

Dec. 4, 1962

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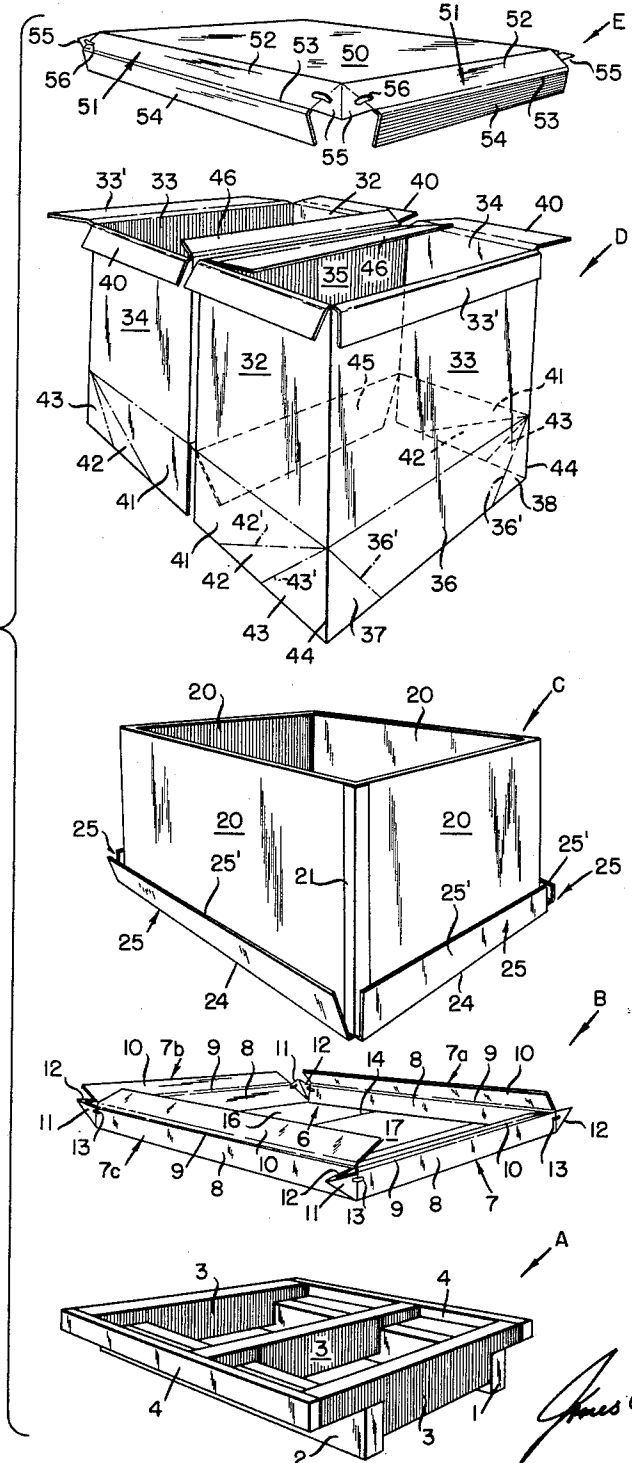
3,066,842

SHIPPING AND DISPENSING CONTAINER

Filed June 23, 1961

3 Sheets-Sheet 1

Fig. 1



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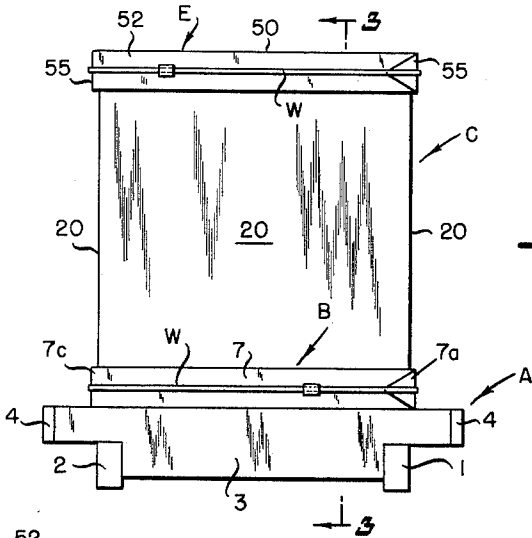


Fig. 2

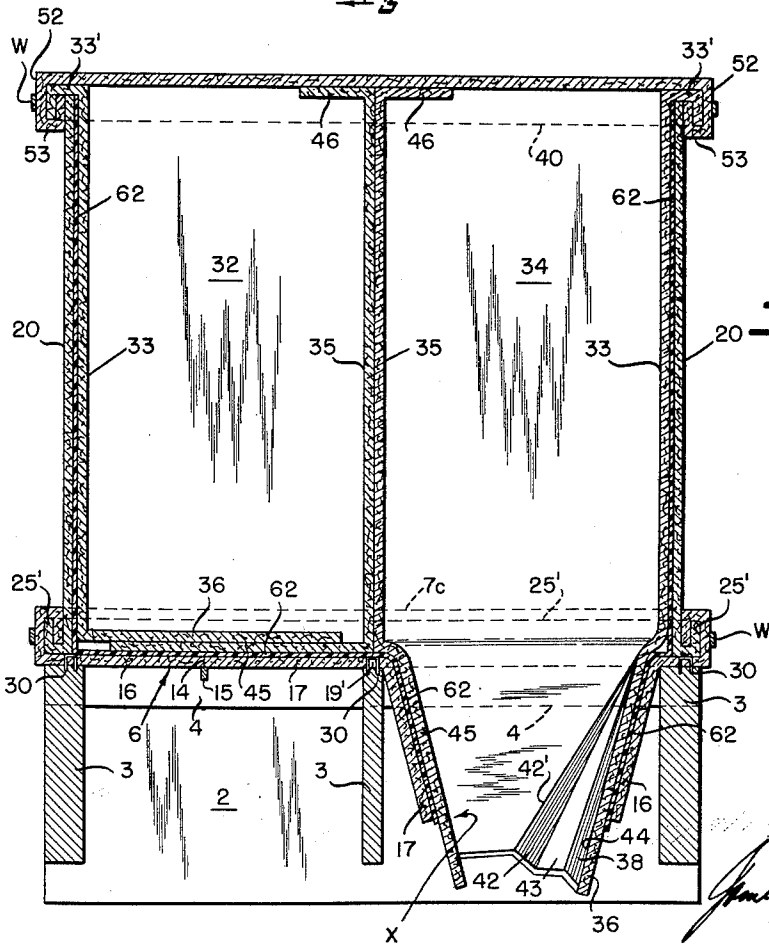


Fig. 3

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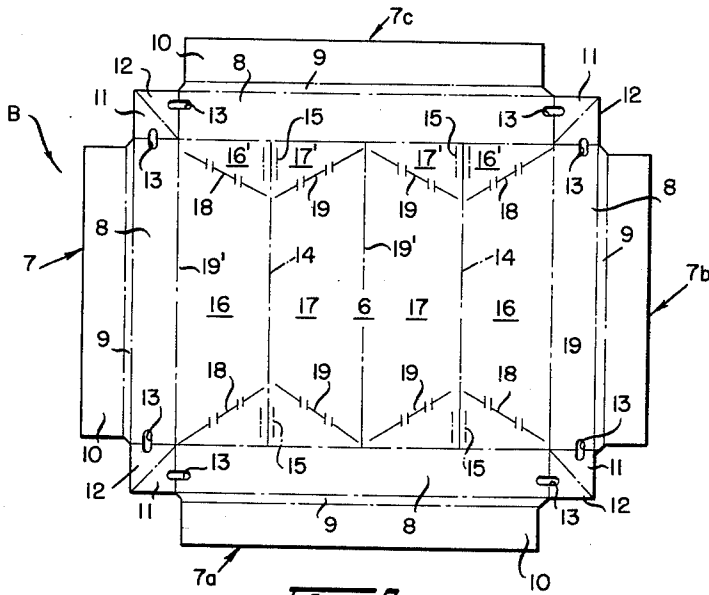


Fig. 5

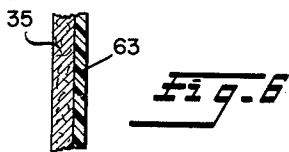


Fig. 6

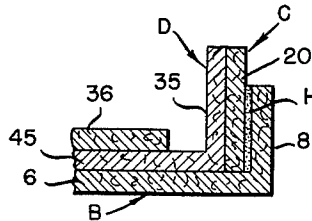


Fig. 7

Fig. 4

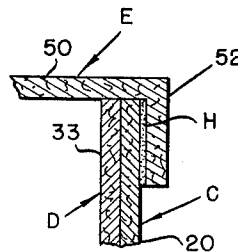
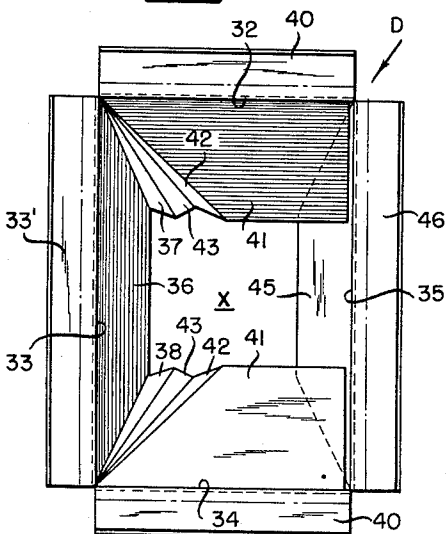


Fig. 8

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SHIPPING AND DISPENSING CONTAINER

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20 Claims. (Cl. 229-7)

This invention relates to a container adapted to serve both as a shipping package and as a dispensing unit for the material contained therein. More particularly, it is concerned with a novel combination shipping and dispensing container or package for use in transporting various products or materials, including those of granular, powder, crystal or flake form, and one which can efficiently perform the functions for which it was intended although made from relatively cheap and inexpensive materials.

Accordingly, it is a primary purpose of this invention to provide a novel shipping and dispensing package or container of improved design.

Other purposes and advantages of the instant invention will be more fully understood by reference to the following detailed description when taken in conjunction with the appended drawings, wherein:

FIG. 1 is an exploded view of one embodiment of the combination shipping and dispensing package or container of the instant invention;

FIG. 2 is a side elevational view of the fully assembled components of the shipping and dispensing package shown in FIG. 1;

FIG. 3 is a cross-sectional view taken generally along the line 3-3 of FIG. 2;

FIG. 4 is a perspective view of a dispensing receptacle used in the combination shipping and dispensing package or container as shown in FIG. 1;

FIG. 5 is a plan view of a blank that can be used for the bottom closure cap of the shipping and dispensing package of FIG. 1;

FIG. 6 is a fragmentary sectional view of a modified wall construction for an inner dispensing receptacle;

FIG. 7 is a fragmentary sectional view of a modified arrangement for affixing a bottom cap closure to the outer reinforcing tube; and

FIG. 8 is a fragmentary sectional view of a modified arrangement for affixing a top cap closure to the outer reinforcing tube.

With further reference to the drawings and in particular to FIGS. 1 and 3, the shipping and dispensing package of the instant invention is generally comprised of a pallet skid or support A, a bottom closure cap B, an outer reinforcing tube or sleeve C, one or more dispensing receptacles or inner containers D and a top closure cap E. The support or pallet A is generally comprised of an open supporting framework wherein a plurality of special base elements 1 and 2 are employed. These base elements are affixed to a plurality of bridging members 3 disposed a suitable distance apart. The ends of the various bridging members can be anchored together by means of stabilizing bars 4. All the various parts making up the pallet A can be made of any conventional material, such as wood, plastic, etc., with the various parts 1, 2, 3 and 4 then being fixed together by means of nails, rivets, bolts, etc. Pallet A is so constructed whereby the arms of conventional fork-lift trucks can advantageously engage the pallet adjacent certain sides thereof without interfering with the normal dispensing of the contents of the package.

Mounted upon the support or skid A is a bottom closure cap B. Bottom closure cap B can advantageously be made from a blank, as noted in FIG. 5, of readily avail-

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able, preferably frangible material such as fibreboard. This blank can be folded in such a fashion that it is provided with an over-all bottom panel 6 and side flaps or extensions 7, 7a, 7b and 7c. These side extensions in turn are folded in such a fashion that each of them is provided with an upwardly projecting extension or outside wall 8, a reverse bend or fold 9 and an inwardly and downwardly projecting extension or inside wall 10. Adjacent extensions 8 are connected to each other at the various corners of the bottom closure cap A by means of the triangulated flap elements or tabs 11 and 12, all as indicated particularly in FIG. 5. Apertures or perforations 13 are located partially in triangulated flaps 11 and 12 and partially in the side wall extensions 8.

The primary purposes of the flaps 11 and 12 are to reinforce the corner portions of the bottom closure member B when the side wall extensions 8 and 10 are folded, as noted above, and to act as bearing elements for a restraining strap or wire W of metal or the like which encompasses the peripheral portions of the closure cap B at the time the entire package assembly is mounted on the pallet or skid A. Strap W advantageously fits or is received with the strap-locating apertures or recesses 13. Recesses 13 serve to hold the strap W in place and prevent it from becoming dislodged from the bottom closure cap B during all normal use of the container. The bottom panel 6 of closure cap B is provided with one or more conventional tear tapes or tear strips 14 embedded in or affixed in a manner conventional in the art to the material from which the cap B is made. The bottom 6 of closure cap B is further provided with pull tab elements 15 disposed adjacent two of the opposing side wall panels 8. When one of these tab elements 15 to which one of the extremities of a tear strip 14 is affixed is pulled, it will cause an initial separation of the adjacent panel portions or segments 16 and 17 of the bottom panel 6 of closure cap B along the slitting line formed by the tear strip 14. When a pair of panel segments 16 and 17 are initially separated as noted above, it then becomes possible for the panel segments 16 and 17 to be separated from the adjacent panel segments 16' and 17' and along the heavily perforated lines 18, in the case of the panel segment 16, and along similarly perforated lines 19, in the case of the bottom panel segment 17, whereby bottom panel segments 16 and 17 can, when downward pressure is applied thereto, be forced downwardly and fully separated from one another for a purpose to be hereinafter described. During the time panel segments 16 and 17 are forced downwardly, they pivot about lines 19'.

Disposed upon and anchored to bottom closure cap B is the outer reinforcing tube or sleeve element C. This sleeve element can likewise be made of any readily available material such as fibreboard or the like. It is advantageously formed in such a way that it is provided with a plurality of upstanding side walls 20. The two side walls 20 at the free ends of the tube element C are fastened together to form a completed tube by conventional means well known in the art such as by tape 21. Tube C has an open top 23 and an open bottom 24. The lower extremities of the side walls 20 of outer tube C are provided with extensions or flaps 25 which are first bent outwardly and then upwardly.

In an advantageous embodiment of the invention the upwardly extending portion 25' of each extension or flap 25 can be inserted or sandwiched between the side wall extensions 8 and 10 of the bottom closure cap B in the manner disclosed particularly in FIG. 3 of the drawings. By interlocking the outer tube C with the bottom closure member B in the manner disclosed, the outer tube member C will be held on the pallet A.

It is to be further noted that the bottom closure cap B can be rigidly affixed to the pallet or skid A by means of

staples 30 driven through the bottom closure cap B and embedded in the bridging members 3 of the pallet skid A in the manner shown in FIG. 3 of the drawings.

Bottom closure cap B is located on the pallet skid or support A in such a fashion that the tear strip elements 14 are located over open areas of the framework of the pallet skid A, such as between the bridging elements 3.

Disposed within the outer reinforcing tube or sleeve C and mounted upon the bottom closure cap B is one or more dispensing receptacles D. Receptacle D can again be advantageously made of conventional fibreboard materials or the like. For the purposes of illustration, two such dispensing receptacles are disclosed in the drawings and, since both of them are similarly constructed, a description of one will suffice for both. The dispensing receptacle D is formed in such a fashion that it is provided with a plurality of upstanding side walls 32, 33, 34 and 35. Side wall 33 is provided at the top thereof with an outwardly and downwardly disposed flap or wing extension 33' and at the bottom extremity thereof with a main wing or flap extension 36. Main flap extension 36 is bounded and connected to side triangulated flap elements 37 and 38 by means of the fold lines 36'. Each of the opposing side wall portions 32 and 34 is provided at its upper extremity with outwardly and downwardly projecting flap elements or extensions 40 and at its bottom extremity with trapezoidal-type flap extensions 41 which are connected to the lower triangulated flap or wing elements 42 by means of the fold lines 42'. Each upstanding side wall 32 and 34 is further provided at the bottom thereof with another triangulated flap element 43 which is connected at one side to the adjacent triangulated flap element 42 by the fold line 43' and on the other side to the triangulated flap element 37 or 38, as the case may be, of the upstanding side wall 33 by means of the corner fold line 44. Wall 35 is provided with a lower flap element 45 the ends of which are preferably fully separated from the adjacent flap elements 41 of walls 32 and 34. The upper portion or extremity of side wall 35 is provided with a short and inwardly disposed flap element 46.

It will be noted by reference particularly to FIGS. 3 and 4 that the opposing sets of wing or flap elements 41, 42 and 43, which are intimately or integrally connected with flap elements 36, 37 and 38, as well as flap elements 36, 37, 38 and 45 are of such a construction that when weight is imposed upon these flap elements they will become distended and form a pouring spout X for the discharge of the materials located within the dispensing receptacle D provided with such a spout. This assumes, of course, that these same flap elements are not held in a retracted or folded position by any support located underneath these flap elements.

The assembly of the shipping package and dispensing container can be completed by the application thereto of a top closure cap E. This top closure cap can again be formed from a blank of readily available material, such as fibreboard or the like, and in a fashion somewhat similar to the bottom closure cap B such that it is provided with a top panel 50, a plurality of downwardly projecting outside wall portions or flaps 52, folds or bends 53 and upwardly projecting inside wall elements or flaps 54. Flap elements 52 are advantageously connected together adjacent the corners of the top closure cap E by means of triangulated corner tabs 55. These tabs 55 as well as the outside wall portions 52 are provided with apertures or perforations 56 similar to the perforations 13 of bottom closure cap B. Perforations 56 also receive a strap W.

In assembling the top closure cap E with the other parts of the shipping and dispensing package, the upwardly directed flaps 54 are sandwiched in-between or interlocked with the upstanding walls 20 of the outer reinforcing tube C and the downwardly projecting flaps or extensions 33' and 40 of a dispensing receptacle D

mounted within the outer tube E. At the same time, of course, each of the outer extensions 33' and 40 of a dispensing receptacle D are sandwiched in-between the outermost wall portions 52 of the top closure cap E and the upwardly directed flap or wing extensions 54 of the top closure cap E. After the top closure cap E has been mounted in the manner disclosed above and, in effect, interlocked with one or more dispensing receptacles D, a band or strap W is then wound around the various side flap elements 51 in such a fashion that it fits within the apertures or perforations 56 so as to hold the top closure cap E firmly locked in position. At the same time, of course, it is to be understood that the tabs or triangulated flap elements 55 will have been folded back against one another so as to form a reinforcement for the corner edges and a base support for the strap W in the same fashion as for the strap W for the bottom closure cap B.

As indicated particularly in FIG. 3, it is to be understood that depending upon the material which is to be transported and dispensed in the shipping and dispensing package of the instant invention a suitable liner 62 of plastic or the like may be inserted within the outer reinforcing tube C as it is mounted on the bottom closure cap B and prior to the insertion of the various dispensing receptacles D. This liner 62, which is shaped somewhat in the form of an open-top box member, is frangible whereby it can be readily fractured. This liner 62 advantageously serves as a moisture-impermeable membrane for preventing the entrance of moisture into the container. Otherwise, the contents of the dispensing receptacles D, particularly in the case of granular materials, might tend to lump together in the presence of moisture so that they will not flow freely at the time it is desirable to discharge the same from the dispensing receptacles D.

In the use of the combination shipping and dispensing package of the instant invention, it is contemplated that the package would be shipped to the place of destination and during the shipping it can be readily handled by conventional fork-lift trucks or other article-handling equipment by virtue of the skid or base support A. After it has reached its destination and when it is desirable to dispense the materials located in the dispensing receptacles D, a tab element 15 for a tear strip 14 is first pulled, at which time a fracture or split will be made along the line formed by the tear strip 14 in the bottom panel 6 of the bottom closure cap B. By virtue of this fracture or split, a separation of panel segments 16 and 17 will be initiated. Further separation and spreading apart of panel segments 16 and 17 takes place upon the fracture between panel segments 16 and 16' and 17 and 17' and along tear lines 18 and 19 due to the static load imposed by the weight of the material in the dispensing receptacles D. Thereafter, as the weight of the material begins to act upon the bottom folds or extensions 36, 37, 38, 41, 42, 43 and 45 of the dispensing receptacle D, it will cause a complete distending or outward movement of these bottom folds or extensions in such a fashion that they will form a dispensing spout X. At the same time, a rupture of the inner liner 62 will take place. The panel elements 16 and 17 will continue to move further away from one another under the weight of the material in the dispensing receptacle D so that the pouring spout X can clear the bottom closure cap B in the manner indicated in FIG. 3 of the drawings and effect a full discharge of the contents of the dispensing receptacle D.

In a further advantageous embodiment of the invention, instead of using a separate moisture-impermeable liner 62 the walls and flaps of the elements making up the package—such as the walls and flaps of the dispensing receptacles and of the outer sleeve and end caps—can be treated in order to render them substantially completely impermeable to the seepage of moisture therethrough. This treating of the walls and flaps of these elements can be effected in numerous ways such as by coating the in-

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side surfaces of the walls and flaps with a moistureproof, plastic or asphaltic coating or compound 63 as noted in FIG. 6, by applying an inner aluminum foil lining to the walls and flaps or by spraying a suitable moistureproof coating on the outside or inside surfaces of the walls and flaps of these various elements.

As in the case of where a liner 62 is employed, the folded-back, triangulated tabs or flaps 11 and 12 for bottom cap B and similar tabs 55 for top closure cap E are of material assistance in sealing off the contents of the receptacles D from the atmosphere and in preventing the entrance of moisture into the package assembly.

Finally, as indicated in FIGS. 7 and 8, further advantageous embodiments of the invention contemplate that the bottom and/or top closure caps can be assembled with and secured to the various elements making up the package assembly in other ways than by the interlocking arrangement disclosed in FIG. 3. Thus, for example as shown in FIG. 7, the bottom closure cap B could be secured by an adhesive H directly to the bottom extremities of the upstanding walls 20 of the tube C. In this event, flaps 25 on tube C and bend 9 and wall 10 on bottom closure cap B would be omitted.

In the case of closure cap E as noted in FIG. 8, this cap could be secured by a similar adhesive H directly to the upper extremities of the upstanding walls 20 of the tube C. In this event, bends 53 and flaps 54, in the case of closure cap E, and flaps 46, 40 and 33' in the case of a dispensing receptacle D could be omitted.

An advantageous embodiment of the invention has been disclosed and described. It is obvious that various changes and modifications may be made therein without departing from the spirit and scope thereof, as defined in the appended claims, wherein:

What is claimed is:

1. A container assembly comprising the combination of a frame-like supporting skid, a bottom closure cap provided with a bottom wall of frangible material mounted on said skid, at least one dispensing receptacle disposed upon said bottom closure cap, the bottom of said dispensing receptacle being provided with a dispensing spout comprised of distensible and interconnected flaps, said flaps being normally held in a folded and closed position against and by the bottom wall of the bottom closure cap, means carried by the frangible bottom wall of the bottom closure cap for separating certain portions of said bottom wall of the said bottom closure cap from each other and from the remaining portions of the said bottom closure cap so as to allow the weight of the contents of the dispensing receptacle to effect a spreading apart of the separated portions of said bottom wall of the said bottom closure cap and a distending of the flaps of the dispensing receptacle through the said bottom closure cap and at an open portion of the frame-like supporting skid so as to form the dispensing spout on the dispensing receptacle, whereby the contents of the dispensing receptacle can be freely discharged from the dispensing receptacle.

2. A container assembly as set forth in claim 1 wherein the means carried by the bottom wall of the bottom closure cap for separating certain portions of said bottom wall from each other comprises at least one tear strip means.

3. A container assembly as set forth in claim 1, wherein said bottom closure cap is provided with side flap means, a reinforcing tube surrounding said dispensing receptacle and mounted on said bottom closure cap and means securing the bottom extremity of said tube to the side flap means of said bottom closure cap.

4. A container assembly as set forth in claim 3 wherein said means securing the bottom extremity of said tube to said side flap means of said bottom closure cap comprises flap means on the tube interlocked with the side flap means on the bottom closure cap and a restraining strap means surrounding the side flap means of the bottom closure cap.

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5. A container assembly as set forth in claim 4 wherein the corners of said bottom closure cap are provided with notches for receiving the restraining strap means.

6. In a shipping and dispensing package assembly, the combination of a frame-like supporting pallet means, a bottom closure cap means mounted on said supporting pallet means, at least one dispensing receptacle disposed upon said bottom closure cap means, the bottom of said dispensing receptacle being provided with a dispensing spout comprised of distensible flaps, said flaps being normally held in a folded and closed position against and by the said bottom closure cap means, means on said bottom closure cap means for initially separating certain panel portions thereof from each other so as to allow the weight of the contents of the dispensing receptacle to effect a distending of the flaps of the dispensing receptacle and a spreading apart of the said panel portions of the bottom closure cap means adjacent an open portion of the frame-like supporting pallet means so as to form the dispensing spout on the dispensing receptacle, whereby the contents of the dispensing receptacle can be freely discharged therefrom.

7. A package assembly as set forth in claim 6 including an outer protective tube member surrounding said dispensing receptacle, and means firmly securing the bottom of the said tube member to said bottom closure cap means.

8. A package assembly as set forth in claim 6 including means for rendering the walls of said dispensing receptacle substantially impermeable to the passage of moisture therethrough.

9. A package assembly as set forth in claim 7 wherein said means securing the bottom of said tube member to said bottom closure cap means includes a strap means surrounding the outer peripheral portions of said bottom closure cap means.

10. In a palletized shipping and dispensing container assembly the combination of a frame-like support pallet, a bottom closure cap of frangible material mounted on said pallet, at least one dispensing receptacle disposed on said bottom closure cap, said dispensing receptacle being provided at the bottom thereof with a dispensing spout comprised of distensible and interconnected flaps, means for effecting an opening of the bottom closure cap so as to allow a distending of the flaps of the receptacle through said bottom closure cap and a discharge of the contents of the dispensing receptacle, a reinforcing sleeve member surrounding said receptacle and mounted on said bottom closure cap, a top closure cap for the container assembly, said top closure cap having side wall extensions which engage the side walls of the reinforcing sleeve member.

11. In a palletized shipping and dispensing container assembly as set forth in claim 10 wherein the upper portion of said dispensing receptacle has downwardly projecting side wall extensions which overlie the upper extremities of the reinforcing sleeve member and the top closure cap has downwardly and upwardly projecting side wall extensions which interlock with the downwardly disposed side wall extensions of said dispensing receptacle.

12. In a palletized shipping dispensing container assembly as set forth in claim 11 wherein the corners of said top closure cap are provided with notches and strap means encompassing the said top closure cap and disposed in the said notches of the top closure cap so as to maintain an interlocked relationship between the dispensing receptacle, said sleeve member and the top closure cap.

13. In a palletized shipping and dispensing container assembly the combination of a frame-like supporting skid, a bottom closure cap provided with a bottom wall mounted on said skid, at least one dispensing receptacle disposed upon said bottom closure cap, the bottom of said dispensing receptacle being provided with a dispensing spout comprised of distensible and interconnected flaps, said flaps being normally held in a closed position by and against the bottom wall of the bottom closure cap,

means on the bottom wall of the bottom closure cap for separating certain portions of said bottom wall of the bottom closure cap from each other and from the remaining portions of said bottom closure cap so as to allow the weight of the contents of the dispensing receptacle to effect a spreading apart of the separated portions of said bottom wall of the bottom closure cap and a distending of the flaps of the dispensing receptacle through the bottom wall of the bottom closure cap at an open portion of the frame-like support so as to form a pouring spout on the dispensing receptacle whereby the contents of the dispensing receptacle can be discharged from the container assembly, said bottom closure cap being further provided with interconnected upwardly and then downwardly projecting side flap means, a reinforcing tube surrounding said dispensing receptacle, said tube having upwardly projecting side flap means at the bottom thereof which are interlocked with the side flap means on the bottom closure cap, the upper portion of said dispensing receptacle having downwardly projecting side wall extensions, a top closure cap for said dispensing receptacle, said top closure cap having downwardly and then upwardly projecting side wall extensions for engaging and interlocking with the side wall extensions on the dispensing receptacle.

14. A container assembly as set forth in claim 13 wherein said bottom closure cap is made of frangible material and said means for separating certain portions of the bottom wall of the bottom closure cap from each other and the remaining portions of said bottom closure cap includes a tear strip means.

15. A container assembly as set forth in claim 13

wherein a restraining strap means encompasses the side flap means on the bottom closure cap and acts to maintain the interlock between the bottom closure cap and the reinforcing tube.

16. A container assembly as set forth in claim 13 wherein a restraining strap means encompasses the downwardly projecting side wall extensions of the top closure cap so as to maintain the interlock between the top closure cap and the dispensing receptacle.

17. A container assembly as set forth in claim 13 including means for making at least the walls and flaps of the dispensing receptacle impermeable to the passage of moisture therethrough.

18. A container assembly as set forth in claim 13 wherein a moisture impermeable liner is disposed intermediate said reinforcing tube and the dispensing receptacle, said liner also being disposed intermediate the bottom closure cap and said dispensing receptacle.

19. A container assembly as set forth in claim 15 wherein said bottom closure cap is provided with notches at the corners thereof for receiving said restraining strap means.

20. A container assembly as set forth in claim 16 wherein said top closure cap is provided with notches at the corners thereof for receiving said restraining strap means.

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