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AIR VENT FOR DISPENSING CONTAINERS

Filed Feb. 11, 1930

FIG. 1.

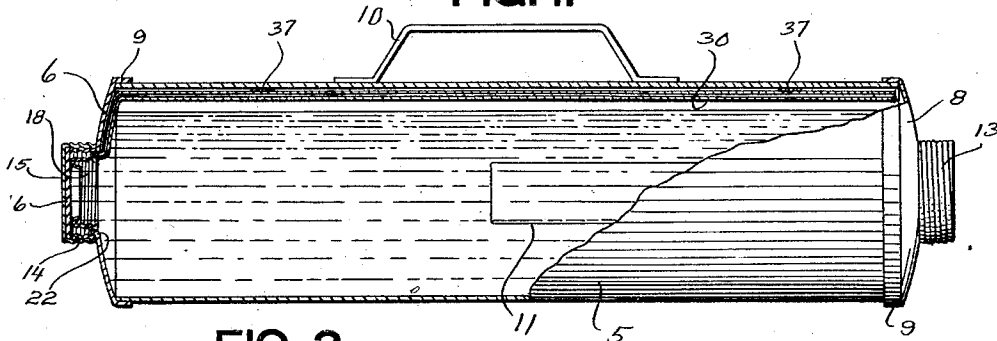


FIG. 3.

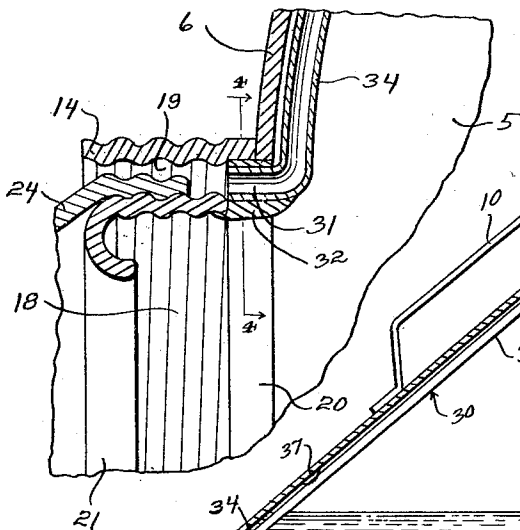


FIG. 2.

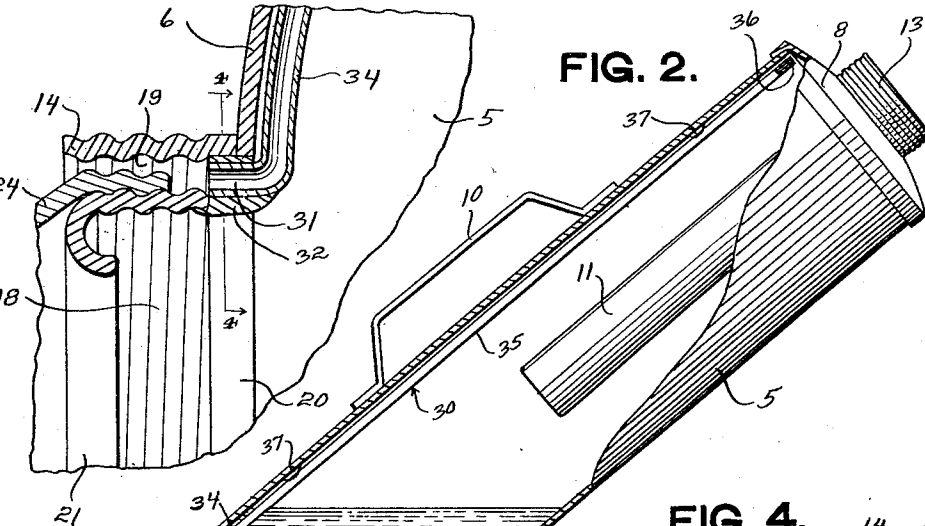
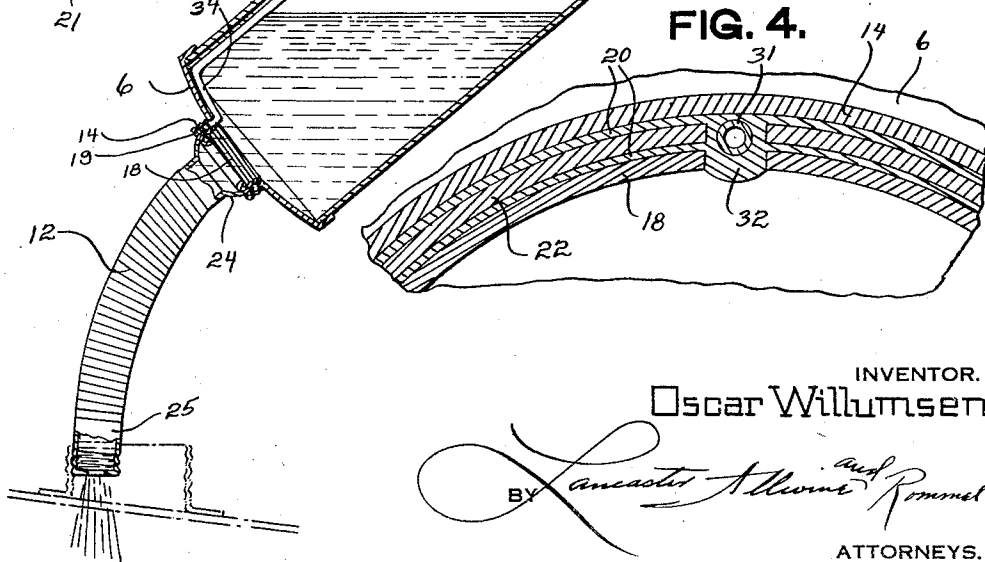


FIG. 4.



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AIR VENT FOR DISPENSING CONTAINERS

Application filed February 11, 1930. Serial No. 427,551.

The present invention relates to dispensing containers and more particularly to improvements in reserve dispensing containers such as disclosed in my allowed application Serial Number 300,810 allowed October 21, 1929.

The primary object of the present invention is to provide a dispensing container having a detachable nozzle normally concealed within the container, with means for venting the container when the nozzle is applied to the discharge opening of the container.

A further object resides in the novel arrangement whereby the outer end of the air vent tube is closed by the closure cap for the discharge opening of the container.

A further object resides in the novel manner in which the vent tube is disposed within the container so as to prevent escape of the liquid thru the vent tube while the contents are being dispensed thru the discharge opening of the container.

A still further object resides in the provision of an improved dispensing container for oils, gasoline and the like having a pair of concentrically arranged, spaced apart necks at its discharge end, with a vent tube opening to the atmosphere between the necks for venting the container when the discharge nozzle is detachably connected with the innermost neck.

Other objects and advantages of the invention will be apparent during the course of the following detailed description, taken in connection with the accompanying drawings forming a part of this specification and in which drawings:

Figure 1 is a view part in longitudinal section and part in side elevation of the improved container.

Figure 2 is a view part in longitudinal section and part in side elevation showing the spout or nozzle attached to the discharge opening for dispensing the liquid into a filler opening.

Figure 3 is an enlarged fragmentary section of the forward end of the container showing the nozzle applied.

Figure 4 is a fragmentary section on the line 4-4 of Figure 3.

In the drawings, and wherein similar ref-

erence characters designate corresponding parts thruout the several views, the reserve dispensing container or receptacle includes a tubular body portion 5 being closed at its forward end by a front end wall 6 and at its rear or opposite end by a rear end wall 8. Each end wall 6 and 8 is preferably provided with an annular attaching flange 9 which may be secured to the ends of the body portion 5 in any preferred manner such as by soldering or the like. Secured intermediate the ends of the body portion 5 is a suitable handle 10 which extends longitudinally of the body portion.

The rear end wall 8 supports a tubular chamber forming member 11 which projects axially into the body portion 5 and the chamber formed by the member 11 is adapted to removably receive a spout or nozzle 12 adapted for detachable connection with the discharge end of the container. The method and manner of mounting this nozzle in the chamber 11 is clearly set forth in my allowed application above referred to. The end wall 8 is also adapted to receive the threaded cap 13 serving to retain the nozzle 12 in the chamber 11.

The end wall 6 at the forward or discharge end of the container is provided with an axially disposed tubular threaded portion or neck 14 for threaded reception of a closure cap 15. The closure cap 15 is threaded exteriorly upon the neck 14 and is preferably provided with a sealing washer 16 for sealing engagement with the outer end edge of the neck 14. Secured at its inner end to the end wall 6 inwardly of the neck 14 is a threaded sleeve or inner neck 18 which is of less external diameter than the internal diameter of the neck 14 forming an annular pocket 19 between the concentrically arranged sleeves. This threaded sleeve 18 is secured to the wall 6 as by solder or the like shown at 20 and seals the inner end of the annular pocket 19 against escape of liquid from the container. This threaded sleeve 18 forms the discharge opening of the container and preferably has its outer end curled as at 21 and disposed flush with the outer edge of the threaded portion 14 whereby the washer 16 of the closure cap

will seat upon the outer end of each of the necks 14 and 18. The end wall 6 preferably has an outturned flange as at 22 in Figure 1 which extends into the annular pocket 19 to act as a spacer between the sleeve 14 and 18 and further aids in properly connecting the sleeves to the end wall.

The tubular spout or nozzle 12 is preferably of flexible tubing and is provided at its rear end with an enlarged internally threaded head portion 24 which is adapted for threaded connection with the external threads of the inner sleeve 18 after removal of the closure cap 15 from its threaded connection with the outer sleeve 14. The outer or discharge end of the tubular flexible spout 12 is provided with an externally threaded discharge cap 25 to which an extension or a reducing nozzle may be connected for discharging the contents of the container into a relatively small opening, when desired.

As will be observed in Figure 3 the spacing between the necks 14 and 18 is greater than the thickness of the spout head 24 so that threading of the head upon the inner neck does not close the annular pocket 19 to the atmosphere.

Referring now to the novel venting means for permitting ready and free escape of the contents thru the nozzle 12, the same embodies a metal air vent tube 30 extended thruout the length of the tubular body portion 5 with one end opening into the tubular body portion and its opposite end opening into the annular pocket 19. This air vent tube 30 has its outer end 31 extending with a sealed connection 32, formed by the solder 20, between the inner connected ends of the spaced necks 14 and 18 so that the tube opens into the annular pocket 19 in alignment longitudinally of the body portion 5 with the handle 10. From the outer open end 31 of the tube 30 the tube extends upwardly along the inner surface of the front end wall 6 as at 34 and is then extended in a straight line along the inner surface of the body portion 5 as at 35 with its open end 36 spaced slightly from the rear end wall 8. The tube portion 35 extends longitudinally of the body portion 5 directly beneath the handle 6 and in longitudinal alignment therewith, and may be secured to the body portion 5 in any preferred manner such as by soldering at the points 37. This extending of the portion 35 along the entire length of the body portion 5 and at the top side of the container when held by the handle 10 for dispensing the contents of the container disposes the open end 36 of the vent tube above the liquid contents of the container so that the liquid is not permitted to escape thru the vent tube while in the act of emptying the container.

In conditioning the container for dispensing the liquid therefrom, the cap 13 may first be removed and the nozzle 12 removed from

the chamber 11. The container may then be placed on end with the wall 6 uppermost and the closure cap 15 removed so that the nozzle head 24 may be threaded upon the inner sleeve 18 as shown in Figures 2 and 3. The container may then be held by the handle 10 and the nozzle 12 placed at the desired location for delivering the contents of the container. On tilting the container upwardly as shown in Figure 2, air will be drawn thru the annular pocket 19 into the outer end 31 of the vent tube 30 and permits free escape of the liquid thru the discharge spout 12.

When filling the container thru the opening formed by the inner sleeve 18, a quantity of the liquid will enter the small vent tube 35 to the level of the liquid in the body portion 5, and thru handling of the container a small quantity of the liquid may find its way into the annular pocket 19 which is ordinarily closed by the closure cap 15. In standing the container on end for applying the nozzle 12, any liquid in the pocket 19 will drain back into the container. When the container is tilted for dispensing the contents, the liquid escaping thru the nozzle 12 will create a suction in the small vent tube for drawing the small column of liquid therein into the body portion 5. The conical portion of the spout head 24 will have a tight fit with the inwardly curled outer end 21 of the tube 18 to prevent escape of the liquid at the joint between the head and sleeve.

Thus it will be seen that a novel arrangement has been disclosed whereby the container may be vented from the discharge end without liability of any of the liquid escaping thru the vent tube. It will also be apparent that a novel arrangement has been shown whereby the single closure cap 15 aside from sealing the discharge opening of the container also serves to close the outer end of the vent tube.

Changes in detail may be made to the form of invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims:

I claim:

1. A dispensing container comprising a body portion having front and rear end walls, a threaded sleeve carried by the front wall providing a discharge opening, a nozzle including a head portion for detachable connection with the sleeve, a vent tube for the body portion and opening thru the front wall outwardly of the sleeve, a second sleeve encircling the first mentioned sleeve outwardly of the vent tube opening, and a closure cap for closing the discharge opening and the outer end of the vent tube upon removal of said nozzle.

2. A dispensing container comprising a body portion having a front end wall, concentrically arranged inner and outer sleeves carried by the front wall, said inner sleeve

providing a discharge opening, a nozzle for detachable connection with the inner sleeve, a vent tube opening thru the front wall between the inner and outer sleeves and being
5 open to the atmosphere when the nozzle is applied to the inner sleeve, and a removable closure cap for connection to the outer sleeve.

3. A dispensing container comprising a body portion including a front end wall, a
10 pair of concentrically arranged threaded sleeves carried by the front wall and providing an annular pocket between the sleeves, said inner sleeve providing a discharge opening for the container, a nozzle for threaded
15 connection with the inner sleeve, a closure cap for threaded connection with the outer sleeve and having seating engagement with the outer end of the inner sleeve, and a vent tube for the container having its outer end
20 opening into the annular pocket at the inner ends of the concentrically arranged sleeves.

4. A dispensing container comprising a body portion having a front end wall, a pair of externally threaded sleeves carried by the
25 front wall and providing an annular pocket between the sleeves, said inner sleeve forming a discharge opening for the container, a nozzle for detachable threaded connection with the inner sleeve, a threaded closure cap
30 for threaded connection with the outer sleeve and being engageable with the outer end of the inner sleeve for closing communication between the outer end of the annular pocket and said discharge opening, and a vent tube
35 having its outer end opening into the annular pocket formed between the sleeves.

5. A dispensing container comprising a body portion including a front end wall having an opening provided with an outturned
40 flange, a pair of concentrically arranged inner and outer threaded sleeves connected with a sealed joint to the front end wall with said outturned flange extending between the sleeves and forming an annular pocket between the sleeves, said inner sleeve providing
45 a discharge opening, a nozzle for threaded connection with the inner sleeve, a closure cap for threaded connection with the outer sleeve, and a vent tube for the container and
50 having its outer end opening into said annular pocket between the inner and outer sleeves.

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