March 3, 1964 E. GILBERTON 3,122,907

GAS LIGHTER OF THE SUSPENDED CONTAINER TYPE

Filed Dec. 7, 1961

FIG.1

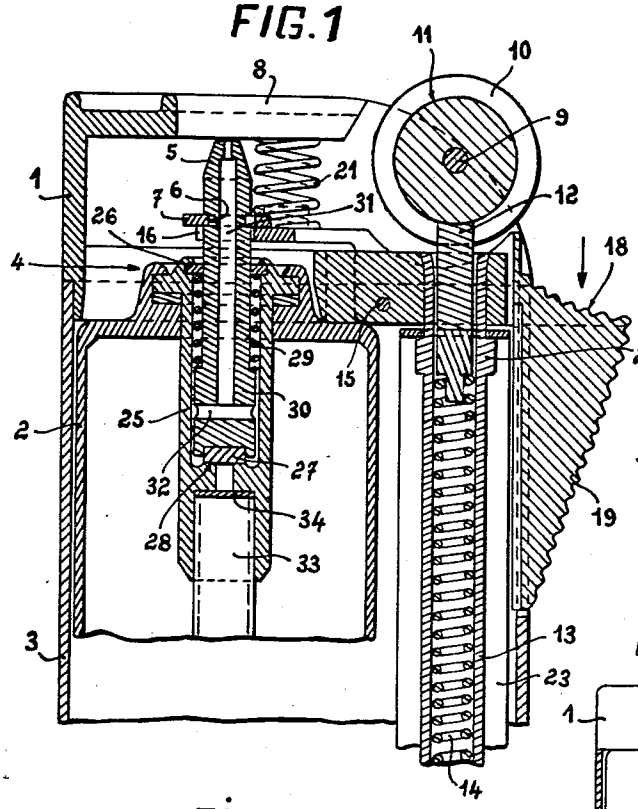


FIG.2

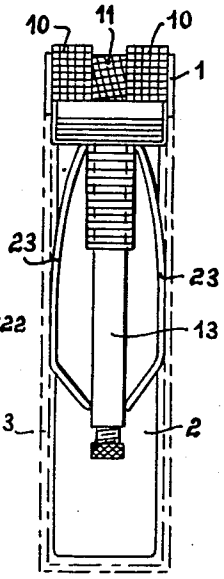


FIG.3

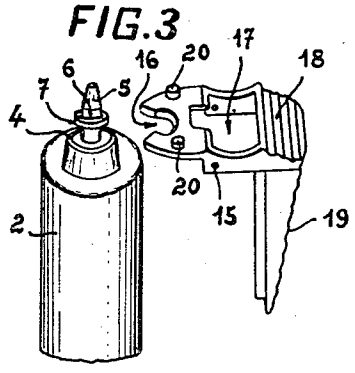
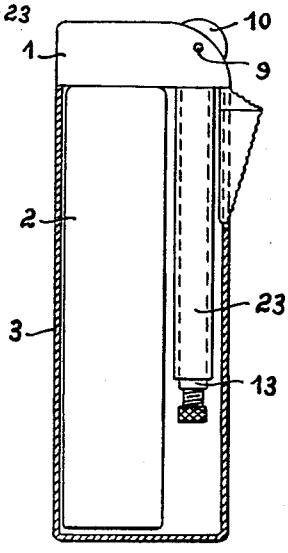


FIG.4



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GAS LIGHTER OF THE SUSPENDED CONTAINER TYPE

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5 Claims. (Cl. 67—7.1)

This invention relates to gas lighters.

Gas lighters are known wherein the container for the lighter fluid has its upper end suspended by the stem of its valve which is permanently fitted on said container. The lighter is activated by exerting a downwardly directed thrust on the container.

My invention relates to a particular manner for suspending the container by the valve stem. More particularly, there is provided on the valve stem a projection which engages the upper surface of a control lever which is pivotally secured to the upper end of the container. The opening of the valve is obtained by a pivotal movement of said lever, which is manually produced and which lifts the valve stem, since the container cannot be shifted upwardly by reason of its being held fast by engagement of its upper edge at the lower surface of the upper section or cover of the container and remaining thus freely suspended from the control lever.

My invention covers also an elastic system holding the cover in position the casing without preventing in a free suspension described hereinabove of the container under the cover head.

In a preferred embodiment, said elastic system includes a blade spring engaging elastically the inner surfaces of two opposite walls of the casing.

There is thus obtained a very convenient lighter in which the container can be replaced very speedily and easily. Said lighter is also of a very simple manufacture.

The arrangement referred to is applicable to any type of gas lighter, and chiefly to those wherein the sparks for ignition are produced before the gas valve opens.

The invention will be readily understood from the following disclosure, reference being made to the accompanying drawing given by way of example of an embodiment of a type of lighter according to the invention. In said drawing:

FIG. 1 is an elevational view in section of the lighter mechanism,

FIG. 2 is a side view thereof,

FIG. 3 is a perspective view showing the valve stem in position for its suspension to the control lever,

FIG. 4 is an elevational view of the lighter, partly in section.

In the drawing, 1 designates the actual cover of the lighter while 2 designates its container, and 3 its casing or sheath cooperating with the cover.

In the case illustrated, the container 2 is cylindrical in shape and the pressure-reducing valve system 4 is crimped in the upper end of said container, along a frusto-conical fitting surface. The stem 5 of the valve, the end of which forms a burner, is provided with a groove 6 inside which is elastically engaged a clip 7 forming a projection on said stem.

The cover 1 of the lighter is provided at its upper end with a perforation 8 underneath which the burner terminating at the stem opens. A transverse spindle 9 rotatably supports a driving member 10 together with a knurled wheel 11 which acts on the end of the flint 12. Said flint 12 is housed inside the vertical flint-carrying tube 13 and it is urged upwardly by a conventional thrust-exerting spring 15. To the cover of the lighter, is also pivotally secured at 15 the actual control lever.

Said control lever includes a forked section 16 extending into a perforated section 17 through which may freely pass the flint-carrying tube 13, said perforated section extending in its turn into a projecting section 18 located outside the casing 3. Said projecting section 18 extends into a further downwardly directed section 19 which passes through the casing 3. The control lever carries also two upstanding studs 20 over which are fitted the lower ends of small springs 21 engaging through their other ends the underside of the upper section of the cover 1 to either side of the perforation 8 in the latter.

The position of the clip 7 over the valve stem 5 and that of the forked section 16 of the control lever are such that when the clip 7 is introduced over the forked section 16, the container 12 abuts at its upper edge against the lower surface of the cover 1.

The system 4 including the valve and pressure-reducing means is of a conventional type and includes a tube 25 dipping into the container 2 and the upper end of which is crimped fluidtightly inside the upper end of the container while a washer 26 fitted inside the upper end of said tube is centrally perforated to be engaged fluidtightly by the valve stem 5. Said stem 5 terminates at its lower end with a valve head incorporating a packing 27 and urged against its seat 28 formed by a perforated inner flange of the tube by a spring 29 fitted between the washer at the upper end of the tube and a shoulder 30 at the lower end of the stem. Furthermore the axial bore 31 in the stem 5 opens into radial bores 32 which allow the gases to enter and rise aside said axial bore. The tube rigid with the container extends downwardly beyond the valve seat so as to enclose a further tube 33 along which the gases are throttled.

It is thus apparent that by exerting a pressure on the section 18 of the lever in the direction of the arrow in FIG. 1, the forked end 16 of the lever is caused to pivot in the opposite direction, and consequently exert a lifting force on the valve stem 5, against the action of the spring acting on the valve, so that the latter opens and allows the gases to pass out of the container 2 since the latter cannot follow the rising movement of the stem by virtue that the container abuts against the cover 1 of the casing.

As already mentioned, the container 2 is thus freely suspended through the valve stem 5 to the control lever.

In the embodiment illustrated, the operator's thumb actuates the lighter with a view to producing a series of sparks by operating the driving members 10 after which the operator's thumb moves past said driving members, and engages the section 18 of the control lever, so that the sparks are produced just before the release of the gases.

As soon as said section 18 of the control lever is released, the springs 21 return the control lever to its prior inoperative position and the valve closes again.

The flint-carrying tube 13 is fitted in the cover 1 and underneath a shoulder 22 formed on said tube, a blade spring constituting elastic means is fitted. The blade spring comprises arms 23 which are arcuate and are bent downwardly to either side of said flint tube 13, so that they exert a frictional force on the two opposite walls of the casing 3 to elastically position the casing with reference to the cover 1 while allowing the container 2 to remain freely suspended by its stem from the control lever.

Obviously and as apparent from the preceding disclosure, the invention is by no means limited to the sole embodiment described hereinabove, which is shown solely by way of example, and the invention covers all modifications falling within the scope of the accompanying claims.

What I claim is:

1. A gas lighter comprising a casing, a perforated cover for said casing, a container supported inside the

casing and including a body having an upper edge which contacts the cover, a valve on the container, a hollow stem rigid with the valve and adapted for being shifted vertically between an upper position for which the valve on the stem opens the container and a lower position for which said valve closes the container, said stem having an open upper end and including a burner nozzle at said end, a projection rigid with the stem at a location beneath said nozzle, a control lever pivotally secured to the cover and including a forked extension extending inwardly of the casing to support the projection on the stem, for raising the stem upon actuation of the lever and igniting means including an actuating member located adjacent said control lever for simultaneous operation therewith.

2. A gas lighter as claimed in claim 1, comprising elastic means on the cover frictionally engaging the casing to secure the cover on the casing.

3. A gas lighter as claimed in claim 2, wherein said elastic means comprises a spring blade including a transverse section connected to said cover and two depending outwardly deformed sections frictionally engaging the casing.

4. A gas lighter as claimed in claim 1, wherein said stem is provided with an annular groove beneath said upper end, said projection being ring shaped and supported in the annular groove in the stem.

5. A gas lighter as claimed in claim 1, comprising a

projecting section rigidly connected to said control lever and projecting from said casing, said projecting section including a substantially horizontal surface adapted for being contacted to depress said section and raise said forked extension and the stem therewith, said igniting means including a flint carrying tube supported by the cover and projecting within the casing for supporting flint, a driving wheel rotatably supported by said cover, a wheel adapted for being driven by said driving wheel and in contact with said flint, said driving wheel having an outer surface immediately adjacent the horizontal surface of the projecting section to allow substantially concurrent operation of said driving wheel and said projecting section.

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Disclaimer

3,122,907.—*Emile Gilberton*, Paris, France. GAS LIGHTER OF THE SUSPENDED CONTAINER TYPE. Patent dated Mar. 3, 1964. Disclaimer filed May 8, 1970, by the assignee, *Etablissements Genoud & Cie.*

Hereby enters this disclaimer to claims 1 and 5 of said patent.

[*Official Gazette August 18, 1970.*]