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2,657,817

PLASTIC BUNG FOR BEER BARRELS OR THE LIKE

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Fig. 1.

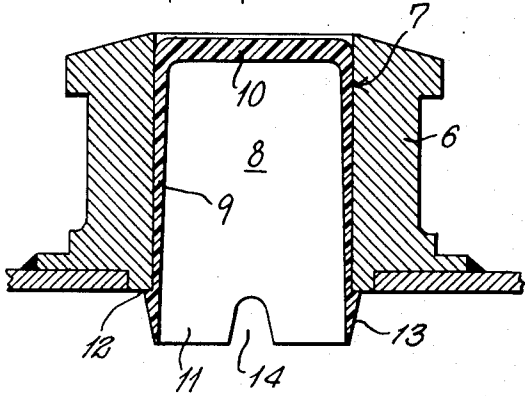


Fig. 2.

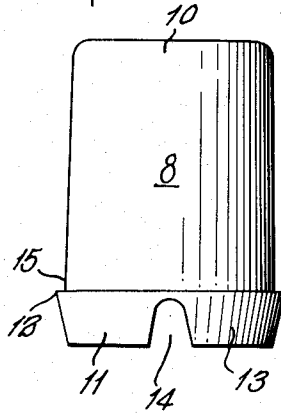


Fig. 3.

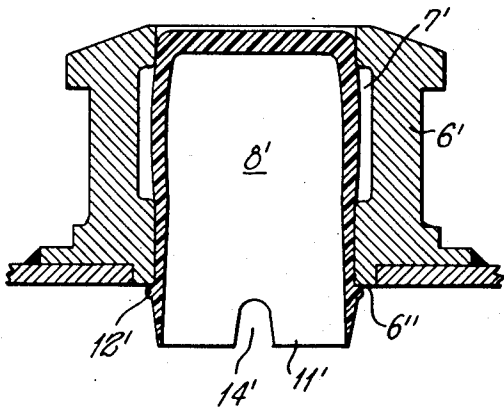
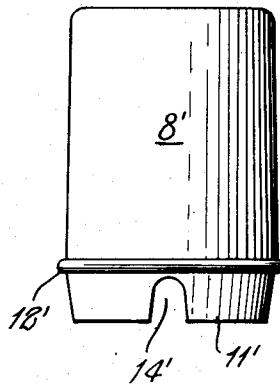


Fig. 4.



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PLASTIC BUNG FOR BEER BARRELS OR THE LIKE

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1 Claim. (Cl. 217-110)

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It has generally been customary to use bungs or stoppers made of cork in barrels containing beer, ale and the like, but it has been found that the cork contaminates the liquid which is particularly noticeable when the barrel has stood for any length of time and such cork stoppers are also expensive as they cannot be used again when contamination is noticed.

It has also been proposed to employ stoppers of rubber but this material is also objectionable for many reasons.

I have found that an elastic and entirely satisfactory and cheap stopper can be formed of synthetic elastomeric plastic having the properties of polyethylene and vinyl derivatives. This is not only cheap to manufacture but the stopper can be used over and over again. Such a stopper has been found to be tasteless, non-absorbent, insoluble, indestructible, can be used in conventional bung hole bushings and when properly formed is entirely effective. The stopper is inert to liquid as well as gases and is entirely sanitary. It is not affected by normal changes in atmospheric conditions and does not stick to the bushing. This type of plastic has the known characteristic of being form retaining under normal pressure but capable of deformation under excessive pressure and return to its original form upon release of such pressure.

In reference to the drawings, all of which are enlarged,

Fig. 1 is a vertical sectional view of one form of bung hole bushing with a stopper involving one form of my invention in place.

Fig. 2 is a side elevational view of the stopper of Fig. 1.

Fig. 3 is a vertical sectional view of another form of bushing with a modified form of stopper in place.

Fig. 4 is a side elevation view of the stopper of Fig. 3.

The bung bushing 6 of Fig. 1 is of a conventional form having a straight cylindrical passage 7 centrally therethrough and an inner radial surface 6A substantially perpendicular to the wall 7A of passage 7.

The bung stopper 8 is cup-shaped and has a thin side wall 9 and is closed by the integral top wall 10 and is open at the bottom. Top wall 10 is much thicker than side wall 9 and is substantially rigid. The outside diameter at the top is slightly greater than the inside diameter of the passage 7 in the bushing and the diameter of the lower end at 11 is preferably slightly less than the diameter of the passage 7. The side wall

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adjacent its lower end has an external shoulder 12 slightly larger in diameter than the diameter of the passage 7 at its lower end. Shoulder 12 has an upwardly facing radial surface 12A substantially perpendicular to the smooth unbroken substantially cylindrical outer surface 9A of wall 9. The side wall 13 of the lower end of the stopper is enlarged and slightly tapered and preferably has two or more opposed cut-out portions 14, 14 to permit contraction of said comparatively flexible lower end in order to facilitate entrance of the stopper into the bushing.

The diameter of the stopper at 15 just above the shoulder 12 when molded is at least as great and preferably slightly greater than the inner diameter of the passage 7 so as to insure a tight fit of the stopper when it is pressed into place usually by a mallet striking against the impact receiving wall 10. The inside diameter at the upper end of the stopper is slightly less than the inside diameter at the lower end so that the thickness of wall 9 diminishes gradually from top to bottom.

The stopper is designed to be fitted snugly in the bushing so that the pressure within the barrel presses the side wall of the stopper against the wall of the passage in the bushing and forces the shoulder 12 into tight engagement against the inner edge radial surface 6A of the bushing to lock the stopper against outward movement in passage 7.

In the form of the invention shown in Fig. 3, the bushing 6' has a passage which is undercut at 7'. The stopper 8' is molded of polyethylene or the like and given a slight taper for convenience in molding, the diameter at the top being slightly greater than the diameter of the passage in the bushing. An external shoulder or rib 12' adjacent the bottom projects outwardly sufficiently to permit passage through the bushing and to interlock with the lower end 6'' of the bushing when completely inserted. The diameter of the lower end 11' of the stopper is made substantially equal to the inner diameter of the main passage through the bushing and is tapered to permit entrance into the bushing and may be cut out or notched at 14' to facilitate such entrance of the stopper. This is particularly desirable if the diameter of the lower end of the stopper is somewhat greater than the diameter of the entrance to the bushing.

The side wall will bulge somewhat under inside pressure into the undercut bushing portion 7'.

I claim:

The combination with a bung bushing for beer

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 barrels or the like having a substantially cylindrical passage therethrough, of a cup-shaped bung formed of a molded synthetic elastomeric plastic having the characteristic of being form retaining under normal pressure but capable of deformation under excessive pressure and return to its original form upon release of such pressure, said bung being of a diameter capable of being driven into the cylindrical passage through the bushing in reverse position, the closed impact receiving 10 wall of said bung being comparatively thick and rigid, the side wall of said bung tapering in thickness from the closed end to the open end and said wall and being of greater height than the cylindrical opening in the bushing in which 15 the bung is driven, said taper imparting a greater degree of flexibility to the open edge of the bung wall, and a surrounding shoulder on the side wall adjacent its open edge adapted to be deformed

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 inwardly as the bung is being driven in the bushing passage and to snap out against the bottom edge of the bushing when the closed wall of the bung is driven entirely below the outer edge of the bushing.

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