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D. N. VAN ALSTYNE ET AL

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PAPER CONTAINER

Filed June 29, 1927

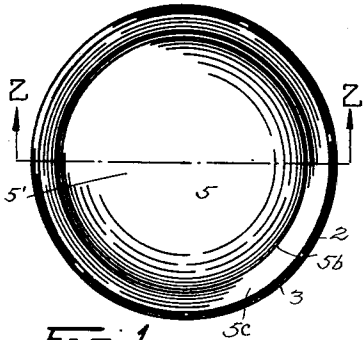


Fig. 1.

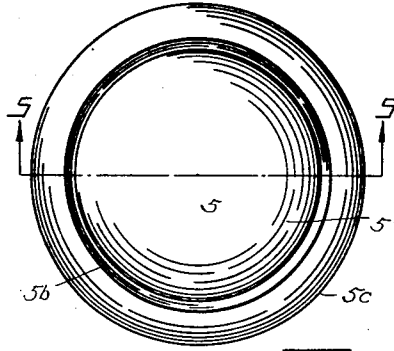


Fig. 4.

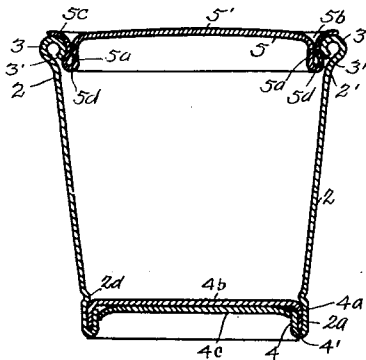


Fig. 2.

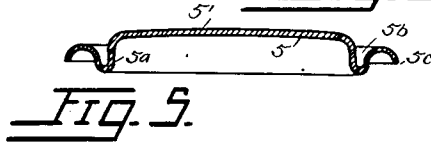


Fig. 5.

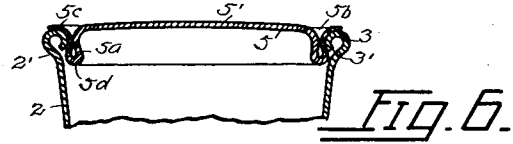


Fig. 6.

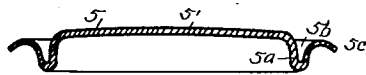


Fig. 7.

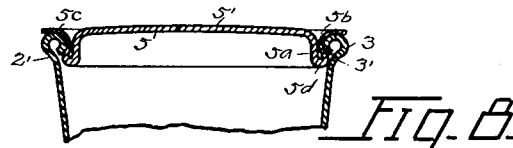


Fig. 8.

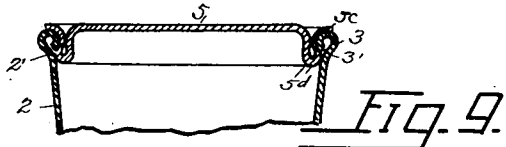
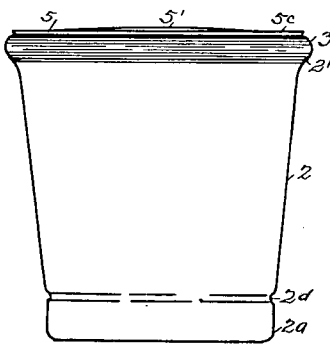


Fig. 9.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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PAPER CONTAINER.

Application filed June 29, 1927. Serial No. 202,421.

This invention relates to paper containers, designed for dispensing ice-cream, jellies, liquids and moist products generally, and has for its object to provide a fibrous jar or bottle, comprising a tubular or conical body having normally open ends. A further object is to provide novel construction of the ends of the body, which are arranged with internal resilient rolls or folds that are disposed entirely within the walls of the body, for reinforcing said ends, and for facilitating nesting of the bodies during shipment and storage, said rolls and folds affording complementary means for locking the top and bottom closures to the body. A further object is to provide a disc-shaped closure for the filling end or mouth of the body, said disc being formed with a depending flange or rib comprising an annular crimp, which is arranged to be inserted in the rolled mouth and to snap beneath and become interlocked with said roll when pressure is applied to the top of said disc, the peripheral portion of said disc beyond said flange comprising a flexible apron which is adapted to overlie and conform to the rolled portion of the mouth, for protecting the pouring surface thereof, as well as for supplementing the seal effected by said roll and said crimp. And a further object is to provide a closure for the bottom of the body comprising a similar disc having a peripheral flange arranged to interlock with the cylindrical fold of the bottom. The top closure, except the said annular crimp, being disposed in a plane above and parallel to the roll of the mouth, for enabling the container to be completely filled.

We obtain these objects by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawing, in which—

Figure 1 is a top plan view of the complete container, with the cover attached. Fig. 2 is a central vertical section through the body of the container and the top and bottom closures, taken on line 2—2 of Fig. 1, showing the arrangement of the cover and the bottom. Fig. 3 is a side elevation of the complete container. Fig. 4 is a top plan view of the cover of Figs. 1 and 2 when detached. Fig. 5 is a central vertical cross-section taken on line 5—5 of Fig. 4. Fig. 6 is a broken central vertical section through the mouth of the container, showing the closure of Fig. 5 applied thereto. Figs. 7 and 8 are vertical sections, showing slight modifications of the detached

and attached cover. And Fig. 9 is a broken central vertical section showing another slight modification.

In the drawing, 2 represents the hollow frusto-conical body of the container, which is preferably made of pliable paper or pulp-board and having normally open top and bottom ends, as 2' and 2^a. The mouth 2' is preferably formed with a continuous inward roll or bead 3, whose free margin 3' is preferably normally spaced from the adjacent wall for rendering the said margin more or less flexible when subjected to outward radial pressure. The bottom end 2^a is preferably formed with an inward and upward fold 4, for providing an annular groove or socket 4', to receive the depending flange 4^a of a disc-shaped closure 4^b, the latter being usually reinforced by a smaller disc 4^c (see Fig. 2). The mouth is preferably closed and sealed by a circular removable cover or cap 5, whose medial disc-shaped portion 5' is preferably slightly crowned for enabling the closure to withstand the weight of other containers when they are filled, and stacked in cartons or upon shelves, without distorting the covers or weakening the seal at the point of contact with the bead 3. The closure 5 is formed near its peripheral margin with an annular depending rolled or folded rib or flange 5^a, which may be molded or pressed, as shown in Figs. 4 and 5, by suitable dies, wherein the upwardly facing annular groove, as 5^b, is normally open, and the peripheral margin of the closure comprises a shallow convex flexible apron or flange 5^c, which normally lies in a plane that is lower than the medial portion 5'. By this construction and arrangement of the closure 5, when the latter is applied to the beaded mouth 2' and pressure is applied downwardly axially, the outer face of the flange 5^a engages the margin 3' simultaneously with the engagement of the top surface of the bead by the apron 5^c. As the pressure continues, the apron and the corresponding portion of flange 5^a are flexed inwardly radially and substantially close the groove 5^b opposite the margin 3' without destroying the roll or bulge at the bottom, as 5^d, of said flange. By this arrangement, the portion 5^d of the flange 5^a snaps beneath the margin 3' and effects the locking of the closure, as shown in Figs. 2 and 6. The grip of the flange 5^a is enhanced by the slight flexing of the margin 3' of the bead, and this yielding of the said margin prevents the

bulge 5^d from crushing and flattening, which would tend to weaken the grip, as well as the seal. When the closure is finally seated, as shown in Figs. 2 and 6, the periphery of the 5 apron 5^c is preferably disposed substantially in the plane of the disc 5', and the closure may be removed for withdrawing the contents of the container 2, by gripping the margin of the apron with the fingers and 10 lifting the same upwardly, in a well-known manner. The taper of the body 2 is such that, a number of empty and uncovered containers may be readily nested, for shipment or storage, and the closures, while in the 15 extended condition, shown in Figs. 5 and 7, may also be nested, for facilitating packing thereof. By forming the bead 3 with its margin 3' separated from the adjacent wall of the body enables the operator to readily 20 and safely insert the flange 5^a for securely locking the closure and also for effecting a relatively broad annular seal. By constructing the closure 5, as shown in the several sectional views, wherein the medial disc 5' 25 lies substantially in the plane of the top of the bead 3, enables the container to be filled to the level of said top.

Having thus described our invention, what we claim, is—

30 1. In a container, a body having an upper end formed with a hollow inwardly rolled bead, the free edge of which latter is spaced from the body so as to be movable outwardly of the body, a closure having a central portion 35 tion formed with a depending rib of substan-

tially U-shape in cross-section engageable with said bead and having its upper portion facing upwardly, the lower closed portion of the rib extending below and being formed to snap beneath the bead, and the inner 40 faces of the sides of the rib being engaged with each other at points opposite to the center of the bead.

2. In a container, a body having an upper end formed with a hollow inwardly rolled 45 bead, the free edge of which latter is spaced from the body so as to be movable outwardly of the body, a closure having a central portion formed with a depending rib of substantially U-shape in cross-section engageable 50 with said bead and having its upper portion facing upwardly, the lower closed portion of the rib extending below and being formed to snap beneath the bead, and the inner faces of the sides of the rib being 55 engaged with each other at points opposite to the center of the bead, said central portion of the closure being disposed in substantially the plane of the upper end of the body and being crowned whereby to resist flattening by 60 the weight of superimposed containers and whereby the pressure of such containers will increase the degree of engagement of the inner faces of the sides of the rib with each other and with the bead. 65

In testimony whereof we affix our signatures.

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