

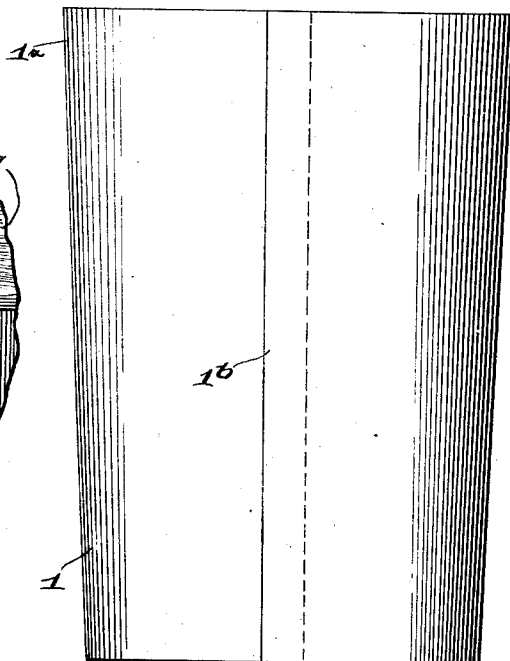
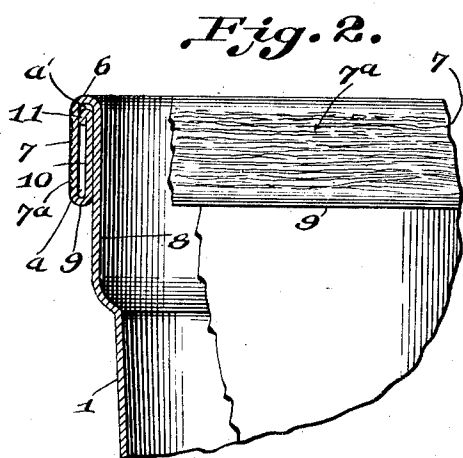
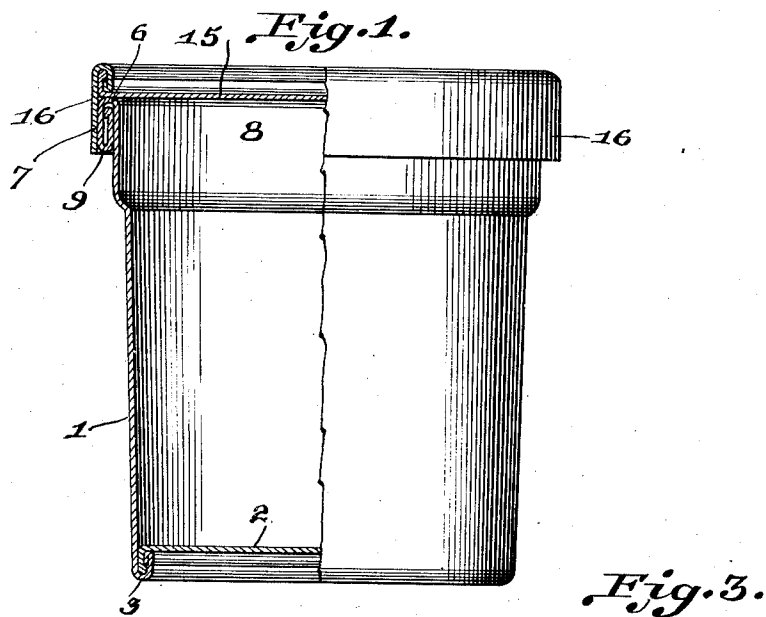
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PAPER CONTAINER

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1,954,306

PAPER CONTAINER

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7 Claims. (Cl. 229—5.5)

This invention relates to paper containers; and from a specific phase of my invention relates to paper containers of the type of the United States patent to W. L. Wright and J. T. Bond No. 1,731,916, dated October 15, 1929; and the objects and nature of my invention will be apparent to those skilled in the art in light of the following explanations of the accompanying drawing illustrating the preferred mechanical expression or embodiment of the invention from among other forms and arrangements within the spirit and scope thereof, as well as the novel steps followed in the production thereof.

An object of the invention is to render paper containers built to receive and be sealed by removable exterior slip covers or lids of the approximately cylindrical flange type, more efficient and effective in the liquid and air tightness of the seal between the container annular mouth wall or rim and the cover flange, and in the facility with which the cover can be applied and removed, and in the cover retaining strength of the friction grip between the cover flange and container rim.

With the foregoing and other objects in view the invention consists in certain novel and advantageous features of structure, formation and arrangements.

Referring to the accompanying drawing, forming part hereof:

Fig. 1 is a sectional side elevation of an example of a paper container disclosing an embodiment of my invention, an exterior cylindrical flanged slip cover being shown in sectional elevation closing and sealing the mouth of said container.

Fig. 2 is a detail sectional elevation of the large or mouth end portion of the container on an enlarged scale, the cover not being shown, the rim being shown in its final completed form.

Fig. 3 is a side elevation of a longitudinally tapered paper container tubular body blank with overlong ends.

In the particular example shown, the container body 1, contracts or tapers downwardly from its large open upper end or mouth portion to its small end or base which is closed by a preferably liquid-tight usually permanent bottom closure, such as 2, which preferably is inset to provide the container with an annular depending flange-like base 3, although I do not wish to so limit my invention.

The liquid tight body 1, is usually composed of one or more flat sheet paper or other suitable sheet material blanks, bent or otherwise formed on a mandrel or other means to tubular truncated cone form (Fig. 3) with the blank ends or edge portions overlapped and cemented or otherwise united to form a longitudinal liquid tight preferably permanent seam 1b, throughout the length of the tubular body 1.

The tubular body blank 1, (Fig. 3) is decidedly overlong at its upwardly enlarging tapered upper end to provide the ample surplus top length 1a, necessary for taking up or absorption in the formation of the peculiar hereinafter described rim.

The annular exterior cover-flange gripping rim of the finally completed container, exteriorly surrounds the annular outer side of the large upper end portion 8 of the interior wall of the container, and depends from the top rounded annular mouth edge of lip 6, of the container for a substantial distance, to provide an annular vertically wide or long exterior rim, the outer cover flange engaging wall surface 7, of which is roughened or irregular as by a vertical series of slight circumferential irregularities or approximate ridges, more or less diagrammatically indicated at 7a, providing an exceedingly effective cap flange gripping friction holding and sealing surface even when more or less heavily paraffined for waterproofing purposes.

This vertically elongated exterior annular cover flange contacting wall portion 7, of said rim, constitutes an exterior downward continuation of annular lip 6, of enlarged diameter, being spaced exteriorly a substantial distance radially from the outer surface of the inner wall portion 8, the lower or bottom end of the enlarged rim of said wall portion 7, curves and turns back inwardly and upwardly forming the inner upstanding wall portion 10, of the rim in loose engagement with the exterior surface of said inner wall portion 8, of the container, with said annular inner wall 10, extending up from the annular rounded more or less flexible bottom edge 9, of the rim that constitutes a more or less resilient compressible and expansible annular bottom hinge connection between the depending annular vertically or longitudinally wide outer wall 7, and the upstanding annular vertically short inner wall 10, of the depending rim.

The vertically-arranged inner wall 10, of the rim extends upwardly along and rests more or less loosely against the outer surface of the portion 8, of the inner container body wall. The annular upper edge portion 11, of said rim inner wall 10, is bent or upset outwardly to form an annular approximately horizontal more or less spring or resilient supporting or backing annular flange or rib 11, that more or less loosely abuts the inner surface of the pliable outer rim wall 7, preferably at a substantial elevation above the bottom rim edge 9, to limit the inward radial movement of said more or less flexible cushioning outer wall 7, and to brace and back the same against permanent deformation and to exert radial outward pressure thereon to aid the trapped air behind wall 7, in maintaining said wall 7, in and in returning the same to its normal enlarged diameter.

It will be noted, that the outer rim wall 7, is spaced radially outwardly from the outer surfaces of container body wall 8, and from the inner rim wall 10, to provide one or more annular approximately-trapped cushioning air spaces, such as *a, a'*, that back the outer rim wall 7, and perform important functions in sustaining the rim in the form desired and in cushioning rim wall 7, and rendering the same more or less resilient to attain the desired liquid tight seal and friction grip between the cover flange and rim, and to accommodate slight variations in the internal diameters of the flanges of different covers although rated as of the same size.

These containers can be equipped with and are adapted for various kinds of annularly flanged exterior slip covers, although I show a liquid tight, usually paper material, cover having flat imperforate top 15, and depending annular possibly slightly yieldable flange 16, with a preferably smooth cylindrical inner surface of a vertical length usually slightly exceeding the vertical length of the outer wall 7, of the container rim, and of a diameter to facilitate or more or less freely or easily initiate the entrance of the upper end of the container rim into the cover flange, and require pressure to force the flange down the annular rim wall 7, to radially slightly compress the same with a friction holding grip and liquid tight fit between the outer irregular or rough surface of rim wall 7, and the inner surface of the cover flange, as the tightly surrounding flange descends thereon under forcing pressure.

When the cover is finally seated in sealing closing position on the container, the cover top 15, fits down on the container top lip 6, and the cover flange surrounds and possibly extends below the rim outer wall 7, and said wall 7, is by said flange 16, preferably, radially pressed inwardly against the opposing radial outward pressure and tension of the trapped air in chambers *a, a'*, the rounded lower edge 9, of the rim and the annular intermediate backing or bracing rib 11.

The somewhat roughened or irregular gripping outer surface 7*a*, of the flexible outer rim wall 7, is of importance in increasing the friction grip and liquid sealing contact between the rim and cover flange, particularly as the felt mass of the paper that forms the outer surface portion 7*a*, of rim wall 7, is crushed, softened or rendered pliable and thus frictionally gripping or clinging, and its resiliency broken down, by the peculiar spinning operation employed in the formation of said wall 7, of the rim and its surface 7*a*, with the vertical series of annular horizontal circumferential slight irregularities, hardly perceptible ridges such as so-called surface folds, wrinkles or creases, or more or less lines of roughness 7*a*.

The peculiar formation of the pliable annular compressible cushioned rim wall 7, and its sealing gripping surface, such as 7*a*, cooperate with the cover flange in the formation of a remarkably tight seal between the cover and rim and consequently a most effective closure of the container with the cover tenaciously held in closing position on the container, and yet the cover can be easily applied to and removed from the container by application of the necessary force and manipulation.

The upturned inner wall 10, of the rim that forms abutment 11, is the sole invention of L. E. La Bombard, claimed by his application filed March 30, 1932, Serial No. 602,061.

What I claim is:—

1. A paper container having an open mouth

adapted to be closed by a removable annularly skirted friction slip cover; the wall of said container providing a vertically-wide annular crushed paper wall surrounding said mouth and having an annular vertically-disposed soft slightly-irregular frictional gripping surface throughout its substantial vertical width exposed to slidably and tightly engage and frictionally grip the surface of the cover skirt and cooperate therewith in forming a tight holding seal.

2. A paper container having a mouth adapted to be closed by an annularly skirted slip cover; the upstanding surrounding paper wall of said container providing an annular down-turned depending annular paper wall cushioned to resist radial movement under the pressure of the cover skirt, said cushioned paper wall surrounding the mouth of the container and presenting an annular vertically-wide slightly irregular cover skirt friction gripping crushed-paper surface exposed to slidably and grippingly receive the cover skirt approximately throughout the vertical width thereof.

3. A paper container having an annular rim surrounding its mouth and providing an annular vertically-wide substantially vertically-flat pliable slightly-irregular paper surface exposed throughout its vertical length to slidably receive and frictionally grip the surface of the annular skirt of the container slip cover approximately throughout the vertical length of said skirt.

4. A paper container having a slip-cover-receiving annular spun paper wall surrounding its mouth, said wall having a vertically wide annular surface to slidably and frictionally receive the annular skirt of the container slip cover, said surface being soft and having circumferential, hardly perceptible surface folds or irregularities to frictionally grip and hold the skirt surface and to cooperate therewith in forming a tight holding seal.

5. A paper container having a turned down end extension of the upstanding container wall, forming an annular longitudinal spun or crushed paper wall, said wall having a cushioning backing to yieldingly resist movement of said spun paper wall under the compressing action of the cover skirt, said spun paper wall having an annular, slightly roughened or wrinkled frictional gripping surface throughout its vertical width and exposed to slidably and tightly fit the surface of the annular skirt of the container slip cover with a holding tight seal-forming grip.

6. A paper container having a rim surrounding its mouth and embodying a vertically-wide turned down depending annular extension of the upstanding paper wall of the container, said extension having a vertically-wide annular surface of approximately uniform diameter throughout its vertical length, said surface being frictionally soft or crushed as by spinning and slightly uneven to frictionally grip the skirt of the container slip cover and cooperate therewith in forming a tight seal, said frictional surface being exposed to slidably and tightly receive the annular skirt of the removable slip cover of the container.

7. A paper container having an annular rim surrounding its mouth to slidably and frictionally receive and hold the annular skirt of the container slip cover, said rim providing an annular vertically-wide crushed paper frictionally-gripping surface having circumferential wrinkle-like irregularities, exposed to slidably and frictionally receive the cover skirt surface, to grip and hold the same and form a tight seal therewith.

WILBUR L. WRIGHT.