Feb. 21, 1939. R. S. SKINNER 2,148,041

CLOSURE FOR CONTAINERS

Filed Sept. 11, 1936

FIG. 1.

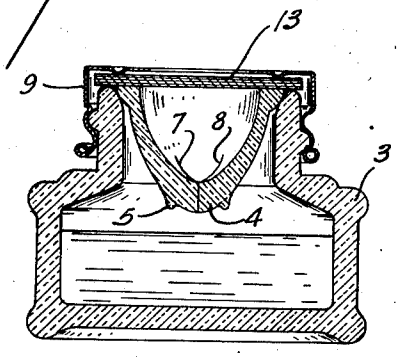


FIG. 2.

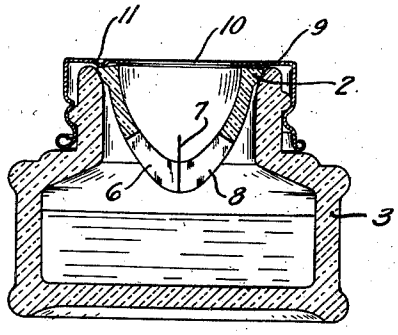


FIG. 6.

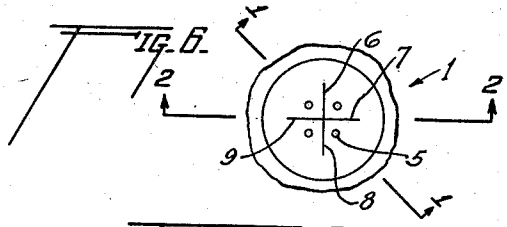


FIG. 3.

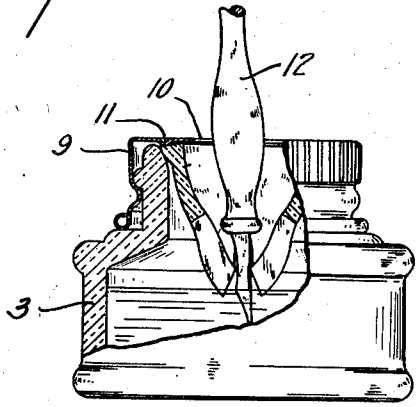


FIG. 4.

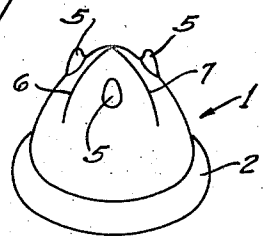
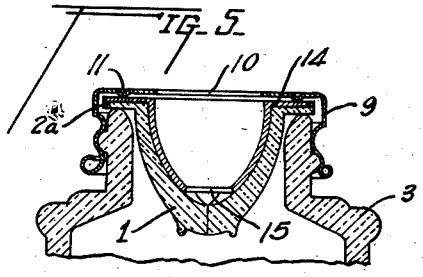


FIG. 5.



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CLOSURE FOR CONTAINERS

Riley S. Skinner, Sentinel, Okla.

Application September 11, 1936, Serial No. 100,251

2 Claims. (Cl. 120—68)

This invention relates to closures for bottles and other containers, and has for its main object the provision of a novel means for preventing a fluid from being spilled from the bottle or container, when accidently tilted or upset, while at the same time providing free access to the interior of the container.

Other particular objects of the invention are to provide a closure for ink bottles and ink wells which prevents an excess of ink remaining on a pen point after the point has been dipped into the ink; which prevents the necessity of dipping the pen to the bottom of the bottle; which makes possible the using of all the ink in the bottle, even though there is hardly enough to cover the bottom of the bottle; which prevents evaporation of the ink; which prevents the sides of the pen holder from becoming soiled by contact with the sides of the bottle; and, which will be efficient in accomplishing all of the purposes for which it is intended.

Heretofore, devices of this kind have made use of an auxiliary valve to accomplish the above objects. My attachment has no such valve.

With these and other objects in view as will more fully appear hereinbelow, my invention consists in the construction, novel features, and combination of parts hereinafter more fully described, pointed out in the claims hereto appended, and illustrated in the accompanying one-sheet drawing, of which,

Figure 1 is a vertical section of an ink bottle equipped with my device;

Figure 2 is a view similar to Fig. 1 except that it is taken at an angle of 45° from the view in Fig. 1;

Figure 3 is a view of the device in use, a part of the ink bottle being cut away to show the penetration of a pen point through the device;

Figure 4 is a perspective view of the device, inverted;

Figure 5 shows a slightly different embodiment of the device, the main difference being the shape of the flange surrounding the upper end of the device; and,

Figure 6 is a plan view of the device looking directly at its lower end, and shows particularly the relative positions of the slots and teats.

My invention consists primarily in a rubber guard half ovoid in shape and circular in cross-section. In the drawing this is represented as a whole by numeral 1. The guard has an annular shoulder 2 surrounding its upper end which is adapted to seat on the upper edge of the neck of the bottle or ink well 3, and to thus support the guard therein.

At its lower end the guard 1 is provided with four spaced teats 5 which are in horizontal alignment, and which are preferably spaced 90° from each other. The lower end is also provided with vertical slots 6, 7, 8 and 9. In length these slots extend less than half the total vertical length of the guard. The slots are preferably spaced as shown in Fig. 6, and run between the teats 5. A cap 9, having a hole 10 which is slightly less in diameter than the interior of the upper end of the guard 1, is provided for the bottle or ink well. It has the usual sealing groove 11, and when the guard 1 is in position in the neck of the bottle and the top 9 is screwed down tightly on the bottle, the annular groove 11 tightly seals the shoulder 2 against the bottle neck.

As shown in Fig. 3 the edge of the perforation 10 in the bottle cap 9 prevents a pen staff 12 from coming in contact with the walls of the guard, and hence prevents ink from getting on the staff.

To facilitate the handling of ink in bottles prepared for sale, an ordinary washer 13 is provided with the device, although it is not an essential element of the invention. The same is true of the metal guard 14 shown in Fig. 5. This guard 14 is formed with an annular shoulder which may be made of a size to fit any bottle, and is equipped with a downwardly projecting frame which fits inside the guard 1, and which is open at its lower end, as at 15. This is merely an auxiliary guard to prevent the pen staff 12 from projecting through the guard 1 and thus being immersed in the ink below; the opening 15 will, of course, allow passage of the pen point therethrough.

In operation the washer 13 is removed and the cap 9 replaced on the bottle 3. The pen enters through the hole 10 in the cap, and is simply pushed through the lower end of the guard 1, the slots 6, 7, 8 and 9 permitting the lower end of the guard to be deformed, as shown in Fig. 3. The pen is thus allowed to enter the ink in the bottle and when withdrawn the excess ink is removed from the pen by the segments of the lower portion of the guard, due to the inherent tendency of the rubber to assume its normal position, as shown in Figs. 1, 2 and 4.

The teats 5 serve to hold an accumulation of ink on the nether surface of the guard by forming sufficiently small unit areas that the surface tension of the ink holds the ink thereon. After the ink has accumulated on the lower end of the device it is no longer necessary to insert the pen

point into the ink in the bottle, the accumulation on the lower end of the guard 1 being sufficient to thoroughly wet the pen with ink a number of times.

When used on a deep bottle, it is only necessary to invert the bottle before dipping the pen. The inversion of the bottle allows the ink to fill the neck of the bottle, and when the bottle is again righted a considerable quantity of ink runs down the outside of the guard and is held on the lower end of the guard as previously explained. The pen may then be simply pushed through the opening formed by the slots and will be wet thoroughly with writing fluid. It will be evident that the number of the teats 5, as well as the number and length of the slots 6, 7, 8 and 9, may be varied without changing the principle of the invention.

On a wide neck bottle I prefer to form the annular shoulder on the guard 1 as shown at 2a in Fig. 5. This shoulder is tightly held between the upper edge of the bottle and the groove 11 of the cap 9, and thus supports the cup-like portion at any desired point within the bottle neck. It is evident that there would be no invention in locating the cup-like portion of the guard 1 off-center with relation to the circular shoulder 2a, and I contemplate so locating the said cup-like portion to fit any bottles at present on the market. In so doing, it would, of course, be necessary to locate the perforation 10 in the cap 9 to align with the cup-like portion of the guard.

By making the wall of the extreme lower end of the device thicker than the side walls, as at 4, the separate segments defined by the slots 6, 7, 8 and 9 are prevented from curling upward into the interior of the guard itself. When the bottle is inverted ink is prevented from penetrating the slots by the simple pressure exerted on the segments of the device by the weight of the fluid. Due to the inherent tendency of the rubber material to assume its normal shape the slots are normally held tightly closed, and thus prevent evaporation of ink through the bottle neck.

Having thus described the invention, what I claim and desire to secure by Letters Patent is:

1. A device of the class described comprising a cup-like guard made of rubber, its upper end being encircled by an outstanding annular shoulder for supporting the device within the upper end of an ink bottle or ink well, its lower end being formed in a plurality of integral segments which act to normally close said lower end, but which under pressure may be deformed to provide a passage through said lower end; and a plurality of spaced protruding teats on the nether surface of the lower end of the guard located sufficiently close together that the surface tension of the ink is enabled to hold an accumulation of ink on the nether surface of the guard.

2. The combination with a substantially cup-like resilient container closure having its lower end divided into flexible longitudinal segments and adapted to be suspended in the open end of a container, its upper rim closing the opening in the container, of: a plurality of spaced protuberances on the nether surface of the lower segmented end of said closure so spaced as to form sufficiently small surface unit areas thereon that the surface tension of a liquid is sufficient to hold an accumulation of the liquid on said nether surface.

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