

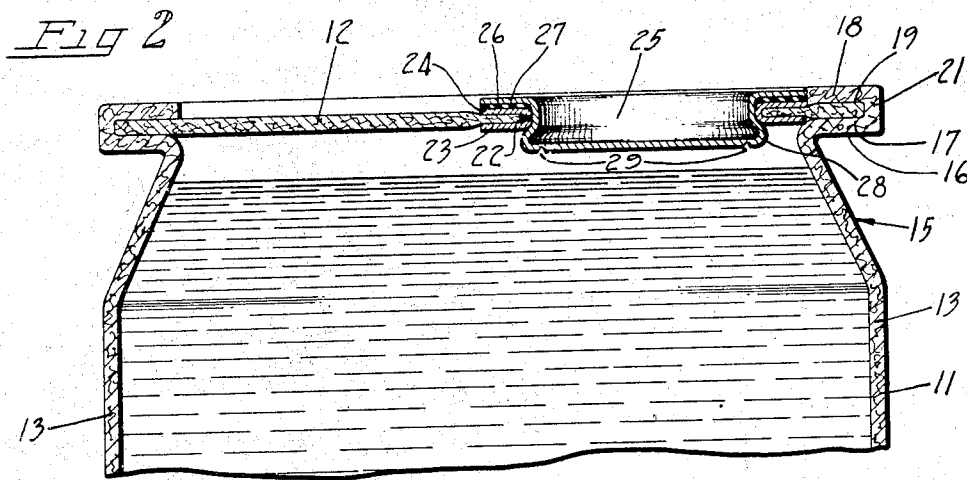
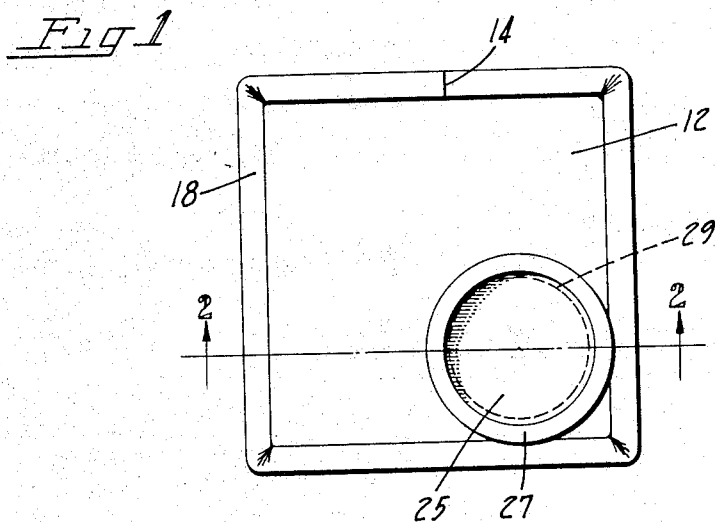
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CONTAINER

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2,347,686

CONTAINER

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1 Claim. (Cl. 229—7)

This invention relates to containers for the packaging and delivery of fluids such as lubricating oil and has particular reference to a single service, oil-proof fibre container which cannot be tampered with or opened without showing evidence of the fact.

The invention constitutes certain modifications and improvements in the container illustrated and described in my United States Letters Patent 2,085,979, issued July 6, 1937, and contemplates especially an improvement in the top closure construction thereof by virtue of which a tamper-proof top closure member is provided.

The invention contemplates an oil-proof container comprising a tubular body substantially square in cross section, having substantially flat top and bottom end members secured to the body by interfolded marginal portions constituting end seam joints in which the parts are permanently united by an interposed suitable oil resisting adhesive to produce a leak-proof container having an improved top closure.

An object of the invention is the provision of a tamper-proof container for oil and the like wherein the top end member has a reenforced filling opening formed by a metal grommet or band member which is pressed into an opening cut in the end member and thence folded outwardly to produce annular flanges on the interior and exterior surfaces of the end member. Such a band surrounds the opening to form a friction seat for an expansible metal friction plug closure which may be permanently secured in the can at the refinery after the container is filled, to the end that the plug closure cannot be removed or tampered with to remove or perform substitutions in respect to the container contents without leaving visual evidence of such unauthorized access.

Another object of the invention is the provision of a container of the above character which is particularly designed to furnish an inexpensive and practical sealed package capable of economical manufacture and which may be conveniently sealed by securing a closure member in position exteriorly of the container without the use of intricate equipment. In such manner a closure is effected which cannot be removed without destroying the closure or the reenforced band seat, or without rupturing the container in such a manner as to prevent refilling and fraudulent re-use of the container.

Numerous 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 drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a top plan view of an assembled container embodying the present invention, said view illustrating an improved plug closure member in closed position; and

Fig. 2 is a fragmentary enlarged vertical sectional view of a filled container substantially on line 2—2 of Fig. 1, said view illustrating the container parts in their sealed position.

The container illustrated in the drawing as constituting a preferred embodiment of the invention, is of the general construction described in my patent hereinbefore mentioned. Such a container briefly comprises a substantially rectangular body 11 closed at its opposite ends by means of suitable top and bottom end members. These end members are similar and for the purpose of the instant invention, only the top member need be illustrated. The numeral 12 designates such a top member.

The container body 11 is preferably formed from a single sheet of oil and liquid-proof fibrous material folded at right angles to provide four side walls, designated by the numeral 13. The edges of the sheet are joined by a lap seam extending longitudinally of the body on one of the side walls 13. Such a seam continues up and over the top bent portions of the container, and is indicated in Fig. 1 of the drawing as an extended portion 14 over the end 12. This lap side seam joint is secured together by a suitable adhesive to make it leak-proof.

The end members are preferably formed from the same fibrous material as the body of the container. Fig. 2 of the drawing shows how the top member 12 is interlocked with the adjacent end or marginal portion of the body. For this purpose the body marginal end portions are bent inwardly at 15 and thence outwardly as at 16 thereby providing a seat or ledge 17 extending circumferentially of the body and upon which the end member is supported.

The extreme edges of the body marginal portions beyond the ledge 17 are bent upwardly and thence inwardly over the outer edges of the top end member, thus providing opposite end flanges 18 which encircle and overlap the end member to hold the same in place. The bent or folded parts 16, 18 of the body and the intervening marginal edges of the top member 12 prior to being assembled, preferably have their engaging surfaces coated with a suitable oil-proof adhesive 19. During assembly the parts are pressed together

and permanently secured to form a leak-proof end seam 21.

The top member 12 is provided with a filling opening 22 (Fig. 2) preferably formed adjacent one corner. This opening is suitably reenforced by a metal band or grommet 23 which is pressed into the opening and thence folded outwardly and into clamping engagement with opposed surfaces of the fibrous material surrounding the opening in the top member (Fig. 2) thus producing inner and outer annular flanges bordering the opening, as designated by the numeral 24 (Fig. 2).

The assembly of band 23 into the top member may be performed as an incident to the formation of the top prior to sealing the latter to the container body. The opening in the metal band is uniformly sized when it is assembled into the top member 12 to form a friction seat for an expansible friction plug closure member 25 which is preferably constructed of metal and thereafter secured in the thus reenforced filling opening of the filled container when it is finally sealed.

After the containers are completely assembled they are or may be treated on all surfaces with a suitable coating to render them oil and liquid-proof. The coating may be applied in any desired and preferred manner, but since the filling opening is disposed in the top of the container, a dipping procedure may be best suited for the purpose. The operations on the container thus far are carried on by the container manufacturer and the complete and empty containers are now ready to be shipped in such condition to the refinery or packer's plant for filling and final sealing.

After the container is filled the expansible friction plug closure 25 is pressed into the reenforced filling opening to close it (Fig. 2). A suitable oil resisting compound or impervious paper gasket 26 may be interposed between the upper surface of the metal band 23 and a horizontally disposed wall 27 on the plug closure 25. The shape of the friction plug closure may now be slightly altered by a suitable expanding operation to permanently seal the filled container. In the sealing operations a circumferential bead 28 is formed as a result of the plug being expanded into the reenforced opening of the band 23 (Fig. 2).

Opening of the container for the removal of its contents can be accomplished by simply cutting a dispensing opening in the top end member 12 by the use of any sharp instrument, such as a knife. Provision is also made for easy opening of the container directly in the plug closure

25 if this is desired. Such provision destroys the sealed parts of the container, a weakened area being formed in the panel section of the plug closure by means of a circular score or weakened line 29. Such a weakened area may easily be broken out by a blunt tool such as a screw driver struck lightly against the panel section to effect a dispensing opening. The container contents may then be poured out through either type of opening directly into the oil inlet pipe of a motor or engine, or other desired place of deposit.

It will be evident from consideration of Fig. 2 in view of the description hereinbefore outlined that a substitute closure can not be fraudulently replaced or substituted upon the container or the container resealed for further use without evidence thereof being easily detected. Containers of this type serve as efficient single service receptacles which insure delivery of their contents without adulteration, thus preventing substitutes by fraudulent refilling.

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 single service tamper-proof fibre container for oleaginous material, comprising a leak-proof tubular fibre body, portions of said body adjacent an end being bent to form an annular end receiving channel, a substantially flat rigid top fibre end member for said tubular body having its outer annular marginal edges adhesively secured in said channel to form an end joint, said top end member having a filling opening adjacent one corner of the container, a metal band member disposed in said opening and having vertically spaced outwardly extending inner and outer peripheral flanges disposed in tight clamping engagement with the inner and outer surfaces of said end member to reenforce the filling opening, and a metal friction plug closure having its inner end expanded so as to be permanently secured in said filling opening in interlocking engagement with said inner and outer flanges of the reenforced band member to provide a non-removable tamper-proof seal for the container.

JOHN M. HOTHERSALL.