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D. G. MAGILL

MILK BOTTLE CLOSURE AND METHOD OF APPLYING SAME

Filed Nov. 12, 1923

Fig-1

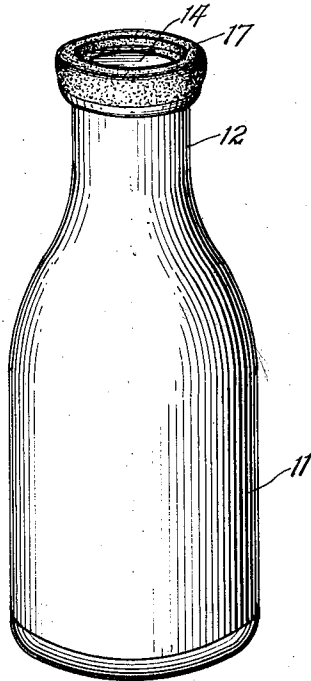


Fig-2

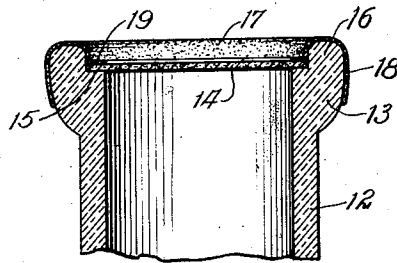
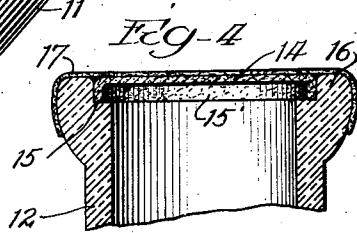
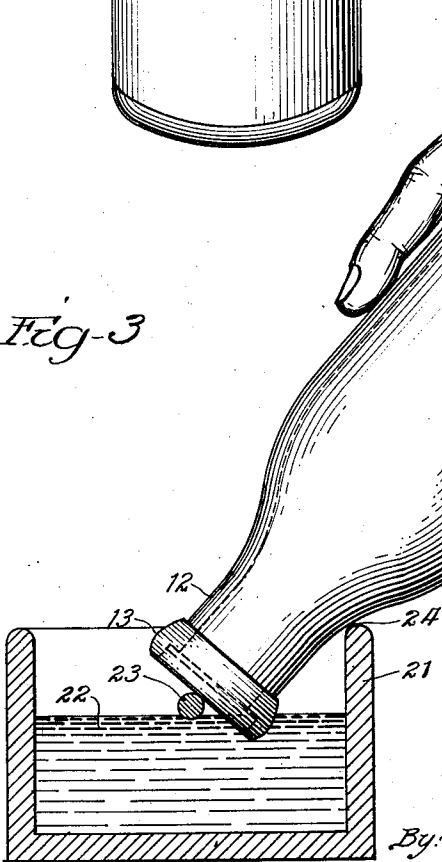


Fig-3



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# UNITED STATES PATENT OFFICE.

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## MILK-BOTTLE CLOSURE AND METHOD OF APPLYING SAME.

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My invention relates to closures for milk bottles and the like and to a method of sealing such bottles to protect the contents from impurities and foreign matter of various kinds.

As is well-known, milk bottles are ordinarily closed by means of a cap, or disk closure, seated in a channel in the top and frictionally held in place. Such a closure is not wholly satisfactory, inasmuch as dirt and foreign matter may be deposited on and about the disk and may gain access to the interior of the bottle, or contaminate the milk as it is being poured out for use.

It is a principal object of this invention to provide, in conjunction with the usual disk closure, or any other which may be employed, a sealing band of latex, or like material, extending about the top of the bottle and partially or completely over the regular closure, whereby protection is afforded against contamination in the manner referred to above. The qualities of latex, which render it particularly suitable for this purpose, will be described in detail hereinafter, but it may be here mentioned that an object of the invention is to provide a milk bottle seal having such advantages, resulting from these qualities, as ease of removal, and security of position even under rough handling.

Another object of the invention is the provision of a seal for the purpose stated which is transparent and therefore may be used over a closure having printed matter thereon.

A further object is the provision of a method of forming and applying a seal of the foregoing character.

Other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings,

Figure 1 is a perspective view of a milk bottle provided with a closure in which my invention is embodied;

Fig. 2 is an enlarged cross-sectional view of the bottle neck;

Fig. 3 is a view showing, in the simplest form, an apparatus and method of applying the latex sealing band; and

Fig. 4 is a cross-sectional view, showing

a somewhat modified form of closure and sealing band.

I have shown on the drawings a milk bottle of the usual form, comprising a body 11 having a neck portion 12, enlarged at the top as indicated at 13. A closure disk 14 rests upon a shoulder 15 formed on the interior of the neck and may, if desired, be formed with a peripheral flange 15' adapted to fit within the upper part 16 of the bottle neck and rest upon the shoulder 15, the purpose of this arrangement being to dispose the body of the disk in a plane flush with the top of the bottle. It will, however, be obvious that any form of cap may be employed within the purview of the invention and that other provision might be made for disposing it flush with the end of the bottle, as shown in Fig. 4, such, for example, as making it of such thickness that it would completely fill the space above the shoulder 15. As shown in the drawings, the disk 14 is frictionally held in place and commonly no other securing medium is employed. In accordance with my invention, however, a sealing band 17 is disposed about the top of the bottle extending down a considerable distance over the enlargement 13, as indicated at 18, and inwardly over the edge of the disk, as indicated at 19 in Fig. 2, or completely covering said disk, as shown in Fig. 4, if desired. The latter arrangement is preferable when a flush closure disk is used and it will be understood that this does not in any way obscure printed matter upon said disk, inasmuch as the latex is very transparent, though it may be treated to give various shades of color thereto, if desired.

In this manner, not only is a perfect seal provided which will prevent foreign matter from entering the bottle, but the top of the bottle is kept perfectly clean, being protected both from being soiled by handling and from substances which might be deposited upon the bottle tops when they are packed in a case and covered with ice, as is commonly done in delivering the milk to the consumer. The ice so used often is very impure and without the protection of the seal which I provide would leave considerable quantities of dirt in and about the end of the bottle. Inasmuch as latex is very elastic, it is well adapted to withstand rough handling, such as the shifting of the ice

thereon in the packing case and the grip of the hand when the bottle is removed. It is, however, easily torn along a single line to permit removal of the disk 14 and thereafter the entire body of the seal may be pulled off without difficulty. It results from the above method of applying the latex, and the result of the method, that all parts of the latex seal are in a state of internal equilibrium. That is to say, the latex is not in a stretched condition, which would cause it to rapidly deteriorate.

It is contemplated that the band 17 may be applied by partially immersing the closed end of the bottle in a liquid composition of latex and the bottle rolled in such manner as to form a continuous film of the liquid about the periphery of the top of the neck and extending over the edge of the closure disk, as shown in Figs. 1 and 2. For purposes of illustration, I have shown a vessel 21, containing a bath 22 of the latex and being provided intermediate its walls with a supporting rod 23. It will be obvious that the end of the bottle may be rested upon this rod with the neck resting upon the upper edge of the vessel wall, as indicated at 24, and

the bottle rotated by hand, or mechanically, if desired, with the result that the latex, which is of a decidedly adhesive character, may be evenly applied over the desired area.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention, or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

A closure for milk bottles and the like, having in combination a bottle formed with an internal seat at its mouth, a disk in said seat, and a seal of latex applied in liquid form over said disk and the neighboring portion of the bottle and forming with said disk an hermetic and easily peelable and removable closure, said latex solidifying to produce an elastic non-constricting and sanitary seal which tears readily for the opening of the bottle.

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