June 16, 1942. J. B. CALVA 2,286,342

CONTAINER

Filed Dec. 23, 1937

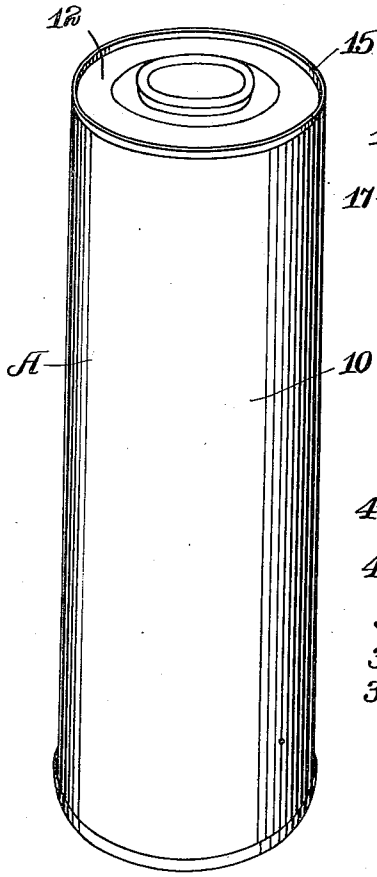


Fig. 1

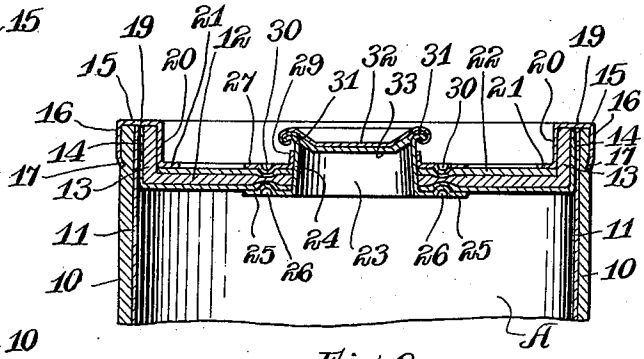


Fig. 2

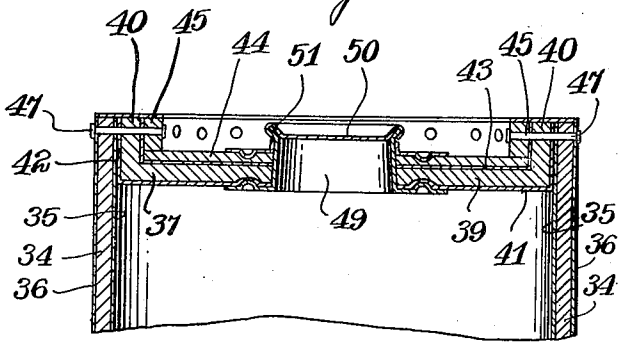


Fig. 3

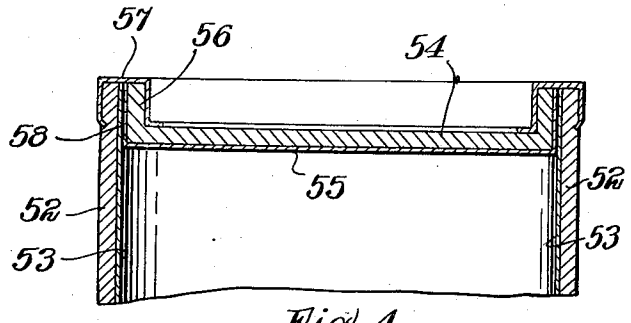


Fig. 4

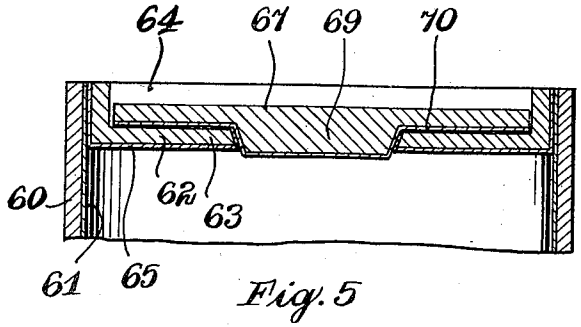


Fig. 5

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2,286,342

CONTAINER

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Application December 23, 1937, Serial No. 181,304

1 Claim. (Cl. 229—43)

My invention relates to an improvement in containers wherein it is desired to provide a container, the body portion of which is formed preferably of paper or similar material, and which is designed to accommodate liquids, semi-solids, oil, or similar material.

Many types of containers have previously been formed for the purpose of holding liquids or greasy materials. Some of these containers have been successful in containing these materials for some length of time. It has been difficult to store such materials in the containers for any great length without leakage of the material from the container or absorption of the liquids by the body of the container.

It is a purpose of the present invention to provide a container which is constructed in a manner to prevent both the leakage of the contents from the container and also to prevent absorption of the material by the body of the container. Thus, liquids, oils, greases, and other similar products may be stored for great periods of time within my container without damage to the container or to the contents.

It is a purpose of my invention to provide a container which may be easily filled and which may be sealed readily. Once the seal has been made, the container is designed to maintain this seal until the container or seal is punctured, thus preventing refilling of the container.

It is a purpose of my invention to provide a container which may be made at a minimum of cost and which is extremely light in weight. Accordingly, I desire to use paper or pulp products in the formation of both the side walls and the ends of the container wherever possible and to reinforce the container if necessary at the points of greatest strain. The seal may be formed of either metallic material or of plastic or fibrous material in a manner which will be later more clearly described.

It is a further purpose of my invention to provide a container formed of either laminated sheets of paper or fibrous material or of pulp products or plastic materials, which are lined with a suitable liner impervious to the material to be contained. This lining material is so arranged as to seal the contents of the material thoroughly and to prevent absorption of the contained material by the body of the container.

These and other objects and novel features of my invention will be more fully and clearly set forth in the following specification and claim.

In the drawing forming a part of my specification:

Figure 1 is a perspective view of my container in preferred form.

Figure 2 is a cross-sectional view through an end of my container illustrating the filling and sealing arrangement.

Figure 3 is a sectional view through one end of a slightly different form of container.

Figure 4 is a sectional view through an end of my container of slightly different form, disclosing the end thereof which is equipped with filling and sealing apparatus.

Figure 5 discloses my container in which a slightly different form of filling and sealing device is provided.

My container A is formed with a side wall 10 which may be either cylindrical or any other geometrical shape. This wall 10 may be of pulp material molded into proper form or may be formed of laminated sheets, one wound about the other. The side wall 10 may similarly be formed of plastic material. On the inner surface of the container A extending from end to end of the side wall 10, I provide a liner 11 formed of a film of material impervious to the material to be contained.

At the ends of the container I provide end walls formed of discs of material formed of laminations of paper, molded pulp, or of plastic material. These end walls 12 are provided with a cylindrical flange 13 of a diameter to fit tightly within the side wall 10, and the inner surface of the end walls 12 are provided with a liner 13 formed of material impervious to moisture. This lining 13 preferably extends about the flange 13 so that the two surfaces of lining material 11 and 12 may contact about the entire periphery of the inside of the container and may be adhered together by a suitable adhesive 14 between these linings.

To reinforce the end walls, I provide a substantially U-shaped ring 15 having an external flange 16 surrounding the outer surface of the wall 10 and having an end 17 extending into the body of the side wall 10. The ring 15 is also provided with an end portion 19 which covers the ends of the side wall 10 and the flange 13 on the end wall 12. An inner flange 20 extends within the flange 13 and if desired a short ring-shaped flange 21 may overlie the top surface of the end wall 12. The reinforcing ring 15 thus holds the flange 13 closely adjacent the side wall 10 and prevents the separation of these members. This ring 15 also reinforces the end of the container from shock.

In Figure 2 of the drawing, I disclose a rein-

forcing disc 22 overlying the end wall 12 and which may be adhered thereto. This reinforcing disc acts to further support the central portion of the end wall from injury.

The sealing end of the container is provided with a filling plug 23 which may be seen in Figures 2 and 3 of the drawing. This plug 23 is provided with a tapered upwardly extending sleeve 24 having a peripheral flange 25 extending outwardly from one end of the same. A circular groove 26 extends into the end wall 12 to crimp the end wall and to compress the end wall at this point to prevent leakage about the sleeve 24. A ring 27 extends about the sleeve 24 spaced on the opposite side of the end wall 12 therefrom. This ring 27 is provided with an integral sleeve 29 fitting closely against the tapered wall 24 to form a tight joint between these members 29 and 24. The ring 27 may also be formed with a circular groove 30 of a diameter approximately equal to the diameter of the groove 26 so that when the seal is in place, the end wall 12 is pinched by the opposed rings formed by the grooves 26 and 30, to compress the end wall and to prevent leakage of the contents of the container at this point.

In this construction it will be noted that at the juncture between the side wall and the end wall, the two lining members contact and are adhered together, and it will also be noted that the seal compresses the liquid, moisture, or grease-proof lining and directly contacts the same, preventing leakage.

The outer end of the tapered sleeve 24 is flared outwardly at 31 and a cap 32 is rolled or crimped about this flared end 31 when the seal 32 is in place. When the package has been filled, the seal 32 is applied and crimped in a manner to prevent leakage at this point. If desired, a gasket 33 may be provided within the cap or seal 32 to engage the flared end 31 of the wall 24.

In Figure 3 of the drawing, I disclose a container having a side wall 34 having an inner lining and an outer lining 36 of grease-proof, oil and liquid-proof material. The end wall 37 is formed of a disc-shaped body 39 having a peripheral flange 40 of a shape to fit within the side wall 34. A lining 41 is provided extending over the inner surface of the body 39 and the outer surface of the flange 40 so that the lining 35 and the lining 41 may be adhered by a suitable glue at 42. An outer covering or coating of grease, oil, and moisture-proof material indicated at 43 may also cover the outer surface of the body 39 of the end wall 37 and the internal surface of the flange 40.

If it is desired to further reinforce the end wall 37, this may be done by means of suitable reinforcing discs 44 overlying the body 39 and extending within the flanges 40. The end may be further reinforced by means of a reinforcing ring 45 extending within the flange 40, and the ring 45 may be secured to the flange 40 and to the end wall 44 by rivets, staples, or other suitable holding means indicated at 47.

The end wall 37 is disclosed as including a filling plug 49 which is substantially identical to the plug 23 illustrated in Figure 2. The cap 50 used in combination with the filling plug 49 is shown crimped directly to the flared end 51 of the plug 49 and no gasket is shown in this construction. It is obvious that a gasket such as 33 may be provided if desired or that the construction of Figure 2 may be equipped with a reinforcing ring such as 45.

Figure 4 of the drawing discloses a container end which is similar to that disclosed in Figure 2, but does not disclose the reinforcing disc such as 22 of Figure 2, or the filling device. In this form of construction, the side wall 52 is provided with an inner lining 53 formed of liquid and grease-proof material. The end wall 54 is also lined with a grease-proof and liquid-proof lining 55 which extends over the entire surface thereof and over the peripheral flange 56 of the end wall. The end may be adhered to the side wall, adhering the lining 53 to the lining 55 by means of a suitable adhesive at 58. A reinforcing ring 57 is provided enclosing the extreme end of the side wall and flange 56. This reinforcing ring is similar to that disclosed in Figure 2 of the drawing. This reinforcing ring if desired may be substituted for the end closing ring 59 illustrated in Figure 3 of the drawing; which is merely a ring of suitable material such as paper, pulp board, or plastic material adhered to the end of the container. This ring 59 which may be treated to water-proof the same, closes the ends of the side wall 34 and flange 40 as well as the reinforcing ring 45. The ring 59, when properly adhered in place by suitable glue prevents the absorption of any of the contents by the body of the container, the end wall or reinforcing ring.

In Figure 5 of the drawing, I disclose a slightly different form of container seal. In this form of construction the side wall 60 is provided with a suitable liquid, oil, or grease-proof lining 61. The end wall 62 is formed with a disc-like body 63 having a peripheral flange 64 extending about the same. A lining of liquid and grease-proof material indicated at 65 extends over the inner surface of the end wall 62 and flange 64 and may be secured in place by adhering the lining 65 directly to the lining 61. A central aperture is provided in the end wall 62 which is preferably tapered as indicated at 66. The container is sealed by means of a disc 67 which extends within the flange 64 and which is provided with an integral plug 69 extending into the opening 66. The plug 69 is preferably tapered as illustrated to fit the taper of the opening 66. The surface of the disc 67 and plug 69 is covered with a coating or lining impervious to liquid, oily and greasy material indicated at 70. When the contents of the container of this form are within the container, the same may be sealed by means of a suitable adhesive applied to the surface of the lining 70 or the end wall 62, or both of these members, as well as about the tapered wall of the plug 47 or opening 66. When the end plug 67 is in place, the joint between this end plug and the end wall 62 is therefore sealed by this adhesive, preventing leakage about the central plug 69.

The closure plug 69 and integral disc 67 may be formed of laminated material, fibrous, or plastic material formed in the proper shape, and when in position will reinforce the end wall 62 of the container.

In accordance with the patent statutes, I have described the principles of construction of my container, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claim without departing from the spirit of my invention.

I claim:

A container comprising a side wall, a liner of moisture impervious material coating the inner

surface of said side wall, an end wall having a peripheral flange engageable within said side wall, a moisture impervious liner on said end wall extending over said peripheral flange, adhesive between said moisture impervious liner on said side wall and said moisture impervious liner on said end wall, and sealing means comprising a flat bearing portion shaped to fit within said peripheral flange, a plug on said bearing portion, a continuous unbroken liner covering the entire inner surface of said sealing means, said end wall having an aperture therein into which said plug extends, said plug projecting through said aperture, a moisture impervious film on said bearing portion and extending over said plug, and adhesive means interposed between said liner over said bearing portion and said end wall and between said plug and said aperture.

JOSE B. CALVA.