

# PATENT SPECIFICATION



Convention Date (Belgium): Dec. 22, 1924.

245,143

Application Date (in United Kingdom): Dec. 22, 1925. No. 32,394 / 25.

(Patent of Addition to No. 220,091: dated May 17, 1923.)

Complete Accepted: March 22, 1927.

## COMPLETE SPECIFICATION.

### Improvements in Automatic Ignition Devices or Pocket Lighters.

I, LOUIS AUGUSTE NEVIÈRE, a French citizen, Engineer, of 106, rue de Boisdénier, Tours, (Indre-et-Loire), 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:—

This invention relates to automatic ignition devices or pocket lighters for lighting cigars, cigarettes and the like, and for other purposes, and refers to improvements in or modifications of the device for which I obtained Letters Patent in Great Britain No. 220,091, dated 17th May, 1923.

According to one feature of the present invention, the tube for carrying the ferro-cerium stone passes through the fuel reservoir and is closed by a screw stopper, which projects and is adapted to engage during the functioning of the apparatus in a slot provided for that purpose in the outer casing, and the stopper carries an axial rod for the purpose of guiding a compression spring inserted in the said tube.

It has previously been proposed, in frictional pocket lighters having a sliding outer cover, to provide a completely closed box through which a tube carrying a ferro-cerium stone passes in a vertical direction, the bottom end of the tube being closed by a threaded plug, provided with a central extension for guiding a spring which forces upwards a small rod or plate, on the head or upper surface of which is carried the ferro-cerium stone, but this tube has no co-operative action with the sliding outer cover.

According to another feature of the invention, the striker wheel is mounted on a spindle, which spindle has fixed thereto

a toothed wheel, and a spring pawl is provided having a plurality of teeth, attached by means of a clip to the top wall of the outer casing.

In rotary pocket petrol lighters, it has already been proposed to provide on one of the relatively moving parts a toothed quadrant operating, through toothed gearing, the sparking wheel.

According to a further feature of the invention, a spring control bolt is provided, the spring being attached to the inner member and the bolt being adapted to project through the opening 6 in the outer casing, so that by pressing on the bolt the inner member is released and can be disengaged.

According to yet another feature of the invention, the holes provided for the passage of the air, are directed away from the friction wheel.

In order that the invention may be more clearly understood, it will now be described with reference to the accompanying drawing, in which:—

Figs. 1 and 2 show respectively in section on 1—1, Fig. 2, and in section on 2—2, Fig. 1, an automatic lighter constructed according to the invention.

Fig. 3 shows in perspective a detail of the same lighter.

Fig. 4 shows, in perspective a detail according to a modification of Fig. 1.

The device according to the drawings includes a reservoir 1 for petrol, a casing 2 into which the reservoir slides, a ferro-cerium stone 3, a friction wheel 9 operating upon the ferro-cerium stone to produce sparks, a wick 4, and means of such a character that when the reservoir 1 is forced into the casing 2, against the action of a spring 5, the wick 4 is ignited and the flame, suitably supplied with air will be seen through openings 6

[Price 1/-]

and 7 coinciding with one another, provided respectively in the lateral walls of the casing and in the corresponding walls of the reservoir 1; these walls are prolonged at 1<sup>1</sup> to the upper walls of the casing to guide the reservoir.

Referring to the constructional embodiment shown at Figs. 1 to 3, the following arrangements are provided.

10 B is a tube for carrying the stone 3, which stone is adapted to come against the striker wheel 9 mounted upon a movable spindle. The stone is pushed upwards by a helical spring 10. 11 is a screw plug carrying an axial rod 12, adapted to guide the spring. The tube 15 8 traverses the petrol reservoir 1, and the screw plug 11, when the reservoir 1 is forced into the casing, slides into a slot 20 provided for the purpose in the casing. By means of the plug 11 the pressure of the spring 10 upon the stone may be regulated.

The device for kindling the wick 4 25 comprises a ratchet wheel 13 in fixed connection with the axle of the striker wheel 9, and a spring pawl 14, with teeth adapted to engage the said ratchet wheel when the reservoir 1 is pushed into the casing. 30 When the movement is in the opposite direction, the teeth are disengaged. The pawl is connected to a clip 15 at the edge of the top wall of the outer casing by means of points or the like 35 engaging in holes in the said wall.

Attached to the inner surface of the top plain wall extending between the walls 1<sup>1</sup> of the reservoir, is one extremity of a spring 16, the other extremity of which 40 is provided with a projection 17 adapted to pass through the opening 6 in the outer casing. When the device is in the position shown in Fig. 1, by pressing with the finger upon the projection, the reservoir 45 can be withdrawn from the casing after removing the clip 15 and the lighter taken to pieces.

The reservoir 1 includes a closed box, and where this box comes in contact with 50 the spring 5, there is a cover 18 which is hinged and covered with material, such for example as leather, adapted to ensure liquid tightness.

Means are added for allowing for the 55 access of air to the flame of the wick. These means may be constituted, as already suggested by perforations 19 provided respectively in the walls 1<sup>1</sup> of the reservoir and the corresponding walls of 60 the casing, and adapted to co-incide at the time of ignition, but with the present invention, the holes are perforated, preferably in portions incurved from the exterior towards the interior, in the

direction of the projection of the sparks, 61 so that the particles of ferro cerium may not enter between the reservoir and the casing.

In place of the openings 19, openings 70 of any other suitable shape may be provided, for example as shown at 20, Fig. 4, of crescent shape. These may or may not open opposite metal gauzes 21 of different mesh fixed respectively against the inner surfaces of the walls 1<sup>1</sup>. 75

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. In an automatic lighter, as described and claimed in the Specification of the Principal-Patent No. 220,091, a construction including a tube for holding the ferro-cerium stone, which tube passes through the reservoir for spirit or the like and is provided with a projecting screw plug, the said plug being adapted to engage in a slot in the outer casing and being provided with an axial rod for the purpose of guiding a spring interposed between the plug and the ferro cerium stone, substantially as described. 85 90

2. In a lighter as claimed in the specification of the principal patent, a construction including a striker wheel 95 mounted on a spindle, which spindle has a toothed wheel fixed thereon, in combination with a spring pawl provided with a plurality of teeth, attached to the outer casing by means of a clip substantially as described. 100

3. In a lighter as claimed in the specification of the principal patent, a construction in which a spring control bolt is 105 attached to the upper surface of the inner member and projects through the opening 6 in the upper surface of the outer casing, so that by pressing upon the projecting bolt, the inner member may be released substantially as described. 110

4. In a lighter as claimed in the specification of the principal patent, a construction in which the holes 19 provided for the passage of air are directed away 115 from the friction wheel, substantially as described.

5. Automatic lighters, constructed substantially as herein described and shown on the accompanying drawing, for the 120 purposes set forth.

Dated this 22nd day of December, 1925.

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Fig. 1

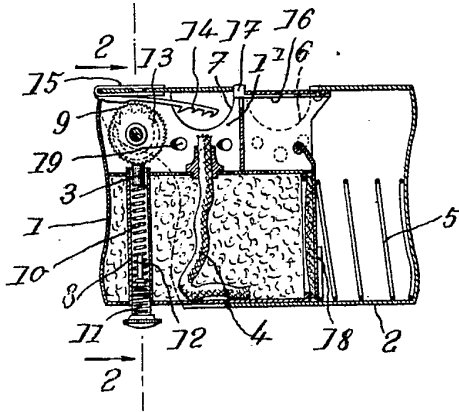


Fig. 2

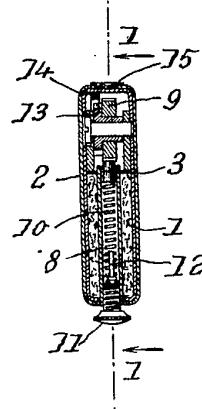


Fig. 3

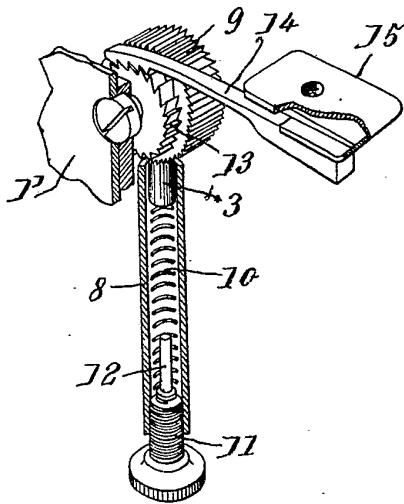
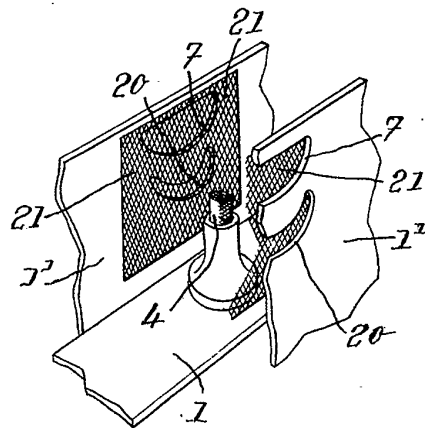


Fig. 4



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