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54 **Liquid dispenser device.**

57 The present invention relates to liquid dispenser devices. More particularly, the invention relates to liquid dispenser devices for dispensing beverages contained under pressure in containers, eg. carbonated beverages in bottles. The invention provides a liquid dispenser device which includes a base body which can be fitted to the open neck of a container (such as a bottle). A dispensing nozzle is joined to the base body. A closeable body passage in the base body is in communication with the nozzle at one end and at its other end is being adapted to be directed towards the container interior when the base body is fitted to the container. A valve is provided to close the base body passage; and is controllable by means of a valve control means operable from outside the base body. Finally a liquid guide is provided for guiding liquid from a container into the valve body passage.

BACKGROUND OF INVENTION

- 1 -

1. Field of invention

The present invention relates to liquid dispenser devices.

5 More particularly, the invention relates to liquid dispenser devices for dispensing beverages contained under pressure in containers, eg. carbonated beverages in bottles.

10 Carbonated beverages often are sold in large containers (such as bottles), eg. having a size from 1 to 2 litres upward. If such beverages are not consumed fairly soon after opening the specific bottle, or if small quantities are dispensed at a time, the carbonated effect is lost and the beverage goes "flat". Thereby the price advantage of buying in large quantities is nullified.

15 It is an object of the invention to suggest a dispenser device for assisting in overcoming this problem, and for providing a relatively neater and easier dispensing method than merely pouring out of the bottle.

2. Brief description of the invention

According to the invention, a liquid dispenser device

includes a base body; connection means for fitting the base body to the open neck of a container (such as a bottle); a dispensing nozzle joined to the base body and having a nozzle passage; a closeable body passage in the base body in communication with the nozzle passage at one end and at its other end being adapted to be directed towards the container interior when the base body is fitted to the container; a valve adapted to close the base body passage; valve control means operable from outside the base body for controlling the valve; and a liquid guide for guiding liquid from a container into the valve body passage.

The liquid may be a beverage, such as a carbonated beverage.

The base body may include a body cylinder and the connection means may include an internally screw threaded part on the body cylinder for screw connecting the base body to an externally screw threaded neck of a container.

The nozzle may extend sideways at an angle to the base body.

The valve control means may include a cylindrical cap closed at one end and having an internal cylinder concentrically fitted at its one end inside the cap to the closed cap end, the internal cylinder having at its opposite end the valve adapted for closing off the body passage.

The liquid guide may include a pipe joined at one end to the

base body and adapted to extend down to the floor of a container.

DESCRIPTION OF THE DRAWINGS

The invention will now be described by way of example with
5 reference to the accompanying schematic drawings.

In the drawings there is shown in

Figure 1 a side view of a liquid dispenser device in
accordance with the invention;

Figure 2 a side view of the dispenser device when fitted on
10 a bottle;

Figure 3 on a larger scale, a sectional side view of the
base body of the dispenser device (ie. without the valve
control cap);

Figure 4 a view from below of the base body of the dispenser
15 device seen along arrow IV in Figure 3;

Figure 5 a sectional side view of the valve control cap of
the dispenser device;

Figure 6 a view from below of the valve control cap of the
dispenser device seen along arrow VI in Figure 5; and



Figure 7 a side view showing the upper end of the dispenser device and showing the elements illustrated in Figures 3 to 5 when fitted together.

Referring to Figures 1 and 2, the dispenser device 10 includes a base body 12 having a nozzle 14, a valve control cap 16, and a liquid guide tube 18. The device 10 is fitted to a bottle 20 by turning the internally screw threaded body 12 onto the externally screw threaded neck 22 of the bottle 20, which contains a carbonated beverage.

By rotating the cap 16, as will be described below, the valve inside the body 12 is operated to allow liquid to be dispensed out of the bottle, or to stop such liquid dispensing. The dispensing operation also will be described hereinafter.

Referring now to Figures 3 to 7, it will be seen that the base body 12 has a lower cylindrical part 24 which is open at the bottom 24.1 and which is screw threaded on its inside 26. The cylinder 24 extends by way of a cone shaped neck 28 into an upper cylindrical part 30, of which the diameter is less than that of the cylinder 24.

At its upper external end the cylinder 30 is screw threaded on its outside as indicated by reference numeral 32. This screw threaded formation cooperates with the complementarily



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- 5 -

internally screw threaded part 16.1 of the valve control cap 16, which is open at its bottom end 34 but which is closed off at its upper end by means of a disc 36. To the disc 36 an internal cylinder 38 is attached having at its bottom end a cone shaped valve formation 40.

A disc 42 having a central hole 42.1 is fitted tightly (eg. glued) to the cone shaped neck 28. A short tube 44 is fitted in the hole 42.1 and is fixed to the disc 42. The tube 44 could be formed integrally with the disc 42, or is glued or otherwise attached thereto. The upper end of the tube 44 defines a valve seat for the valve formation 40.

The upper end of the pipe 18 is fitted over the downwardly directed end of the tube 44. The fitting between the pipe 18 and the tube 44 may be a frictional fit or may be glued or otherwise attached thereto. The valve 40 is adapted to close off the hole 42.1 (or more correctly the upper end of the tube 44) by rotation and abutment against it. Accordingly, by suitably rotating the valve cap 16 the tube 44 and therewith pipe 18 can be closed off or opened as may be required. The cylinder 38 fits slidingly on the inside of the cylinder 30 so that no liquid can escape between these two cylinders.

The nozzle 14 has an internal passage 46 which is brought into communication with the pipe 18 when the valve 40 is lifted off the upper end of the pipe 42.

In use, a person would buy a carbonated beverage bottle 20. The normal closure cap will be unscrewed and removed and the dispenser device then will be screwed on the neck 22 immediately so as to close off the outlet of the bottle 20 as shown in Figure 2. In this position the cap 16 will have been turned so as to ensure tight closure of the upper end of the tube 44 and therewith the pipe 18.

If the beverage is to be dispensed, the cap 16 will merely be rotated in a direction so as to lift the valve 40 off the or valve seat upper end or valve seat of the pipe 44 and the beverage will be dispensed through the tube 18, into the passage 46 and out of the nozzle 14. The dispensing will take place due to the inherent internal pressure existing in the bottle as a result of the gas already dissolved in the beverage. If necessary, the container 20 may be shaken slightly so as to release the gas and build up pressure inside the bottle 20. It must be noted that the beverage liquid enters into the pipe 18 at its bottom open end 18.1, and also that the screw thread connection of the cap 16 to the cylinder 30 is on a sealed basis, ie. no liquid can escape through the screw threaded parts 32 and 16.1, and the cylinders 30 and 38.

The dispenser device 10 and its constituent parts preferably are constructed of material of sufficient strength and durability, and also conforming to health requirements regarding foods and beverages for human consumption. A

suitable material has been found to be clear polycarbonate and/or ABS (acrylonitrile-butadiene-styrene) plastics material. The base body 12 (and its constituent parts shown in Fig. 3) and nozzle 14 are preferably formed integrally.

5 The disc 42, the pipe 44 and the pipe 18 are fitted into position afterwards. The cap 16 and its parts shown in Fig. 5 are also formed integrally.

10 The base body passage is formed by the internal passage of the pipe 44 and the space in the cylinder 30 between the upper open end of the pipe 44 and the entrance into the nozzle passage 46.

As is shown the valve arrangement illustrated does not include a gland.

1. A liquid dispenser device, which includes a base body (12); connection means (26) for fitting the base body (12) to the open neck (22) of a container (20) (such as a bottle);
5 characterized thereby that it includes a dispensing nozzle (14) joined to the base body (12) and having a nozzle passage (46); a closeable body passage (44) in the base body (12) in communication with the nozzle passage (46) at one end and its other end being adapted to be directed towards the container
10 interior when the base body (12) is fitted to the container (20); a valve (40) adapted to close the base body passage (44); valve control means (16) operable from outside the base body (12) for controlling the valve (40); and a liquid guide (18) for guiding liquid from a container (20) into the base
15 body passage (44).

2. A device as claimed in claim 1, characterized thereby that the base body (12) includes a body cylinder (24), and the connection means includes an internally screw threaded part (26) in the body cylinder for screw connecting the base
20 body (12) to an externally screw threaded neck (22) of a container (20).

3. A device as claimed in claim 1, characterized thereby that the nozzle (14) extends side ways at an angle to the base body (12).

4. A device as claimed in any one of the preceding claims,
characterized thereby that the valve control means (16)
includes a cylindrical cap (16) closed at one end (36) and
having an internal cylinder (38) concentrically fitted at its
5 one end inside the cap (16) to the closed cap end (36), the
internal cylinder having at its opposite end the valve (40)
adapted for closing off the body passage (44).

5. A device as claimed in any one of the preceding claims,
characterized thereby that the liquid guide includes a pipe
10 (18) joined at one end to the base body (12) and adapted to
extend down to the floor of a container (20).

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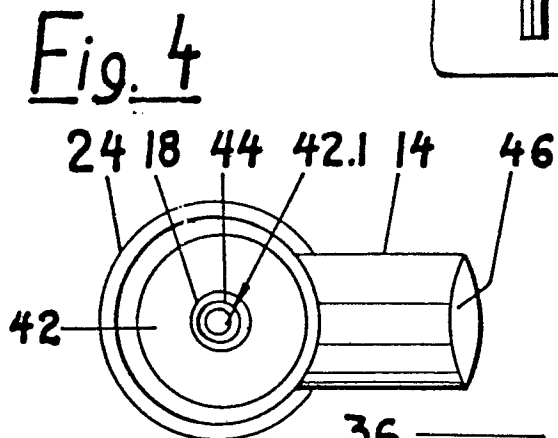
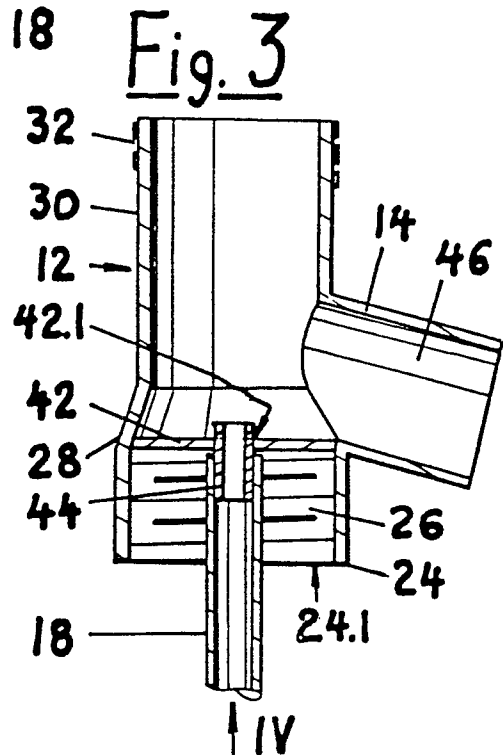
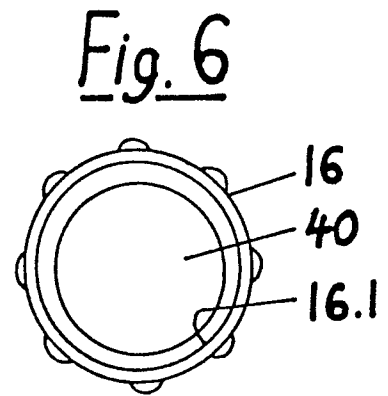
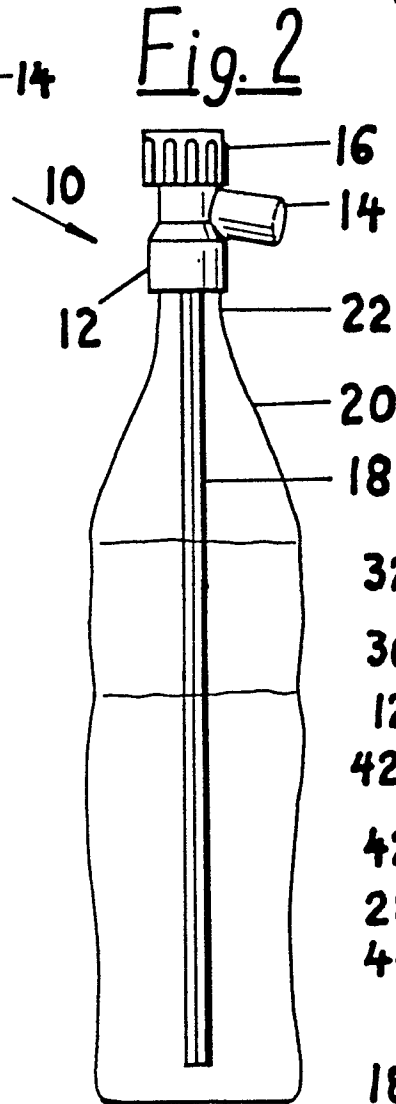
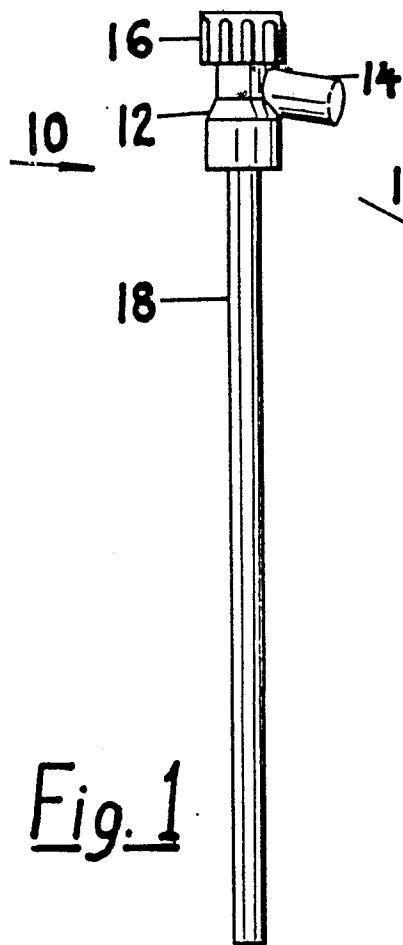


Fig. 7

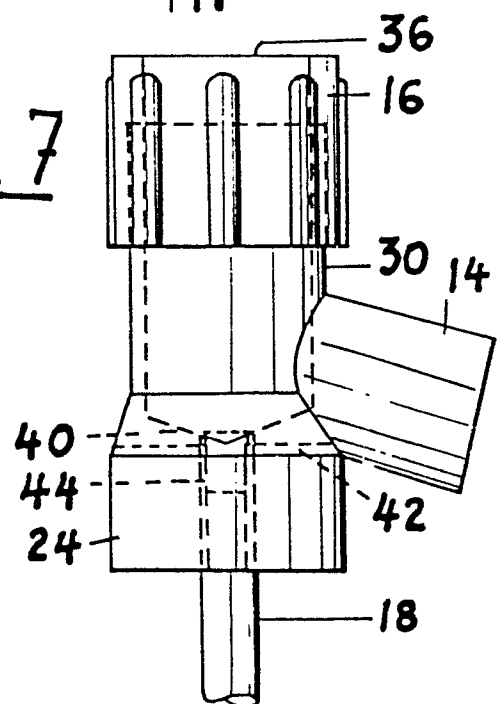


Fig. 5

