

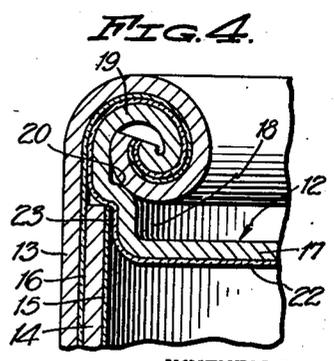
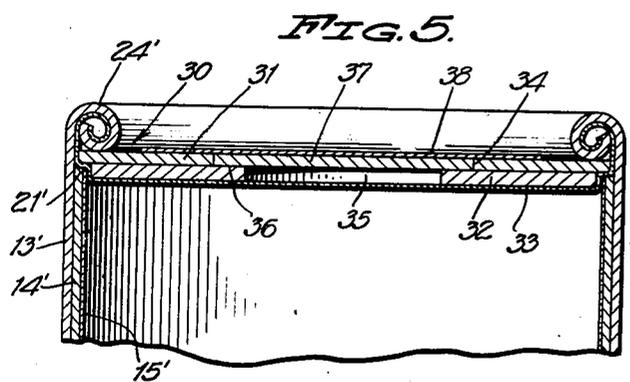
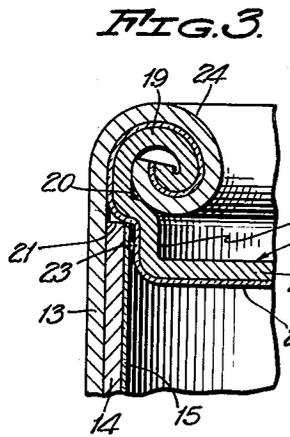
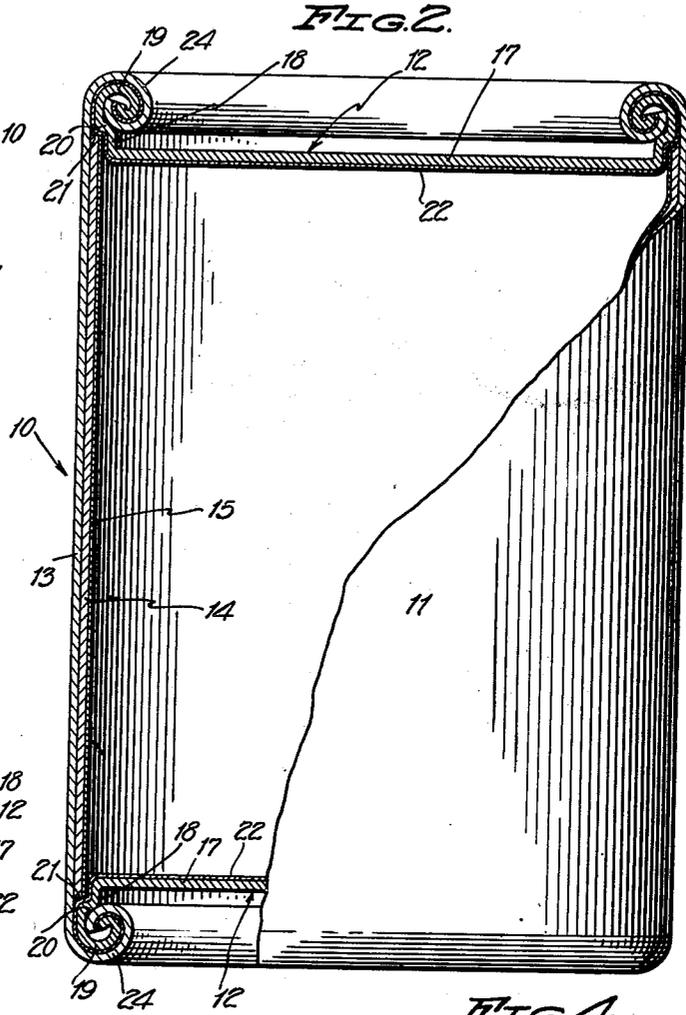
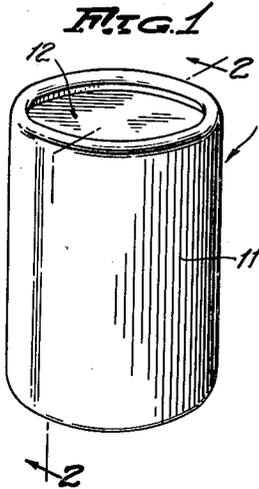
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2,343,716

FIBER CONTAINER

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UNITED STATES PATENT OFFICE

2,343,716

FIBER CONTAINER

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3 Claims. (Cl. 229—5.6)

This invention relates to improvements in fiber containers for use in the packaging of food-stuffs and other moist or greasy commodities.

The primary object of the invention resides in an all fiber container having all the preservative qualifications of a tin or other metal container and which is intended to be used in lieu thereof for metal conservation purposes.

One of the important features of the invention resides in a fiber container having a novel sealed joint between its body and its end closure to prevent accidental leakage of any contents therefrom, be they liquid, solid, or powder.

Another feature of the invention is to provide an end closure construction for moistureproof containers in which a lining sheet of moistureproof material such as Cellophane is interposed between the interlocking parts of the end closure and the side wall of the container body and securely held thereby to effect a moistureproof and greaseproof joint.

Other novel features of the invention are; to provide a moistureproof container which may be manufactured by conventional container making machines; which is simple and inexpensive of construction; and which is strong and durable to withstand the stresses to which packaging containers are subjected during packaging, shipping, and general handling.

Other features of the invention will become apparent as the specification is read in conjunction with the accompanying drawing, in which:

Figure 1 is a perspective view of a fiber container constructed in accordance with the invention.

Figure 2 is an enlarged vertical longitudinal sectional view on the line 2—2 of Figure 1.

Figure 3 is an enlarged detail vertical sectional view through the end wall structure.

Figure 4 is an enlarged detail vertical sectional view illustrating a modified form of the invention.

Figure 5 is a detail sectional view illustrating a further modified form of the invention.

Referring to the drawing by reference characters, and at present to that form of the invention illustrated in Figures 1 and 2, the numeral 10 designates an all fiber container constructed in accordance with the invention. The container 10 includes a cylindrical fiber body 11, and permanent fiber end closures 12—12.

The cylindrical body 11 comprises an outer cylindrical fiber wall 13 and an inner cylindrical fiber wall 14. The inner cylindrical wall 14 snugly fits within the outer cylindrical wall 13 and is

of a height shorter than the height of the wall 13 so that its ends terminate short of the plane of the corresponding ends of the outer wall 13. The cylindrical walls 13 and 14 are made of stiff cardboard which may be rolled from a blank into cylindrical form, or they may be spirally or helically wound from strip material, or they may be cut from molded fiber tube stock. The inner side of the inner wall 14 is provided with a moistureproof and greaseproof liner which is shown as a thin layer of moistureproof Cellophane or equivalent material 15. The Cellophane 15 constitutes a lamination of the inner wall for waterproofing the outer and inner side walls 13 and 14. If desired, the inner side of the outer side wall 13 may also be laminated with a layer of Cellophane 16 as indicated in Figure 4 to impart added moistureproofing protection to the side wall structure.

The end wall structures 12—12 are identical in construction, so that a description of one will suffice for the other. Each end wall structure 12 includes a stiff cardboard disk body 17 having an integral outwardly extending annular wall or flange 18 of an external diameter to snugly telescope the end of the inner side wall 14. Formed integral with the outer edge of the wall 18 is an inwardly rolled hollow convolute bead 19. The inner and outer sides of the bead extend beyond the plane of the respective corresponding sides of the wall 18, and a portion 20 thereof snugly seats against the shoulder 21 defined by the adjacent free end edge of the inner side wall 14. The cardboard material from which the end closure is constructed is also provided with an inner liner of moistureproof material such as Cellophane 22 which is laminated thereto, so that the inner side of the disk body 17, and outer sides of the wall 18 and bead 19 are moistureproofed. An adhesive binder 23 is applied between the confronting moistureproof surfaces of the wall 18 and wall 14 to secure these parts together and cooperate to provide a tight sealed joint.

After the end closure 12 has been telescopically associated with an end of the cylindrical body 11 in the manner just described, the adjacent extending end of the outer wall 13 is rolled inwardly about the bead 19 to provide a clinching interlocking convolute bead 24. The bead 24 clinchingly interlocks with the bead 19 and has a portion inwardly from its inwardly rolled edge bearing against the shoulder portion 20 to forcibly hold the shoulder portion 20 of the bead 19 seated against the shoulder edge 21, thus the end closure

is held against any inward or outward movement relative to the cylindrical body 11.

A container 10 constructed in the manner herebefore described is moistureproof and greas-proof throughout, due to the inner laminations of Cellophane 15 and 22, and the sealed joint between the parts 18-14, 20-21, and 19-24. To open the container 10, it is necessary that one of the end closures be mutilated by cutting through the disk body 17 and its laminated moistureproof liner 22, or by manually prying the annular bead 24 from engagement with the bead 19 of the end closure.

In Figure 5 of the drawing, there is illustrated a modified form of top end closure 30 which may be used in instances where access to the interior of the container is desired without mutilating the closure. The end closure 30 includes an outer end disk 31 to the underside of which is secured an inner end disk 32. The disk 31 is of a diameter to snugly fit into the outer side wall 13' and seat against the edge 21' of the inner side wall 14', which latter wall is lined with a lamination of moistureproof material such as Cellophane 15'. The inner end disk 32 is provided with an inner liner of moistureproof material such as Cellophane 33, which liner extends beyond the peripheral edges of the disk 32 to extend outwardly and lie against the extending end of the outer side wall 13'. The disk 32 is of a diameter less than that of the disk 31 and snugly fits into the inner cylindrical wall 14'. The extending end of the outer cylindrical wall 13' is rolled inwardly to provide a hollow bead 24', which bead is in pressing engagement with the outer end disk 31 and effects a tight seal between the disk 31 and the seat edge 21'. The liner material 33 is interposed between the peripheral edges of the disks 31-32 and the adjacent surfaces of the side wall structure. The disks 31-32 have centrally aligned openings 34 and 35 therein. The opening 35 is smaller in size than that of the opening 34 so that a seat 36 is provided on the disk 32 to receive a removable closure disk 37 which closes the openings 34 and 35. A sealing strip or glue label 38 is applied over the closure cap 37 to secure it in position against accidental displacement.

To open a container equipped with the end closure structure 30, the strip or label 38 is torn away from the outer end disk 31 to which it is adhesively secured, after which the closure cap 37 is pryed free of its seat and removed. The contents of the container may now be poured through the openings 35 and 34 by puncturing the Cellophane or liner disk and inverting the position of the container. If the full contents of the container are not dispensed, the cap 37 may be replaced upon the seat 36 to protect the remaining contents of the container.

In both forms of the invention set forth herein, the end edge of the inner cylindrical wall of the side wall structure provides a shoulder or seat for the end closure and against which the end closure is pressingly held by an inwardly rolled bead formed on the end portion of the outer side wall.

While we have shown and described what we

consider to be the preferred embodiment of our invention, we wish it to be understood that such changes in construction and design as come within the scope of the appended claims may be resorted to if desired without departing from the spirit of the invention.

Having thus described the invention, what we claim as new and desire to secure by Letters Patent, is:

1. A fiber container comprising outer and inner cylindrical side walls constructed of stiff cardboard, one end of the inner side wall terminating short of the adjacent end of the outer side wall, an end wall member comprising an annular disk body, an outwardly extending annular side wall integral with said disk body in telescoping engagement with the end of the inner side wall, an enlarged annular inwardly rolled convolute bead integral with the annular side wall of the disk body having an outwardly offset portion seated on the adjacent end edge of the inner side wall, and an annular inwardly rolled clinching bead formed integral with the adjacent end of the outer side wall extending inwardly over and enclosing the first named bead, said clinching bead having a portion inwardly of the rolled-in free edge thereof in pressing engagement with the shoulder of the offset portion for holding the offset portion in seated position against the adjacent end edge of the inner side wall.

2. A fiber container as set forth in claim 1 including a lamination of moistureproof material covering the inner surface of the inner side wall, a lamination of moistureproof material covering the inner surface of the disk body and the outer surfaces of the annular side wall and enlarged bead of the end wall member, and an adhesive binder between the confronting moistureproof materials at the joint between the side wall of the end wall member and surface of the adjacent end of the inner side wall, said laminations being inwardly rolled with the respective beads.

3. A fiber container comprising a cylindrical side wall composed of outer and inner laminations of stiff cardboard, one end of the inner lamination terminating short of the adjacent end of the outer lamination, the terminating edge of the inner lamination constituting an annular shouldered seat, an end wall member constructed of stiff cardboard comprising an annular disk body having an integral peripheral flange extending outwardly therefrom and arranged in snug telescoping engagement with the inner lamination, an annular inwardly rolled hollow convolute bead integral with the flange having an outwardly offset portion overlying the plane of the shouldered seat and being seated thereon, and an annular inwardly rolled convolute bead formed integral with the adjacent end of the outer lamination enclosing the hollow bead and disposed in overlying clinching engagement therewith and having a portion thereof in pressing engagement with the offset portion to hold the said offset portion against the shouldered seat.

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