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CONTAINER WITH CLOSURE CAP

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7 Claims. (Cl. 229—5.5)

This invention relates to paper bottles, containers, and the like, and has for its object the production of a simple and efficient paper bottle or container of the truncated cone or truncated pyramid type, having a standard or other rated capacity for liquids, such for instance as milk or other beverages, as well as for non-beverage liquids.

One of the principal objects of this invention is the production of an improved and novel container which may be very cheaply constructed and which consists of a minimum number of parts, the container itself being so constructed as to withstand the action of moisture either upon the interior or exterior thereof.

A further object of this invention is the production of a simple and efficient top closure for the bottle or container which is so constructed as to efficiently seal the top of the container as well as efficiently reinforce the same.

A still further object of this invention is the production of a simple and efficient container having a specially constructed and novel bottom closure which will efficiently seal the bottom of the container and also efficiently reinforce the bottom of the container.

A still further object of this invention is the production of an efficient container of the truncated cone or truncated pyramid type which is so constructed as to permit the packing of the containers prior to the placing of the end closures thereon, in nested relation, thereby greatly facilitating the packing and shipping of the containers, permitting the utilization of a minimum amount of space and at the same time greatly reinforcing the containers against injury when shipped in this nested or stacked relation.

Another object of this invention is the production of a simple and efficient container of the paper or cardboard type, which is so constructed as to completely seal the contents thereof and thereby prevent leakage or seepage of the contents from the container or the entrance of moisture into the container after the same has once been sealed.

With these and other objects in view, this invention consists in certain novel constructions, combinations, and arrangements of parts as will be hereinafter more fully described and claimed.

In the drawing:—

Figure 1 is a side elevation partly in section of the container with the various closures in assembled position and illustrating the manner in which the container may be properly and adequately sealed;

Figure 2 is a section taken on line 2—2 of Figure 1;

Figure 3 is a vertical sectional view through the upper end or neck of the container showing the position of the neck with the upper flange before the mouth of the bottle or container is folded down and inwardly prior to the sealing of the container;

Figure 4 is a detail perspective of the sealing disc used in connection with the present invention;

Figure 5 is a detail perspective partly in section, illustrating the structure of the sealing cap for the neck or mouth of the bottle;

Figure 6 is a detail perspective partly in section showing the bottom closure used in connection with the present container or bottle;

Figure 7 is a side elevation showing the manner in which the containers may be stacked in nested relation for the purpose of shipment with the end closures removed;

Figure 8 is a side elevation partly in section of the mouth of the container showing a modified form of the sealing cap which may be used in connection with the container or bottle, this cap being provided with a threaded connection;

Figure 9 is a detail perspective view of a further modified form of the present invention, embodying substantially the same structure illustrated in Figures 1 to 6, inclusive, with the exception that the body is of the truncated pyramid type;

Figure 10 is a detail perspective view of a further modified form of the invention showing a different type of cap secured to the container;

Figure 11 is a still further modified form of the invention showing a further type or design of cap which may be employed in conjunction with the present container.

Figure 12 is a vertical sectional view through a modified form of the invention showing both end closures of substantially the same structure except that the end closures are in reverse position; and

Figure 13 is a side elevation of a modified form of the invention showing a container of the pinched-end type and also illustrating a liquid seal which may be used in connection therewith, the liquid seal being shown in section.

By referring to the drawing it will be seen that 1 designates the body of the container which, for the purpose of illustration, is of the bottle type and as shown in Figure 1 is of the truncated cone type of structure, the base thereof being of greater diameter than the neck of the bottle.

The body 1 is preferably provided near its mouth and in spaced relation from the outer edge of the mouth of the bottle with a grooved bead 2, the groove of the bead being formed upon the inner face of the container and the bulged portion of the bead projecting from the outer face of the container. This grooved bead constitutes a seat for receiving the edge or periphery 3 of the sealing disc 4 which may preferably be formed of paper or may be formed out of any suitable or desired material without departing from the spirit of the invention. This sealing disc 4, however, should be of such a character, preferably quite thin in structure, to permit the same to properly flex and easily fit within the grooved bead 2 of the container 1, as shown clearly in Figure 1 to constitute an efficient seal for the mouth of the container. The disc 4 is scored as indicated at 4', but is not cut out, the scoring permitting the tongue 4a to be punched inwardly of the disc 4 when desired, for the purpose of permitting the insertion of a straw or tube of any character when it is desired to suck out or draw out the contents of the container.

The upper edge or mouth of the container is folded downwardly and inwardly to provide a reinforcing flange 5 around the mouth of the container, as shown in Figure 1. This container 1 may be lined if desired with a thin non-porous and non-absorbent lining 6 formed of any suitable or desired material, such for instance as Cellophane. This lining, if desired, may extend over the entire inner face of the container and bottom thereof, as illustrated in Figure 1. The container 1 may also be provided with a circular or oval scoring 7 in the side thereof, and at any convenient location, preferably near the top to permit the material 8 within the scoring to be punched inwardly to allow the insertion of a straw, tube, or other means which may be employed for extracting the contents of the container 1. It should be understood that the container is only scored and is not cut entirely through the material or body thereof.

The container 1 may be constructed in many different ways, but is preferably formed of a circular body type in cross section, having the ends of the body overlapped, as indicated at 9, the overlapping portion of the seam being sealed upon the inner face of the container by means of a suitable sealing strip 10 which may be glued or secured in any suitable or desired manner so as to prevent the same from becoming loosened by the material carried within the container. The upper ends of the overlapping portions 9 may be slightly curved, as indicated at 11, for the purpose of facilitating the folding of the flange 5 and also for the purpose of presenting an unobstructed corner.

As shown in Figure 1, there is employed a specially constructed sealing cap 12 having a depressed end closure 13 which is adapted to contact upon its under face 14 with the sealing disc 4, as shown clearly in Figure 1. This closure cap 12 is also provided with a hollow bead portion 15 spaced from its outer edge, which bead portion 15 is adapted to interlock with the bead portion 12 of the body 1 of the container, and thereby efficiently lock and retain the sealing cap 12 in a set position upon the container 1. A skirt portion 16 extends below the bead 15 and snugly fits against the outer face of the body of the container 1, as shown clearly in Figure 1. The sealing cap 12 is so constructed as to provide a channel 17 between the inner wall 18 and

the outer wall 19 of the cap 12, to permit the mouth of the container or body 1 and the flange 5 thereof to snugly fit up into this channel 17, as shown clearly in Figure 1. The sealing cap 12 may be secured to the mouth of the bottle in any suitable or desired manner, but it has been found preferable and advisable to employ metal staples 20 for this purpose, which metal staples may pass through the walls 18 and 19 of the cap 12, and also through the flange 5 and the upper end of the body or container 1 in this way firmly securing the various parts in anchored relation.

The bottom of the container 1 is preferably closed by means of a closure disc 21 which is provided with a flared depending skirt or rim 22, and this skirt 22 is firmly held in position by means of the upturned flange 23 formed at the bottom of the body of the container 1 and a suitable staple or other securing means 24 may be used for firmly securing the parts together, the staple 24 being preferable, in that the same may extend through the body of the container 1, through the skirt 22, and through the flange 23, in this way constituting an efficient anchoring means.

As shown in Figure 7, when shipping the containers, the containers may be arranged in nested stacked relation such as is illustrated in Figure 7, thereby permitting the containers to accommodate themselves to a minimum amount of space and at the same time efficiently reinforce the containers against injury. As shown in Figure 9, the body of the container may be formed of the truncated pyramid type to provide a body 25 constructed otherwise similar to that described in Figure 1, and having a sealing cap 26 for the neck of the bottle, a sealing plate or disc 27, and also a bottom closure 28 similar to that as described in connection with Figure 1.

The body may be varied as to design and shape without departing from the spirit of the invention so long as the changes fall within the scope of the appended claims.

As shown in Figures 1 to 8, inclusive, the side walls of the container are inclined up to the point of the bead 2, and the neck or mouth of the container projecting beyond the bead 2 is preferably provided with a straight wall to facilitate the proper placing of the sealing cap 12 upon the container. In Figure 8 there is shown a further modified form of the invention wherein the body 29 of the container is provided with a pressed threaded neck 30 for receiving the pressed threaded portion 31 of the cap 32. In this type, as shown in Figure 8, a sealing disc 33 is employed for resting upon the outer end of the thread 30 and the cap 32 is provided with a depressed end 34 which is adapted to snugly fit and abut against the sealing disc 33 for holding this disc firmly in place. This cap 33 fits snugly over the mouth or neck of the container 29 as shown in a manner similar to that described in Figure 1 and is provided with a depending threaded skirt 35 which fits snugly against the outer face of the container 29, as shown, to firmly hold the cap 33 in place.

In Figure 10, there is shown a further modified form of the invention wherein a body 37 is employed over which fits the cap 38 having a depressed end 39, the cap being anchored in engagement with the body 37 by means of suitable staples 40, the lower periphery or edge of the cap 38 being creased about the skirt to snugly fit over the end or mouth of the container or body 37.

In Figure 11 there is shown a further modified

form of the invention wherein the body 42 of the container is illustrated carrying a cap 43, which cap is provided with a bead 44 below which is arranged an enlarged rolled bead or bulged portion 45 for receiving a similarly constructed portion on the body 42, this cap also being provided with the usual skirt 46 which is adapted to fit snugly against the outer face of the body 42.

Figure 12 is a modified form of the invention illustrating a container body 47 having an end closure 48 provided with a skirt 49, which skirt 49 is held in position by means of an upturned flange 50 which overlaps the skirt 49 and may be secured in any suitable or desired manner, such for instance as by the use of a staple, glue, or other known means. The mouth or upper end of the container 47 receives the end closure 51 which is provided with an upturned flange 52, the mouth of the container 47 being folded over or overlapped, as indicated at 53, and this folded or overlapped portion 53 may be secured in any suitable or desired manner to the flange 52.

In Figure 13 there is shown a modified form of the invention illustrating a body 54, the mouth of which is provided with a pinched closure 55 which may be secured in any suitable or desired manner, such for instance as by means of a staple or any suitable adhesive. This pinched top closure is secured by pinching the top together and then folding the same over one or more times and is preferably stitched together to provide a firm closure. The end or mouth of the container 54 may, if it is desired, be dipped in liquid material, and then allowed to dry to form a self closure. This same method may be used for sealing the other modified forms if desired, without departing from the spirit of the invention.

In producing the container above described, the material may be chemically treated in any desired manner, or the container may be provided with a chemically treated lining, or if so desired a suitable chemically treated lining may be placed between the plies of papers used in constructing the container. These linings may be transparent or of any desired or suitable material, and if desired may be placed upon the inner face of the containers.

The closure caps may be used with or without the sealing discs without departing from the spirit of the invention, and when desired the sealing caps may be provided with oval scored portions to permit the punching out thereof, and the insertion of a straw or tube, as previously described. As pointed out in connection with Figure 12, the pyramid-shaped bottle may be either provided with a removable top or cap described, which is fastened with the staples 20, as illustrated in Figure 1, or may be provided with a permanent top closure similar to that particularly illustrated in Figure 12.

It should be understood that it is not desired to limit this invention to any particular type of material, and that the type of fastening means and particular design employed may be varied to a material degree as long as these changes fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:—

1. A container of the class described comprising a body having a hollow bead pressed from the body thereof near one end, a sealing disc having the periphery thereof seated within said hollow bead, a sealing cap snugly engaging and holding said sealing disc in position, said sealing cap provided with an interlocking bead portion for

snugly registering with and interlocking with said bead portion of said body for removably supporting said sealing cap in engagement with said body.

2. A container of the class described comprising a body having a hollow bead pressed from the body thereof near one end, a sealing disc having the periphery thereof seated within said hollow bead, a sealing cap snugly engaging and holding said sealing disc in position, said sealing cap provided with an interlocking bead portion for snugly registering with and interlocking with said bead portion of said body for removably supporting said sealing cap in engagement with said body, and said cap provided with a projecting skirt extending beyond said bead portion for snugly fitting against the outer face of said body.

3. A device of the class described comprising a body having a projecting neck, said body provided with a hollow bead portion formed near said neck, a sealing disc seated within said hollow bead portion, a sealing cap having a depressed end snugly engaging said sealing disc for holding said sealing disc in position, said sealing cap provided with an annular upwardly extending channel for receiving the end of said neck, said sealing cap provided with a registering bead portion for interlocking with the bead portion on said body and also being provided with a skirt portion for adhering snugly to said body.

4. A device of the class described comprising a body having a projecting neck, said body provided with a hollow bead portion formed near said neck, a sealing disc seated within said hollow bead portion, a sealing cap having a depressed end snugly engaging said sealing disc for holding said sealing disc in position, said sealing cap provided with an annular upwardly extending channel for receiving the end of said neck, said sealing cap provided with a registering bead portion for interlocking with the bead portion on said body and also being provided with a skirt portion for adhering snugly to said body, said neck provided with an inwardly folded flange adapted to snugly fit within said annular outwardly extending channel of said cap.

5. A device of the class described comprising a body having a projecting neck, said body provided with a hollow bead portion formed near said neck, a sealing disc seated within said hollow bead portion, a sealing cap having a depressed end snugly engaging said sealing disc for holding said sealing disc in position, said sealing cap provided with an annular upwardly extending channel for receiving the end of said neck, said sealing cap provided with a registering bead portion for interlocking with the bead portion on said body and also being provided with a skirt portion for adhering snugly to said body, said neck provided with an inwardly folded flange adapted to snugly fit within said annular outwardly extending channel of said cap, and means for anchoring said cap against movement upon said body.

6. A device of the class described comprising a body having a projecting neck, said body provided with a hollow bead portion formed near said neck, a sealing disc seated within said hollow bead portion, a sealing cap having a depressed end snugly engaging said sealing disc for holding said sealing disc in position, said sealing cap provided with an annular upwardly extending channel for receiving the end of said neck, said sealing cap provided with a registering bead portion for interlocking with the bead portion

tion on said body and also being provided with a skirt portion for adhering snugly to said body, said neck provided with an inwardly folded flange adapted to snugly fit within said annular outwardly extending channel of said cap, and means passing through said cap, flange, and body, for anchoring said flange, cap, and body against independent movement with respect to each other.

7. A container of the class described compris-

ing a body having threads pressed in one end thereof, a sealing disc engaging one end of said threads, said body provided with a projecting mouth having an inturned flange, a cap fitting over said mouth and engaging said sealing disc, and having threads cooperating with said threads on said body for detachably securing said cap upon said body.

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10	85
15	90
20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150