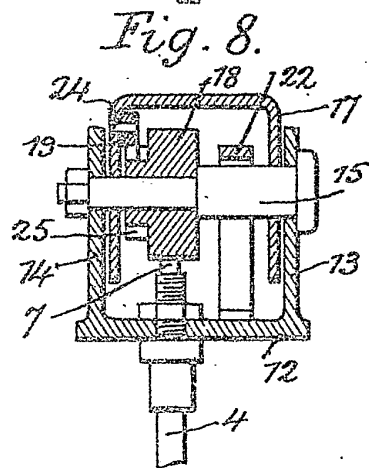
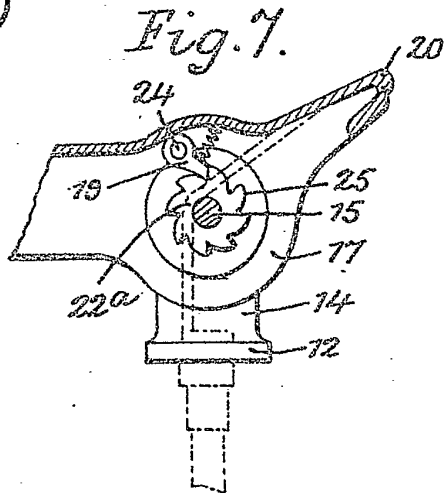
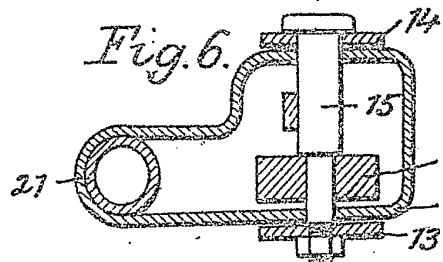
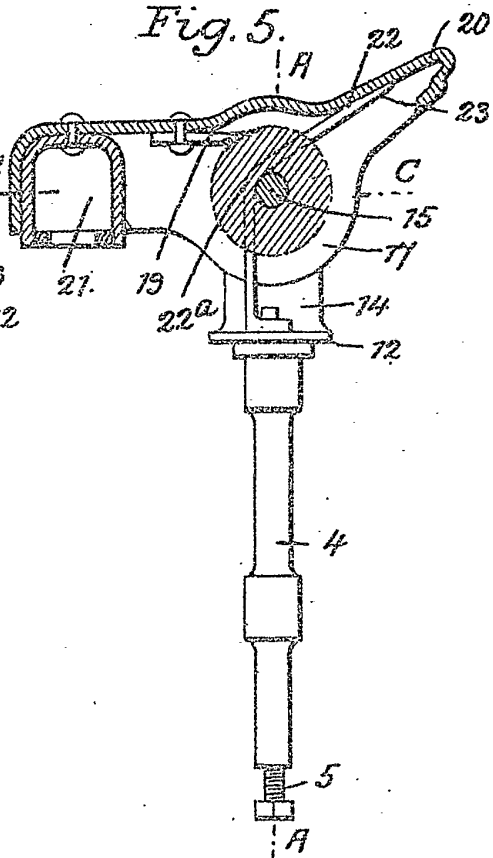
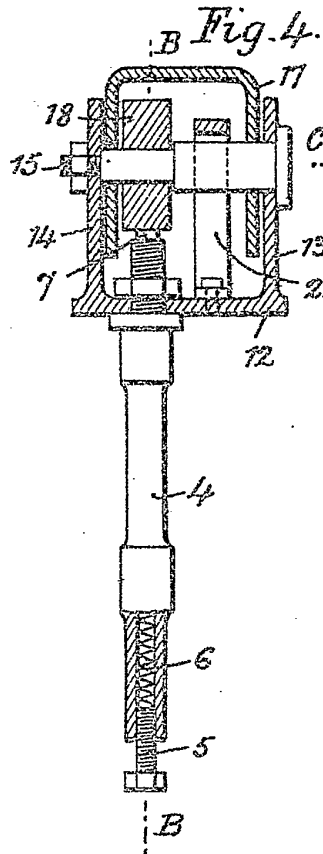
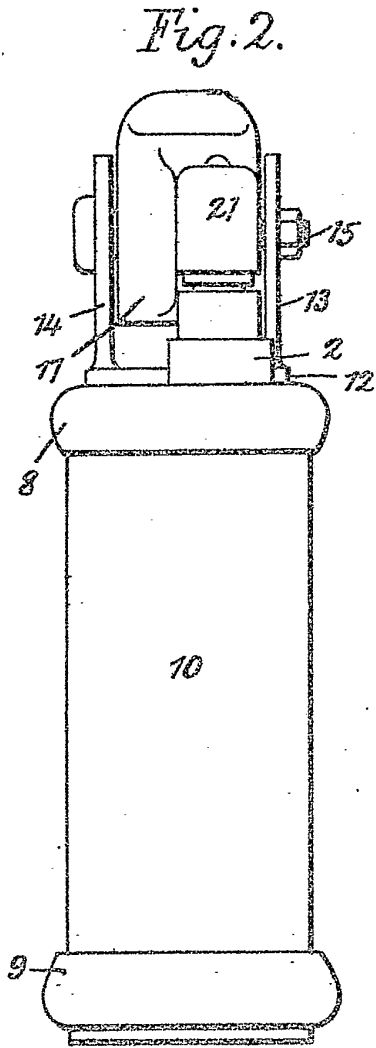


Fig. 3.



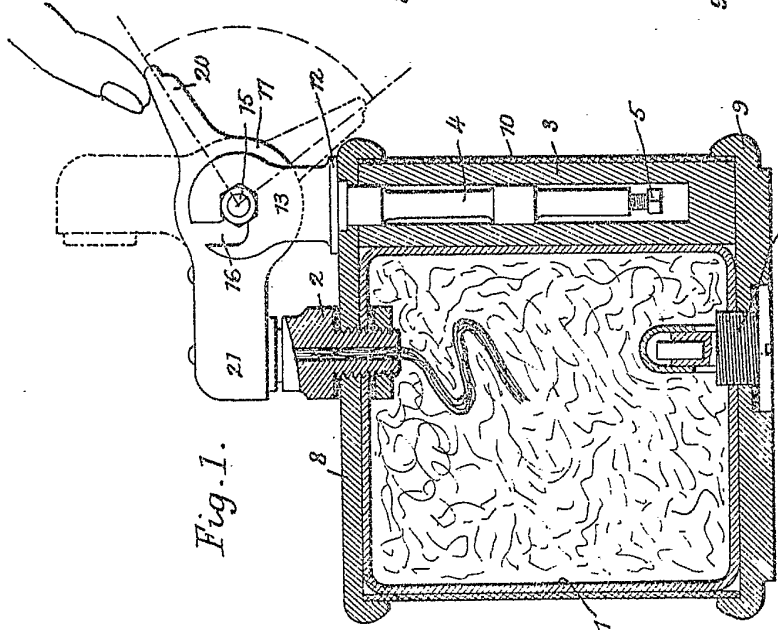


Fig. 1.

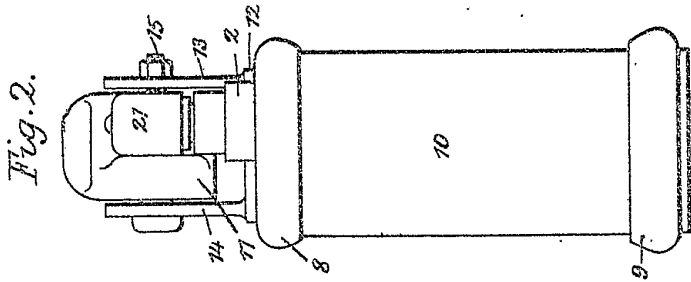


Fig. 2.

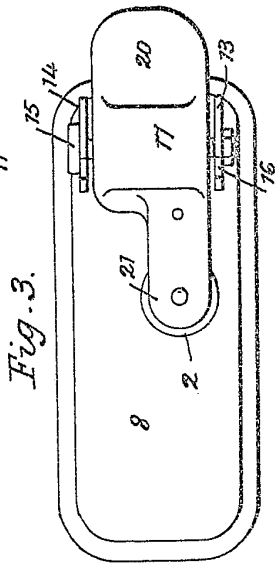


Fig. 3.

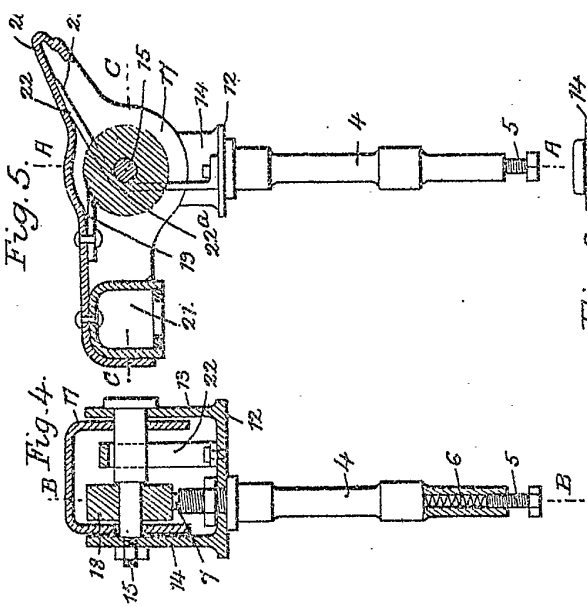


Fig. 4.

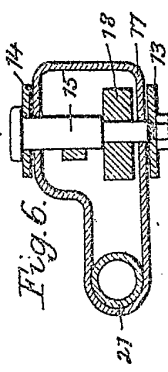


Fig. 5.

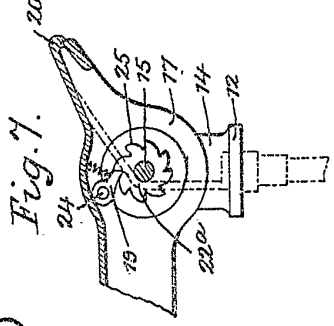


Fig. 6.

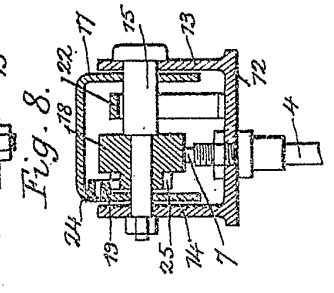


Fig. 7.

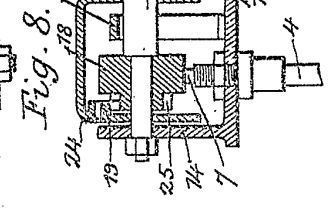


Fig. 8.