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(54) **A CONTAINER FOR STORING AND DISPENSING BEVERAGES**

(57) Container (11) for storing and dispensing beverages that comprises a dispensing device (13) that includes a hose (21), a stop valve (23), a dispensing tube (25) and an actuator member (27), and a pressurisation device (15) for the beverage with pressurised gas that

includes a gas pressure control valve (35) connected to a pressurised gas cartridge (31) positioned inside a housing (33), said pressurisation device (15) being integrated into the outside of the container (11) and connected to the inside thereof by a conduit (37) that makes it possible to supply pressure to the inside of the container (11).

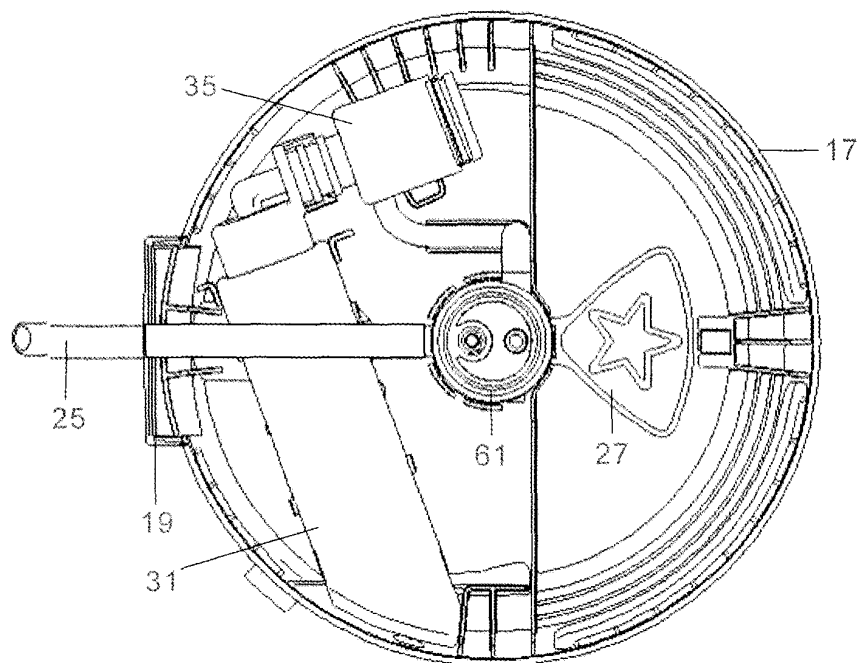


FIG. 2

Description

FIELD OF THE INVENTION

[0001] The present invention relates to a container for storing and dispensing beverages and, more particularly, to a container for storing and dispensing beer, which is designed for end consumers.

BACKGROUND OF THE INVENTION

[0002] Known devices for dispensing beverages such as beer that require a certain amount of pressure, rather than being dispensed by gravity, can be grouped into two categories: dispensing devices that are independent of the container in which the drink is supplied and devices supplied together with the container.

[0003] The first type include those used in bars to serve beer under pressure and also certain reusable dispensing devices with a complex structural, made largely from metal materials, with a high cost and with a large environmental impact, which require manual regulation by the consumer as the beer is being dispensed, and which are designed for end consumers to be used with barrels, mainly 5 litre barrels, marketed by different beer manufacturers.

[0004] There are several known proposals of the second type, including the device disclosed in WO89/00544, wherein the necessary pressurised gas is supplied to maintain the degree of pressure required by the beer from a pressurised gas cartridge situated inside the barrel. This technique is used in a beer barrel recently put on the market in Spain by Heineken, although in other aspects it is different to the barrel disclosed in said document. Such proposals have the disadvantage that barrels with said gas cartridges situated therein involve manufacturing and/or marketing difficulties, as well as high costs.

[0005] However, the food and beverage industry constantly demands containers for beverages such as beer, which include efficient low-cost dispensing devices that are not difficult to manufacture and/or distribute. Meanwhile, consumers demand that they be easy and convenient to use, characteristics that are not fully satisfied by dispensing systems that operate by gravity, as pedestals or supports are required to raise the container. Consumers prefer systems that enable a product to last, once opened, for a suitable time for its consumption.

[0006] The present invention is designed to meet this demand.

SUMMARY OF THE INVENTION

[0007] The basic objective of the present invention is to provide a container for beverages such as beer that require a certain amount of pressure, which makes it possible for the end consumer to dispense the drink easily and conveniently from its top and with a quality similar

to that achieved in bars, and without the aforementioned disadvantages of the known devices described above.

[0008] This objective is achieved by a container for storing and dispensing beverages that comprises a dispensing device that includes a hose, a stop valve, a dispensing tube and an actuator member, and a pressurisation device, which comprises a gas pressure control valve connected to a pressurised gas cartridge positioned inside a housing, which is integrated into the outside of the container and which is connected to the inside by a conduit that makes it possible to supply pressure to the inside of the container.

[0009] In a preferred embodiment the pressurisation device is integrated into the outside of the barrel container and is made largely from plastic materials, thereby achieving a very lightweight low-cost product with a very low environmental impact, minimising the number of pieces.

[0010] In a preferred embodiment the pressure control valve is designed to automatically control the pressure during the dispensing process, depending only on the pressure inside the container. It is therefore possible to significantly simplify the dispensing device, which means that it can be integrated into a disposable beverage container and it is not necessary for the consumer to access the pressure control devices, which are often complex and sophisticated, and in fact, in this case, the consumer is not required to do so.

[0011] In a preferred embodiment, the pressurisation device includes an activation mechanism for the pressurised gas cartridge. It is therefore possible for the user of the beverage container to perfectly control when the pressurisation device is initiated just before the beverage is consumed.

[0012] In another preferred embodiment, the container includes a dispensing device consisting of a single closure into which the stop valve of the dispensing device and the conduit that passes through the pressurisation device are integrated. The stop valve is actuated by an actuator member, which means that the user of the beverage container can control the consumption of the beverage.

[0013] In another preferred embodiment the dispensing device is integrated into a casing together with the pressurisation device, forming a unit outside the container. It is thereby possible for said dispensing device to be operated from outside by the top of the container, in a similar manner to conventional containers and, in particular, to be stacked.

[0014] In another preferred embodiment, the container includes a means of enabling the beverage to be dispensed in a horizontal and vertical position. This therefore gives the container great versatility.

[0015] In another preferred embodiment the container can serve to dispense beverages, particularly beer, and it can contain between 1 and 50 litres.

[0016] Other characteristics and advantages of the present invention will be inferred from the following de-

tailed description of a non-limiting illustrative embodiment of the object thereof with reference to the attached drawings.

DESCRIPTION OF THE FIGURES

[0017]

Figure 1 is a cross-sectional side view of a container for storing and dispensing beverages according to the present invention.

Figure 2 is a cross-sectional plan view of a container for storing and dispensing beverages according to the present invention.

Figures 3a and 3b are cross-sectional side views of the dispensing device of the container for storing and dispensing beverages according to the present invention in a closed and open position, respectively. Figure 4 is a cross-sectional plan view of the pressurisation device of the container for storing and dispensing beverages according to the present invention.

Figures 5 and 6 are cross-sectional side views of the pressurisation device of the container for storing and dispensing beverages according to the present invention with two embodiments of its actuation mechanism.

Figure 7 is a schematic perspective view of the container for storing and dispensing beverages according to the present invention (without showing the pressurisation device) in a horizontal position.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

[0018] The container 11 for storing and dispensing beer according to a preferred embodiment of the present invention is cylindrical, its top part including a dispensing device 13 and a pressurisation device 15.

[0019] The container 11 includes a casing 17 inside which the dispensing device 13 and the pressurisation device 15 are situated, so that the container 11 can be stacked to facilitate its commercial distribution with the inclusion of said devices. The casing 17 includes handles (not shown) to make the container 11 easy to handle.

[0020] The dispensing device 13, which in itself is of the conventional type, includes a hose 21 to draw the beer from inside the container 11, a stop valve 23, a dispensing tube 25 and an actuator member 27 that makes it possible to open and close the flow of beer out of the container 11 as shown in Figures 3a and 3b.

[0021] The pressurisation device 15 includes a pressurised gas cartridge 31 positioned inside a housing 33, a pressure control valve 35 connected to a conduit 37 to supply gas to the inside of the container 11 with a check valve and a connection piece 39 of the pressurised gas cartridge 31 and the pressure control valve 35, the longitudinal axes of which are not aligned but which form an

angle of approximately 90° therebetween to facilitate the positioning of the pressurisation device 15 on top of the container 11. In other embodiments said angle is between 0°-180°.

5 [0022] The pressurisation device 15 is actuated by means of an irreversible mechanism that includes a perforation point 41 at the mouth of the pressurised gas cartridge 31 and an element that pushes the pressurised gas cartridge 31 into contact with the perforation point 41.

10 [0023] In a preferred embodiment that is illustrated in Fig. 5 said pushing element is a handle 43 that can move in one direction forming an angle that is somewhat greater than 90° with the longitudinal axis of the pressurised cartridge gas 31 that includes a head 45 that moves the pressurised gas cartridge 31 into contact with the perforation point 41. In other embodiments said angle is between 30°-150°.

15 [0024] In another preferred embodiment that is illustrated in Fig. 6, said pushing element is a threaded screw 47 that moves the pressurised gas cartridge 31 into contact with the perforation point 41.

20 [0025] The pressure control valve 35 includes a pressure reducing valve unit 51 and a pressure control chamber 53 connected to the inside of the container 11 by a conduit 37, which is therefore at the same pressure as that inside the container 11.

25 [0026] An important characteristic of the pressurisation device 15 is that it is designed to carry out a predetermined control of the pressure, said control depending on the pressure inside the container.

30 [0027] In other words, the pressurisation device 15 is specifically designed for the container 11 into which it is integrated, bearing in mind the characteristics of the beer contained therein. In particular, this means that the pressure control valve 35 has the simplified structure described above, which can be made from non-metal materials, thus reducing the cost and meaning that it can be used as a disposable system.

35 [0028] In the embodiment of the invention being described here, the container 11 has a single closure 61 into which the stop valve 23 of the dispensing device 13 and the conduit 37 of the pressurisation device 15 are integrated. In other embodiments it can have separate closures for each of said devices.

40 [0029] In a preferred embodiment of the present invention, the top of the container 11 has a ridge 19, as illustrated in Fig. 7, which prevents the container 11 from rolling when positioned horizontally. It may be desirable to position the container 11 in a horizontal position, e.g. if it is to be kept and used inside a refrigerator. In this case, the container 11 would also have a notch in the tube 21, which would allow it to be directed according to the position of the ridge 19 in order to pour the beer.

45 [0030] In a preferred embodiment of the present invention the container 1 has a capacity of between 1 and 50 litres.

[0031] Although several embodiments of the invention have been described and illustrated, it is clear that it can

be modified within the scope thereof, and it must not be considered that it is limited to said embodiments, but to the content of the following claims:

Claims

1. Container (11) for storing and dispensing beverages that comprises a dispensing device (13), which includes a hose (21), a stop valve (23), a dispensing tube (25) and an actuator member (27), and a pressurisation device (15) for the beverage with pressurised gas that comprises a gas pressure control valve (35) connected to a pressurised gas cartridge (31) positioned inside a housing (33), **characterised in that** said pressurisation device (15) is integrated into the outside of the container (11) and connected to the inside thereof by a conduit (37) that makes it possible to supply pressure to the inside of the container (11). 5
2. Container (11) for storing and dispensing beverages according to claim 1, **characterised in that** said control valve (35), which includes a pressure-reducing valve unit (51) and a pressure control chamber (53) connected to said gas supply conduit (37), is designed to control the pressure, depending only on predetermined pressures in the pressurised gas cartridge (31) and inside the container (11). 10
3. Container (11) for storing and dispensing beverages according to claim 2, **characterised in that**, except for the pressure-reducing valve unit (51), said control valve (35) is made from non-metal materials. 15
4. Container (11) for storing and dispensing beverages according to any of claims 1-3, **characterised in that** it comprises a single closure (61) into which the beverage outlet channels (21, 23) and the pressurised gas supply conduit (37) are integrated. 20
5. Container (11) for storing and dispensing beverages according to any of claims 1-4, **characterised in that** said pressurisation device (15) also comprises an activation mechanism that includes a perforation point (41) at the mouth of the pressurised gas cartridge (31) and an element that pushes the pressurised gas cartridge (31) into contact with said perforation point (31). 25
6. Container (11) for storing and dispensing beverages according to claim 5, **characterised in that** said pusher element is a handle (43) that can move in one direction and which forms an angle of between 30°-150° with the longitudinal axis of the pressurised gas cartridge (31), including a head (45) that comes into contact with the pressurised gas cartridge (31) during said movement. 30
7. Container (11) for storing and dispensing beverages according to claim 5, **characterised in that** said pusher element is a threaded screw (47) that can move in the direction of the longitudinal axis of the pressurised gas cartridge (31). 35
8. Container (11) for storing and dispensing beverages according to any of claims 1-7, **characterised in that** said dispensing device (13) and said pressurisation device (15) are situated at the top of the container (11) inside a casing (17) that is designed so that one container (11) can be stacked on top of another. 40
9. Container (11) for storing and dispensing beverages according to claim 8, **characterised in that** the pressurised gas cartridge (31) and the pressure control valve (35) of the pressurisation device (15) are positioned with their longitudinal axes forming an angle of between 0°-180° and **in that** the pressurisation device (15) also comprises a connection piece (39) between the two elements. 45
10. Container (11) for storing and dispensing beverages according to any of claims 1-9, **characterised in that** it is cylindrical and includes a ridge (19) on its top that allows it to be situated in a horizontal position, preventing it from rolling with a notch in the tube (21) to facilitate its correct situation in said position. 50
11. Container (11) for storing and dispensing beverages according to any of claims 1-10, **characterised in that** it has a capacity of between 1 and 50 litres. 55
12. Container (11) for storing and dispensing beverages according to any of claims 1-11, **characterised in that** the beverage is beer. 60

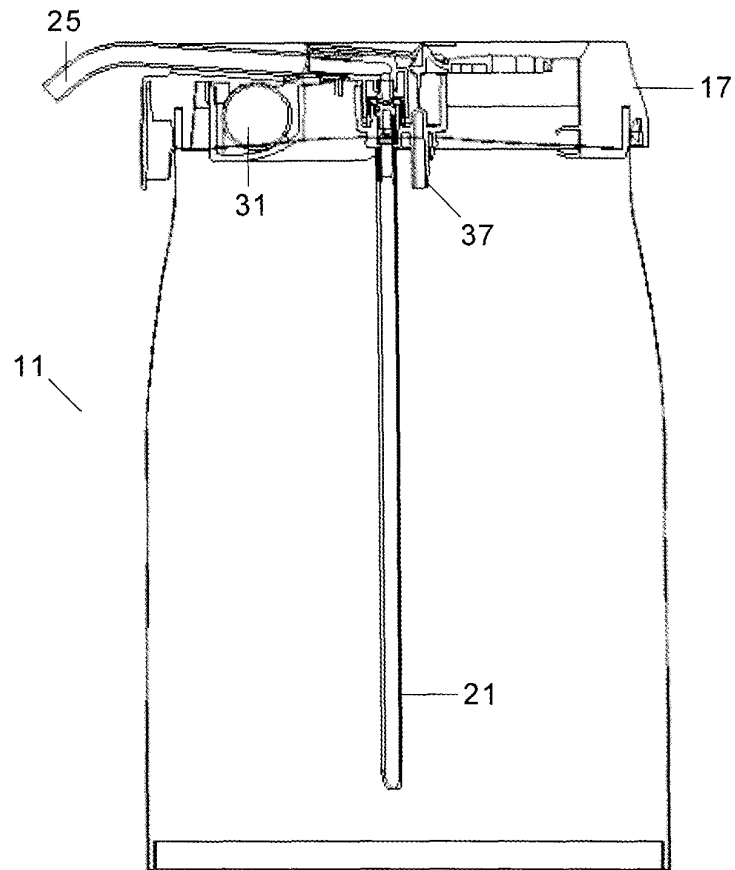


FIG. 1

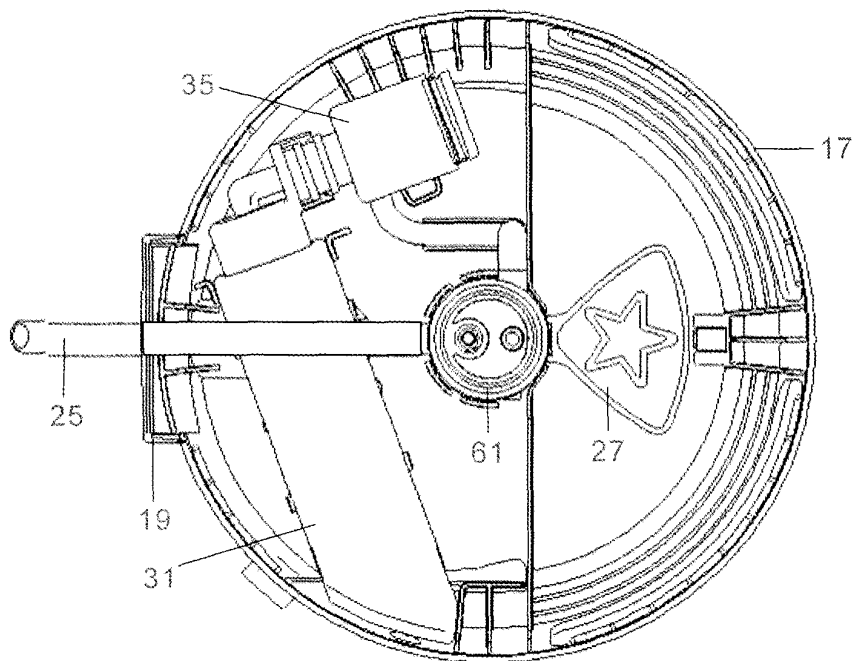


FIG. 2

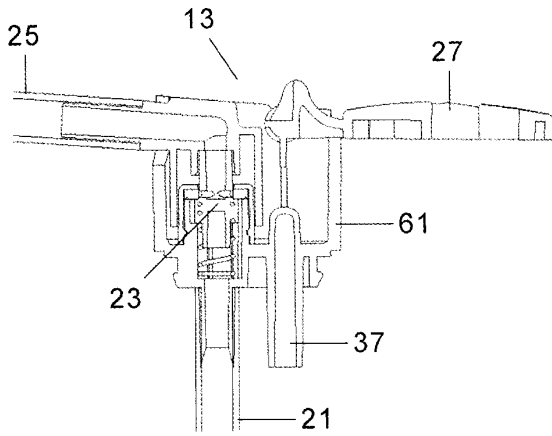


FIG. 3a

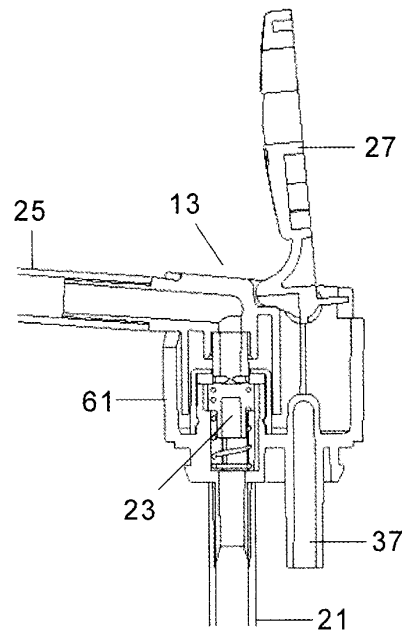


FIG. 3b

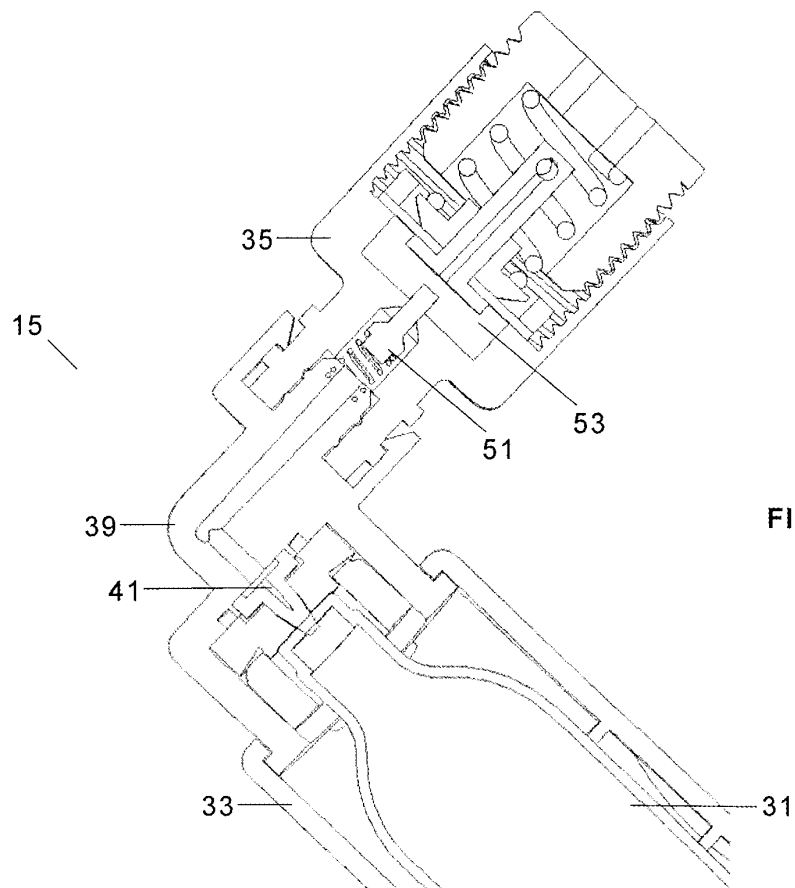


FIG. 4

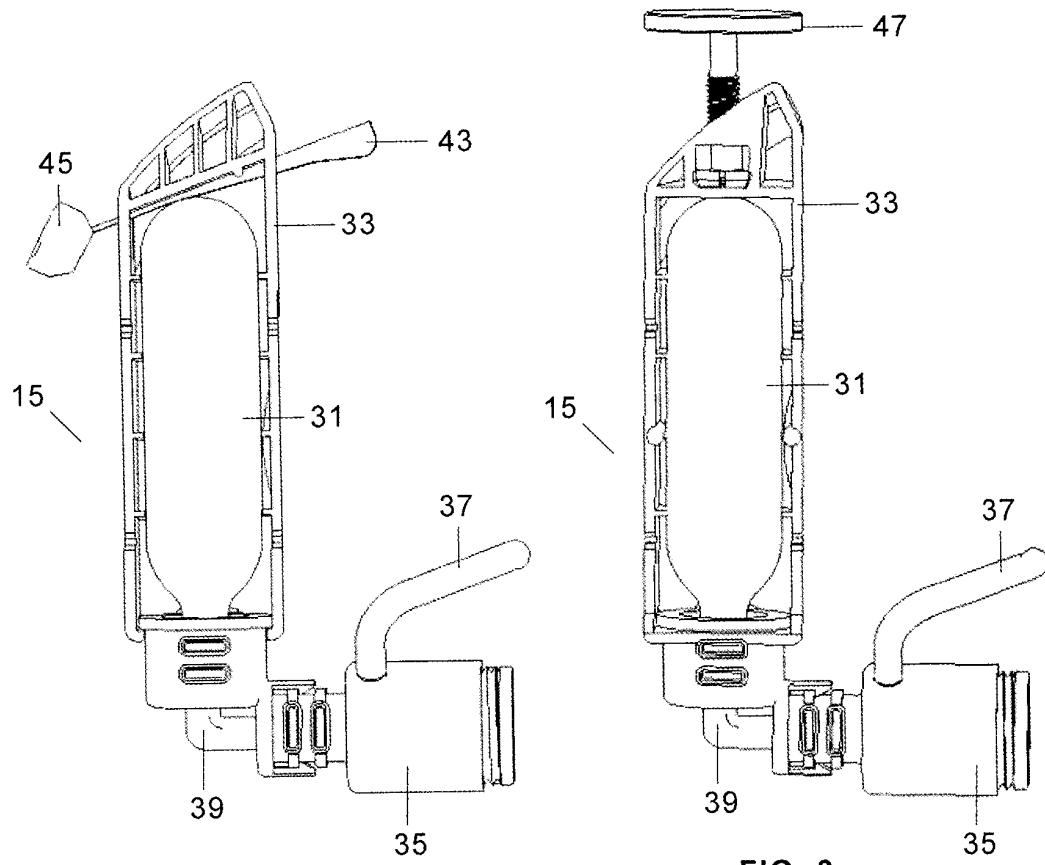


FIG. 5

FIG. 6

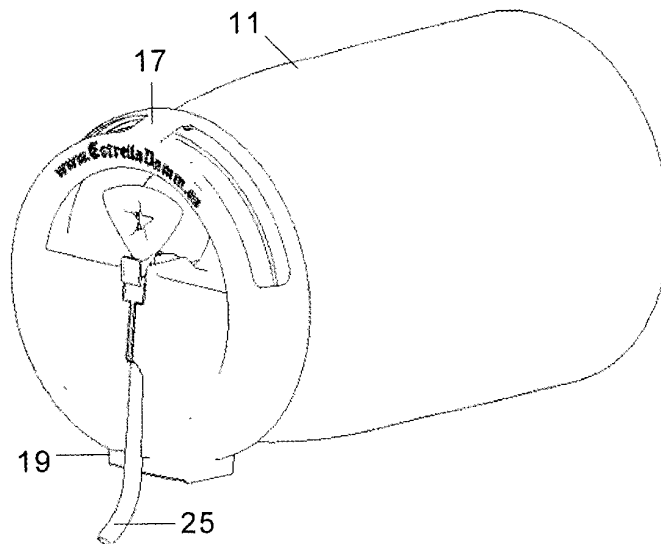


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2007/000340

A. CLASSIFICATION OF SUBJECT MATTER

B67D 1/04 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B67D1/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

B67D1/04B,B67D1/04B2

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CIBEPAT,EPODOC,WPI

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☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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EP 2 157 043 A1

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