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J. P. DECKER

3,149,762

LIQUID DISPENSING DEVICE

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Fig. 1

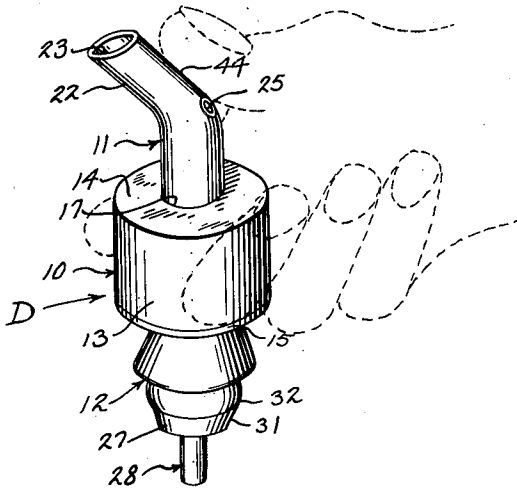


Fig. 2

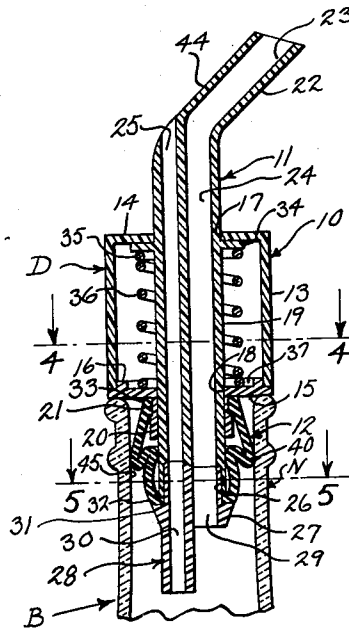


Fig. 3

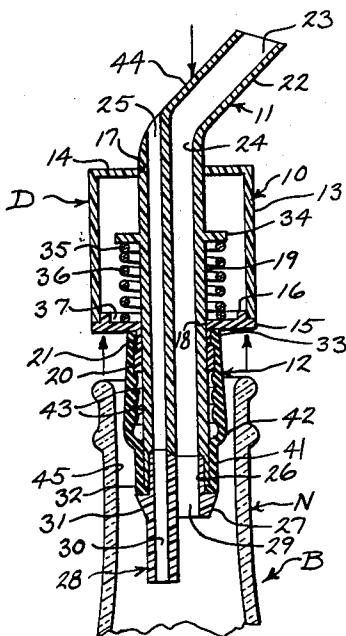


Fig. 4

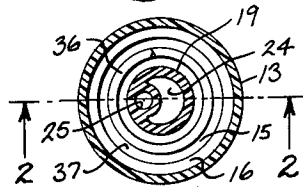
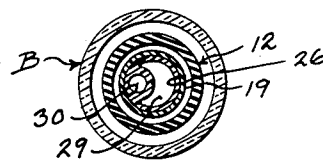


Fig. 5



INVENTOR
JAMES P. DECKER

BY *George W. Knight, Jr.*

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LIQUID DISPENSING DEVICE

James P. Decker, 1978 S. 14th St., Milwaukee, Wis.
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This invention appertains to fluid dispensing devices and more particularly to a novel pouring spout embodying means for quickly and effectively mounting and removing the device from the mouth of a bottle or like container.

It is a common practice to provide dispensing attachments for liquor and like bottles and these devices usually include a pouring spout and means for attaching the same to the neck or mouth of the bottle. Some difficulties have been encountered in associating these devices or spouts with the general run of bottles, in that, the necks of different bottles vary in size and shape. Attempts in the past to overcome this difficulty usually resulted in providing some sort of adjustable or expandable stopper associated with the spout and this necessitated the pre-setting of the diameter of the stopper, inserting the same in the neck of the bottle and then utilizing other means to seal the same against the inner wall. If no provision is made for adjusting the stopper, then of course, there is a great danger of a loose fit and leakage will occur. In any event, in all prior devices difficulty has been encountered in attaching and removing the same for re-use.

It is, therefore, a primary object of my present invention to provide a novel liquid dispenser for bottles and the like embodying a pouring spout and a resilient expandable sealing sleeve which can be extended and stretched to fit various sizes of bottles by the mere manipulative movement of one hand, thereby eliminating the difficulties heretofore encountered.

Another important object of my present invention is to provide a novel liquid dispenser for bottles which can be easily placed onto and into the neck of a bottle by extending the stopper sleeve and by releasing pressure the sleeve will return to a normal operative position and seal against the inner walls of the neck, and thus can be associated with different sized neck openings.

A further object of my present invention is to form the body of the novel liquid dispenser in a manner to provide a relatively large cylindrical outer wall affording an excellent space for advertising and the like.

Still another object of my present invention is to provide a novel liquid dispenser for bottles having a cylindrical body and a pouring spout or stem slidably received within said body and a novel resilient stopper sleeve having one end secured to the body and its other end secured to the stopper stem, so that when the stem is moved in relation to the body the sleeve will either be extended or contracted.

A still further object of my present invention is to form the stopper body and pouring spout of the device so as to particularly facilitate the ease of handling and to accommodate the fingers and thumb in such a manner that the body can be readily moved in relation to the spout facilitating the ease of inserting the same into the mouth of a bottle or removing the same therefrom.

A further object of my present invention is to provide spring means exerting pressure on the body and the pouring spout to continually urge the resilient sleeve in its contracted position and thereby increase its thickness for sealing contact with the walls of the neck of a bottle.

Another object of my present invention is to provide a novel liquid dispenser which is economical to manufacture, easy to assemble and which will be durable and efficient in use.

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With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which

FIGURE 1 is an elevational view in perspective of my novel dispensing device showing in dotted lines the hand and relative position of the fingers and thumb for proper manipulation of the device;

FIGURE 2 is an enlarged vertical section through the device and the neck of a bottle with which it is associated, the section being represented by the line 2-2 of FIGURE 4 of the drawings, and looking in the direction of the arrows;

FIGURE 3 is a vertical section similar to FIGURE 2 of the drawings, but showing the stopper sleeve in its extended stretched position prior to the device being removed from or placed into the neck or mouth of the bottle;

FIGURE 4 is a horizontal transverse section taken on the line 4-4 of FIGURE 2 of the drawings, and looking in the direction of the arrows, and

FIGURE 5 is a horizontal transverse section taken on the line 5-5 of FIGURE 2 of the drawings and looking in the direction of the arrows.

Referring now to the drawings in detail, wherein similar reference numerals represent corresponding parts throughout the several views, the letter D generally indicates my improved dispensing device and the same includes broadly a cylindrical body 10, the pouring spout and its associated parts 11 and the resilient stopper sleeve 12. The device D can be made from any desired material, such as metal, but is preferably molded of a plastic material and the body 10 is molded to include a cylindrical outer wall 13 and an integral top wall 14. The body also includes a bottom wall 15 separately molded and provided with an upper lip 16 which fits within the cylindrical wall 13 and is firmly secured thereto by heat sealing or a press fit. The upper and lower walls each are provided with a central opening or aperture 17 and 18 respectively, adapted to slidably receive the stem 19 of the pouring spout 11. Formed integral with the lower wall 15 about the axial opening 18 is a depending nipple 20, the outer upper peripheral edge of which is provided with a groove 21, the purpose of which will become readily apparent as the description proceeds. The pouring spout 11 is also molded from plastic and includes the aforementioned stem 19 and an angularly extending spout portion 22. The spout portion 22 has an inner passageway 23 communicating with the open bore or passageway 24 of the stem.

Also molded within the stem is a vertically longitudinally extending vent opening 25. The inner lower end termination of the stem 19 is reduced, as at 26, and within this reduced portion is tightly fitted the cylindrical extension 27 of the lower nipple 28. The nipple is in turn provided with passageway 29 which communicates with the passageway 24 of the stem and a vent continuation 30. The outer wall 31 of the nipple 28 is thickened to provide an abutment against which rests the lower end termination 32 of the resilient stopper sleeve 12. The nipple may be press fitted to the lower end of the stem or heat sealed, as desired, but it is important to note that the lower end termination 32 of the sleeve 12 is then effectively clamped between the reduced wall portion 26 of the stem and thickened wall portion 27 of the nipple 28. The upper end termination 33 of the sleeve 12 has a thickened wall which fits tightly and snugly within the groove 21 formed on the

depending nipple 20 of the bottom wall 15 of the body 10. Thus, it can be seen that the sleeve 12 is firmly clamped and secured to the body 10 and the spout 11. The stem 19 intermediate its ends is also provided with a peripherally extending flange 34 against the under surface of which is biased the upper end 35 of the spring 36. The lower end of the spring 36 rests within a recess 37 formed by the thickened wall 33 and the outer wall of the stem 19. Thus it can be seen that the spring 36 is tensioned to continuously urge the spout in its upper position so that the sleeve 12 will be contracted causing the side walls of the sleeve to fold or buckle, as at 40. To accomplish this folding of the sleeve at the point 40, attention is directed primarily to FIGURE 3 of the drawings, and it can be seen that the sleeve 12 is formed so as to have in its extended position a straight lower cylindrical wall portion 41 and an enlarged projecting wall portion 42, the inner peripheral surface of the wall 42 being formed with a series of inwardly projecting rounded portions 43.

Thus, when the spout is urged upwardly as in FIGURE 2 of the drawings, the resilient sleeve will fold or buckle adjacent the enlarged portion 42 and this forms, in effect, a four-wall thickness about the stem and between the inner wall of the neck of a bottle B to effectively seal the same.

Thus, it can be seen that the spring normally urges the spout portion 11 upwardly to its position illustrated in FIGURES 1 and 2 of the drawings, and then sleeve 12 is in its contracted, folded position.

To place my novel dispensing device on the neck of a bottle, it is only necessary to place the cylindrical wall 13 of the body 10 between the fingers, place the thumb on the surface 44 of the spout 22 as illustrated in FIGURE 1 of the drawings to draw up on the fingers or push down with the thumb causing the stem to slide within the body 10 in the direction of the arrows FIGURE 3 of the drawings.

The sleeve 12 is extended or stretched and may be readily placed within the mouth or neck end of the bottle B. It is only necessary to release pressure on the body 10 and stem 11 and then the spring will urge the stem toward its upper portion and the sleeve will buckle or fold and effectively seal against the inner walls 45 of the bottle B.

In assembling my novel dispensing device, the spout 22 is inserted through the upper aperture 17 in the wall 14, the spring 36 is then placed around the intermediate portion of the stem, and the lower wall 15 pressed or sealed into place. The sleeve 12 is then associated with the depending nipple 20 and the stem nipple 27.

From the above, it should be readily apparent that I have provided an improved dispensing device provided with a suitable venting means, which can be quickly and easily associated with the neck of a bottle regardless of the variance in size of the necks and which can just as easily be removed for re-use and associated with another bottle.

From the foregoing description it can be seen that I have provided a novel device that can be placed upon the market at a reasonable cost, and it is to be understood that various changes in minor details can be made without departing from the spirit of the invention, or scope of the appended claims.

I claim:

1. A liquid dispensing device for bottles and the like comprising, a cylindrical body having side, top and bottom walls, said top and bottom walls each being provided with an aligned centrally disposed aperture, a pouring spout assembly including a longitudinally extending stem slidably received through said apertures and extending above and below said respective top and bottom body walls, a flexible resilient stopper sleeve positioned around said stem adjacent the lower end termination thereof, said sleeve having one end secured to said body and its other end secured to said stem, means constantly urging said pouring spout assembly upwardly through the top wall of said body to its operative pouring position, means to limit the upward movement of said pouring spout assembly, said resilient stopper sleeve being so constructed and arranged as to be folded and thickened when in said operative position and extended and stretched when said pouring spout assembly is manually moved in a downward direction through said bottom body wall, whereby the pouring device will be in a sealing relationship with the neck of a bottle in its operative position and will be readily removed from or attached thereto in its extended position.

2. A liquid dispensing device for bottles and the like, as set forth in claim 1, in which said pouring spout assembly is provided with an upper end angled outwardly to facilitate pouring and to cooperate with said cylindrical body to provide a hand grip facilitating the manipulation of the device by the fingers and thumb.

3. A liquid dispensing device for bottles and the like as defined in claim 1, wherein said cylindrical side wall of said body is of a size and configuration to constitute means for carrying advertising matter.

4. A liquid dispensing device for bottles and the like as set forth in claim 1, in which said pouring spout assembly includes a vent tube disposed in said stem and opening out to the atmosphere through one side thereof, said tube terminating below the lower end stem termination.

5. A liquid dispensing device for bottles and the like as set forth in claim 1, wherein said means constantly urging said pouring spout assembly upwardly comprises a spring received about said stem and having one end terminating on the top surface of the bottom wall of said body and its upper end associated with said stem.

6. A liquid dispensing device for bottles and the like as set forth in claim 1, wherein the means to limit the upward movement of said pouring spout assembly comprises an integral peripheral flange on said stem.

7. A liquid dispensing device for bottles and the like as set forth in claim 1, wherein the means for securing the sleeve to the body and stem respectively includes a depending nipple formed on the bottom wall of said body and a peripheral grooves in said nipple receiving the upper end of said sleeve, and a lower nipple secured to the end termination of said stem and clamping the lower end of said sleeve between the stem and nipple.

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