Dec. 25, 1934. G. H. MOSBY 1,985,455

CONTAINER FOR CARBONATED LIQUIDS

Filed Feb. 6, 1933

Fig. 1.

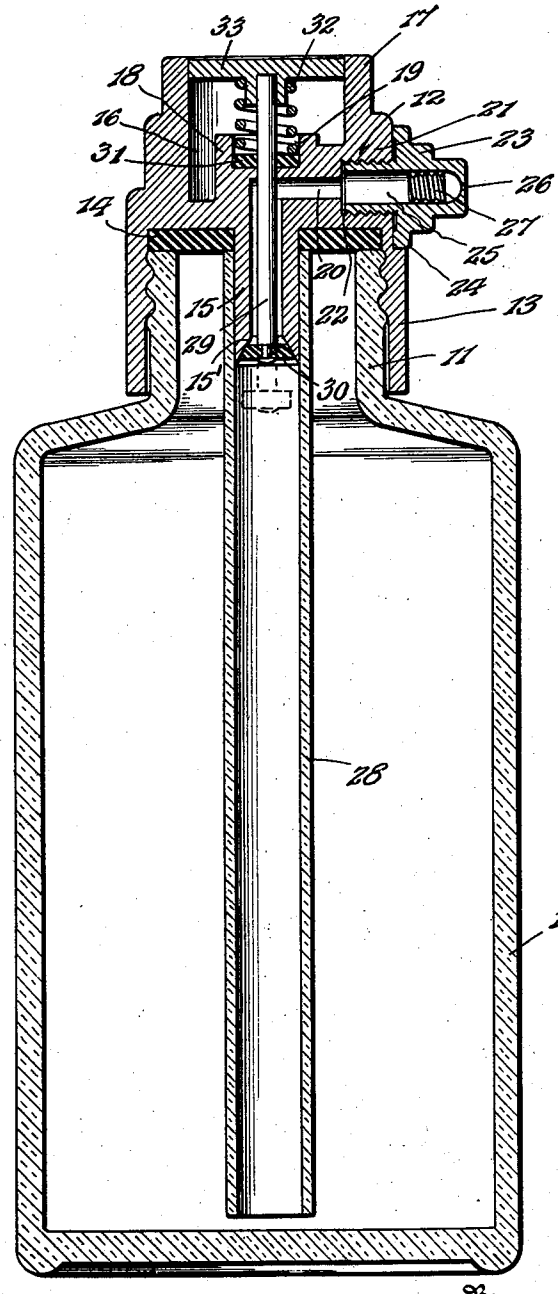
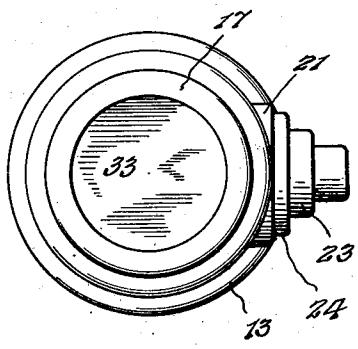


Fig. 2.



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Patented Dec. 25, 1934 1,985,455

UNITED STATES PATENT OFFICE

1,985,455

CONTAINER FOR CARBONATED LIQUIDS

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Application February 6, 1933, Serial No. 655,536

2 Claims. (Cl. 299—95)

This invention relates to an improved container for carbonated liquids and seeks, among other objects, to provide a device of this character which will be simple, efficient and inexpensive.

A further object of the invention is to provide a device embodying improved valve mechanism for liberating the carbonated liquid and wherein the cap of the device will be so formed as to protect the valve stem against accidental injury.

Another object of the invention is to provide a device wherein, when the valve is open, the fluid will be directed to the outlet nozzle of the cap and will be prevented from escaping past the upper end of the valve stem.

And the invention seeks, as a still further object, to provide an improved nozzle which will emit a fine spray or vapor.

Other and incidental objects of the invention not specifically mentioned in the foregoing will be apparent during the course of the following description.

In the accompanying drawing,

Figure 1 is a vertical sectional view of my improved container, and

Figure 2 is a top plan view of the cap.

In carrying the invention into effect, I employ a vessel 10 which may be a bottle of glass or other approved material, the vessel being provided at its upper end with a neck 11 having external threads. The vessel may, of course, be of any desired capacity, and, in the present instance, I have shown the vessel as of cylindrical shape.

Detachably connected to the vessel 10 is a cap 12 which is preferably of bakelite, although other suitable material may be substituted in lieu thereof. The body of the cap is formed at its lower side with an internally threaded annular flange 13 which is screwed upon the neck 11 of the vessel 10 for detachably connecting the cap thereto and disposed within said flange is a gasket 14 of rubber or other suitable material which provides a sealed joint between the vessel and the cap. Depending axially from the cap body at its lower side is an outlet nipple 15 integral with the cap and formed in the lower end of the nipple is a tapered valve seat 15'.

Above the nipple 15, the body of the cap is cylindrically recessed, as at 16, and surrounding said recess is an upstanding annular flange 17, the body being externally stepped. Rising from the bottom wall of the recess 16 is a boss 18 in the upper end of which is provided a recess 19 concentric with the axis of the nipple 15 and formed laterally through said boss is a discharge passage 20 communicating with the upper end of the passage through the nipple. Concentric with the passage 20, the body of the cap is formed at its adjacent side with an annular boss 21 having a flat outer face and opening through said boss is a recess 22 communicating with said passage, the recess being internally screw threaded.

Screwed at its inner end into the recess 22 is an atomizing nozzle 23 having an annular flange 24 seating flat against the flat face of the boss 21 and formed in said nozzle is a smooth discharge passage 25 having a rounded outer end. Communicating with the rounded outer end of the passage 25 is a discharge orifice 26 relatively minute in relation to the diameter of the passage 25 and loosely and slidably fitting in said passage is an atomizing screw 27.

Frictionally but removably fitting at its upper end over the nipple 15 is an outlet tube 28 which may be of glass or other suitable material. This tube projects to a point near the bottom of the vessel 10 and extending through the boss 18 and through said nipple, axially of the latter, is the stem 29 of the outlet valve of the device. This stem is of a diameter considerably less than the diameter of the nipple so that a liquid may flow through the nipple around the stem and fixed to the lower end of the stem is a preferably rubber valve disk 30 fitting the valve seat 15'. Snugly but slidably surrounding the valve stem to rest flat against the bottom of the recess 19 is a preferably rubber gasket 31 which fits more or less tightly within the recess and resting at its lower end against the gasket is a spring 32 surrounding the upper end portion of the stem. Fixed upon the upper terminal of the stem is a cylindrical head or button 33 which more or less closely but slidably fits within the flange 17 of the cap and forms an abutment for the upper end of said spring. This head is, at all times, disposed within the lines of the flange 17 so as to be housed and protected thereby.

Assuming the vessel 10 to be filled with a carbonated liquid, it will now be observed that the spring 32 will act on the head 33 for normally holding the valve disk 30 in engagement with the seat 15' so that the liquid cannot escape from the vessel. However, by pressing on the head with the thumb, for instance, the valve stem may be readily depressed for unseating the valve disk, when the liquid in the vessel will flow out through the tube 28 to the passages 20 and 25 and issue from the discharge orifice 26 of the nozzle 23. As the liquid, under pressure, flows around and past the screw 27, the liquid will, of course, tend to rotate the screw and force it in the direction

of the orifice 26 where it will be held stationary with the result that the rotating liquid is broken into a fine spray or vapor by centrifugal force as it escapes from the discharge orifice.

It is now to be noted that the head 33 coacts with the flange 17 of the cap 12 while the gasket 31 coacts with the valve stem 29 for centering the stem with respect to the nipple 15 and guiding the stem in its longitudinal movement so that the stem will be slidably supported at spaced points above the bottom wall of the recess 19 for axial movement. The head 33 rigidly coacts with the flange 17 to obviate canting of the stem but should any slight undue looseness be present between the head and flange, canting movement of the stem will be resisted by the gasket 31 and this resistance will be enhanced by the pressure of the spring 32 on said gasket. Consequently, the stem will, under normal conditions, be supported to travel in a straight path so that the valve disk 30 will properly move into engagement with the seat 15' to rest flat against the seat throughout the periphery of the disk. Possibility of leakage will thus be avoided. Furthermore, it is to be noted that as the gasket 31 is rigidly confined within the bottom of the recess 19, pressure of the spring 32 on said gasket will tend to feed the gasket to the valve stem 29 and thus at all times provide a sealed joint between said gasket and the stem. Consequently, when the stem is depressed, the gasket will effectually prevent escape of liquid past the gasket around the valve stem. Thus, leakage of the liquid into the recess 19, when the valve is open, will be effectually obviated and as the pressure of the spring 32 on the gasket will be increased when the head 33 is depressed for opening the valve, the action of the spring tending to compress the gasket against the bottom of the recess as well as feed the gasket against the valve stem 29 will be most pronounced at such time.

Having thus described the invention, I claim:

1. A device of the character described comprising a vessel having a neck rising therefrom, a cap having a depending annular flange fitting said neck and a nipple extending into the neck longitudinally thereof and formed with a bore extending into the cap and provided at its upper end with a side extension opening through a side of the cap and having its outer end portion enlarged to provide a socket, a spraying nozzle engaged in said socket, a gasket fitting about said nipple against the under face of said cap to bear against the upper end of said neck when the cap is in place and form a tight joint, a tube fitting about said nipple and extending longitudinally within the neck and vessel with its upper end bearing against said gasket, the upper portion of said cap being hollow to form a chamber open at its upper end and having its bottom formed with an upstanding boss located in the chamber and formed with a recess open at its upper end and having its bottom formed with an opening registering with the upper end of the bore of said nipple, a valve stem extending through the bore of the nipple in spaced relation to walls thereof with its upper portion extending through said recess and into said chamber, a disk at the lower end of said stem to engage the lower end of said nipple and close the lower end of its bore, a gasket in said recess resting upon the bottom thereof about said stem, an actuating button carried by the upper end of said stem and having an upper face disposed substantially flush with the upper end of said cap when the stem is in a raised position with the disk closing the lower end of the bore, and a coiled spring to normally hold the stem raised disposed about said stem and having its upper end bearing against said button and its lower portion fitting within said recess and bearing against the gasket therein.

2. A device of the character described comprising a vessel open at its upper end, a cap having a depending flange engaged about the upper end of said vessel and a nipple extending into the vessel longitudinally thereof and formed with a bore extended into the cap and provided with a side extension constituting an outlet, a gasket fitting about said nipple against the under face of said cap to bear against the upper end of said vessel when the cap is in place and form a tight joint, a tube fitting about said nipple and extending longitudinally within the vessel with its upper end bearing against said gasket to form a tight joint, and valve means for controlling the flow of fluid outwardly through the bore of said nipple.

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