

[54] **GAS FUELLED LIGHTER**

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[57]

ABSTRACT

A gas fuelled cigarette lighter comprises a casing and a combination fuel reservoir and ignition mechanism unit slidably mounted in the casing. The unit carries actuating means movably mounted thereon which actuates the ignition mechanism when the unit is pressed into the casing against the resistance of a spring.

2 Claims, 5 Drawing Figures

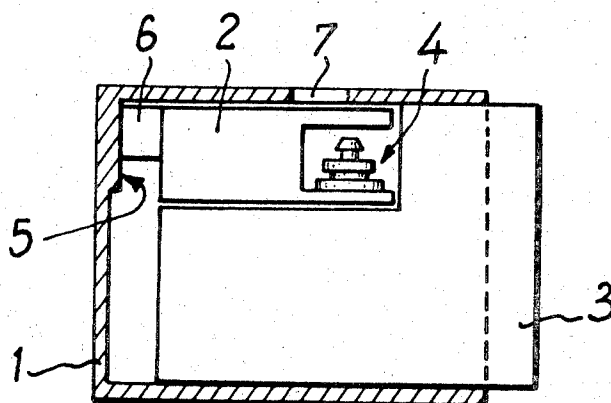


Fig. 1

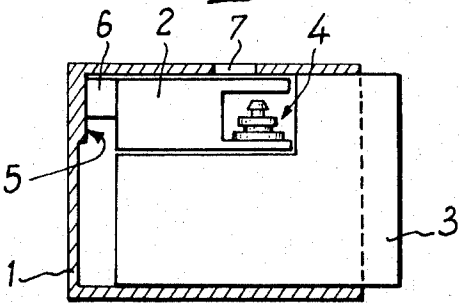


Fig. 2

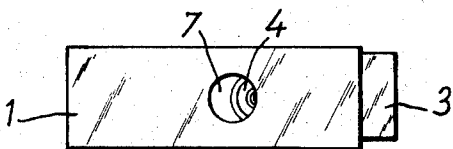


Fig. 3

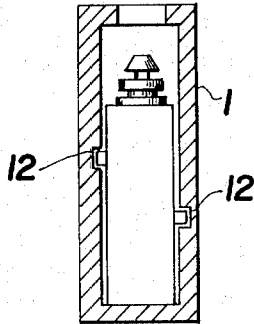
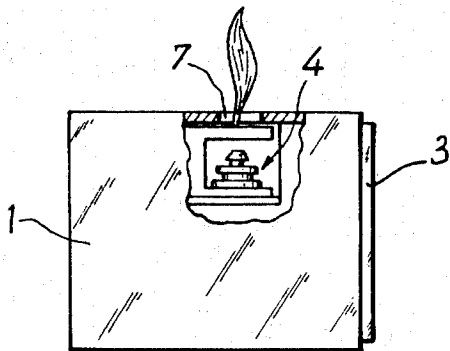


Fig. 5

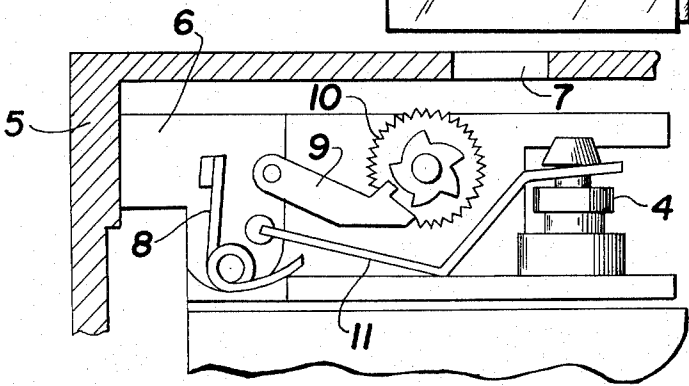


Fig. 4

GAS FUELLED LIGHTER

The invention relates to a gas lighter of the type known as "automatic" and in particular to a method of control of the ignition device.

Lighters are known having three portions, namely; an ignition mechanism, a fuel container, either refillable or throw-away, and a casing enclosing most of the lighter.

These lighters present a problem as far as concerns the assembly of the ignition mechanism which always comprises a number of parts movable relative to one another and generally pivoted to one another.

It is an object of the present invention to overcome this problem. A gas fuelled lighter according to the present invention comprises an ignition mechanism, a fuel container and a casing, the ignition mechanism being arranged in the interior of the casing and the casing constituting the member controlling the ignition mechanism.

Other characteristics of the invention will appear in the course of the description which follows with reference to the attached figures which show, by way of illustration and without restriction, an embodiment of the present invention.

FIG. 1 is a section lengthwise through a lighter in accordance with the invention in the rest position.

FIG. 2 is a plan view of FIG. 1.

FIG. 3 is a side view of the lighter in the working position, partially cut away.

FIG. 4 is a detail view showing the ignition mechanism.

FIG. 5 is a schematic transverse sectional view showing an embodiment comprising asymmetrical guide means preventing assembly of the unit and casing in an inoperative position.

In FIG. 1 the lighter comprises a casing 1, an ignition mechanism 2 and a fuel container 3 carrying an expansion valve 4. The casing 1 is provided with a shoulder 5 and a orifice 7 allowing the gas to escape from the lighter. In the rest position (FIG. 1) this orifice is displaced relative to the longitudinal axis of the expansion valve 4. In the working position (FIG. 3) it is situated on this axis.

The ignition mechanism 2 is conventional and does not form part of the invention. It comprises an operating member 6 resiliently mounted and normally held in the ready position by a spring 8. This operating member which is, for example, a rocking or sliding lever may be the same as the operating member which in the conventional ignition mechanism is actuated by the smoker's thumb or forefinger.

In order to make the lighter operate, the casing 1 is pushed back relative to the base of the container 3. The fuel container-ignition-mechanism which are suitably connected together to form a unit slides in the housing 1 in the manner of a drawer to cause the shoulder 5 on the base to act on the operating member 6 which, by means of a conventional mechanism 9, causes the flint wheel 10 to turn against the flint in order to cause the ignition spark in conventional manner. At the same time a valve lever 11 is actuated by the movement of the casing to provide, likewise in conventional manner, the release through the expansion valve 4 of the gas which ignites and escapes through the orifice 7. The lighter remains ignited as long as the container ignition mechanism unit is held against the base of the casing 1,

as the valve lever remains held in the open position of the valve. To extinguish the lighter it is only necessary to allow the container-ignition mechanism unit to return to its closed position under the action of the spring acting on the operating member 6.

It is therefore seen that the problem of the assembly of the ignition mechanism is overcome, since the lighter is formed externally by a casing 1 and a box-shaped part of the fuel container.

It is understood that without departing from the spirit of the invention details of construction or their arrangement can be modified with the object of obtaining a like result.

The fuel container could, for example, be equipped with a filling-valve.

Similarly, either on the fuel container or inside the casing guide-grooves could be provided to ensure better sliding of the parts relative to one another.

Also the spring which puts the operating member 6 in the ready position could be doubled, with a second spring of limited stroke intended to return the lighter to the rest position still more effectively.

These grooves could be arranged in an asymmetrical manner as shown at 12 in FIG. 5 so as to prevent upside-down assembly of the "drawer" formed by the container-ignition mechanism unit.

Even without grooves any asymmetrical arrangement could be used to arrive at the same result.

In the same way a boss can be provided inside the casing, corresponding with a recess arranged, for example, in the fuel container so as to provide a stop for the said casing relative to the container-ignition mechanism unit in the rest position, the recess having dimensions such that the boss can be displaced in the recess during the ignition movement but comes to a stop against the edge of the recess to resist withdrawal of the fuel container from the casing. The arrangement of this or these boss(es) may be such that the stop obtained is a resilient stop due to the resilience of the sides of the casing.

It is obvious that the above boss(es) can be provided on the container itself and the recesses inside the casing.

What I claim as my invention and desire to secure by Letters Patent of the United States is:

1. An automatic gas fuelled lighter comprising an outer casing having a base and provided with a gas escape orifice, a fuel container-ignition mechanism unit comprising an expansion valve and slidably guided by and in said casing between a rest position in which part of said fuel container protrudes from said casing and said orifice is displaced relative to the longitudinal axis of said expansion valve, and a working position in which a larger portion of said unit is received within said casing and said orifice is coaxial with said axis of said valve, an operating arm mounted on said unit for movement from a first position to a second position relative to said unit and engaging said ignition mechanism to actuate said mechanism as said operating arm moves to said second position, and resilient means biasing said operating arm toward said first position, said operating arm being positioned to be driven from said first position to said second position by said base against the resistance of said resilient means as said unit is moved from said rest position to said operative position relative to said outer casing.

2. A gas fuelled lighter as claimed in claim 1 wherein said outer casing and said unit are provided with asymmetrical guide means preventing assembly of said unit and casing in an inoperative position relative to each other.

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