

Nov. 26, 1963

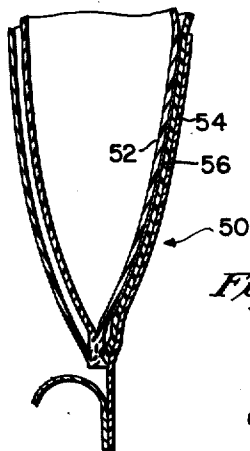
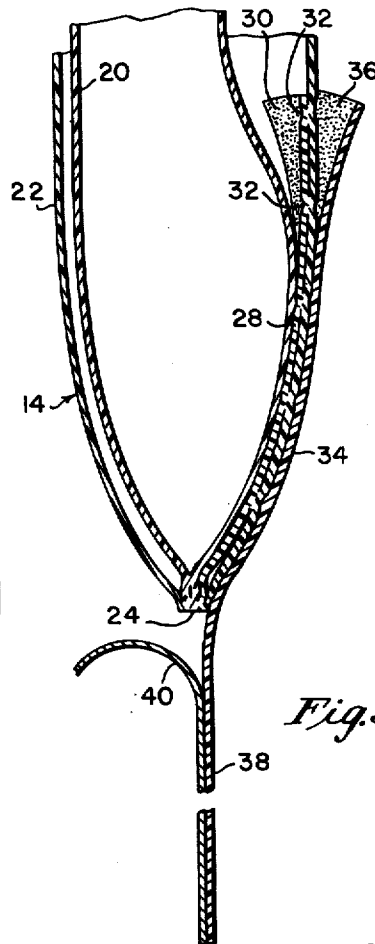
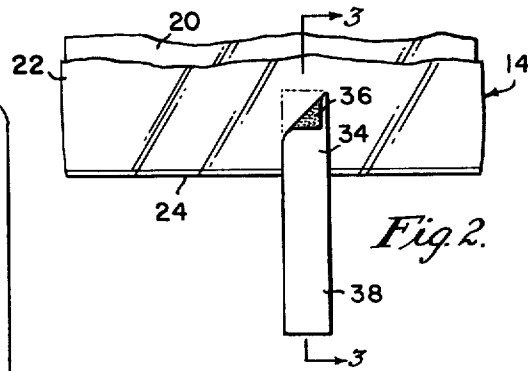
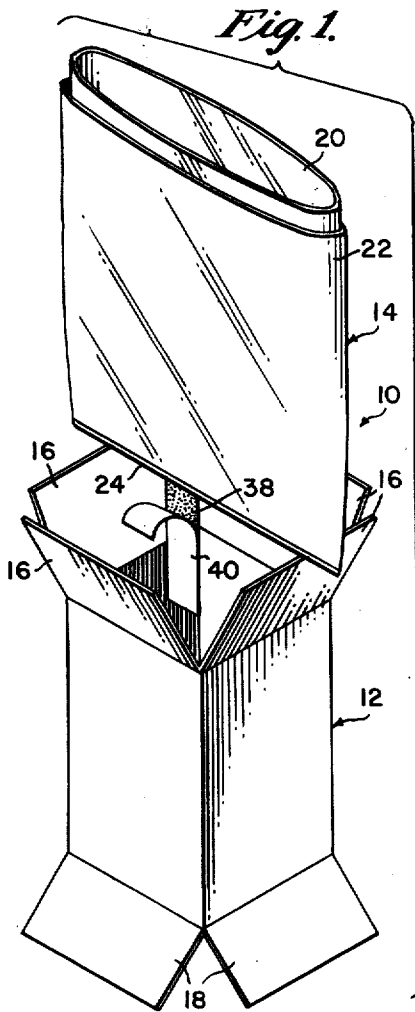
S. LIPSCHUTZ ETAL

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DISPENSER PACKAGE

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4 Sheets-Sheet 1



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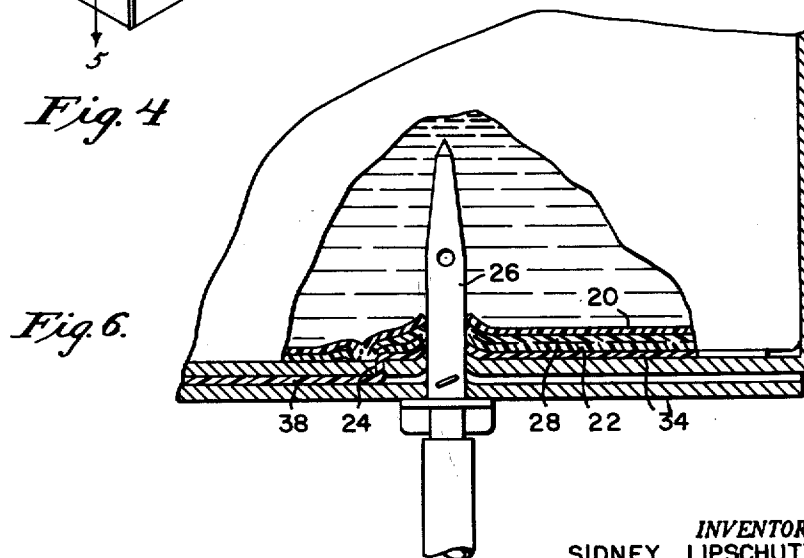
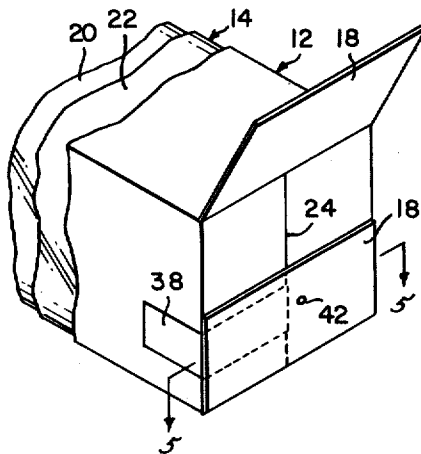
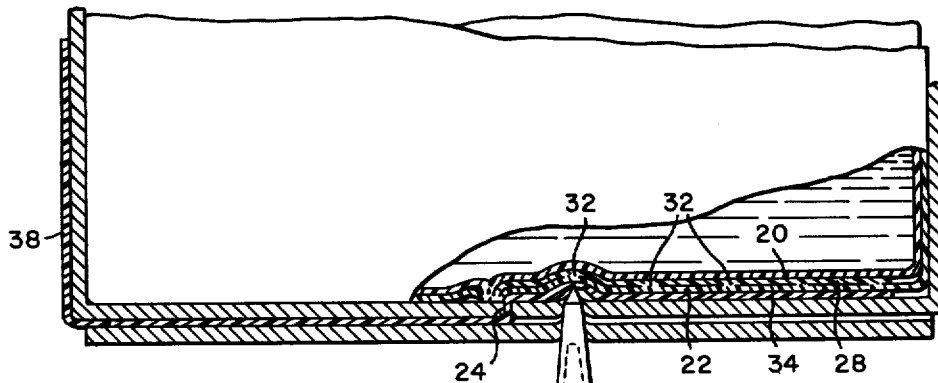
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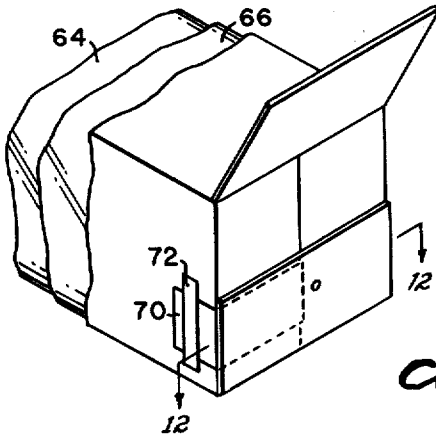
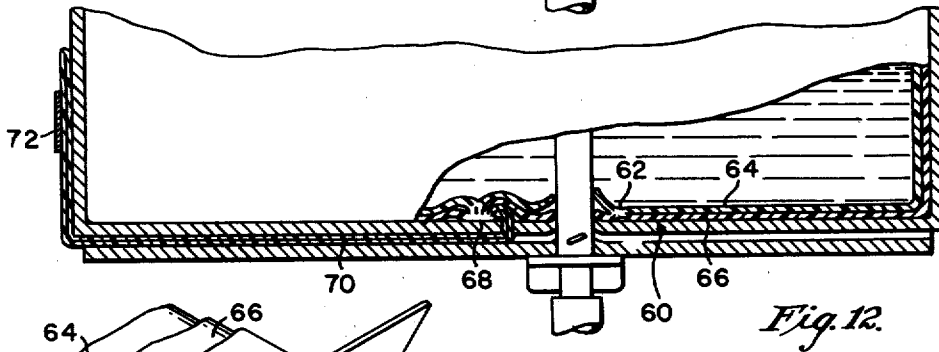
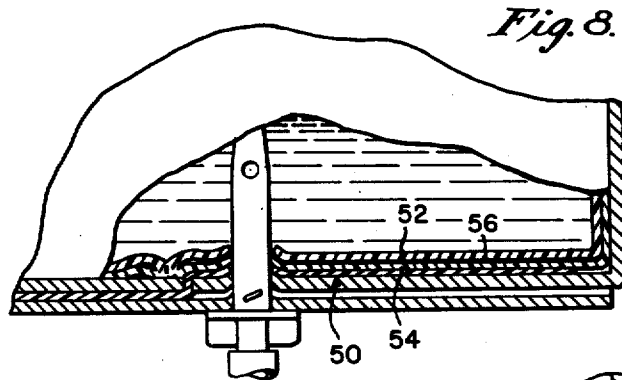
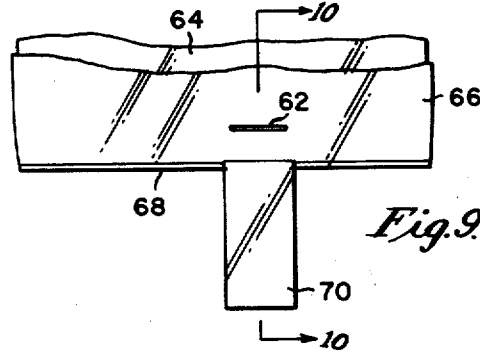
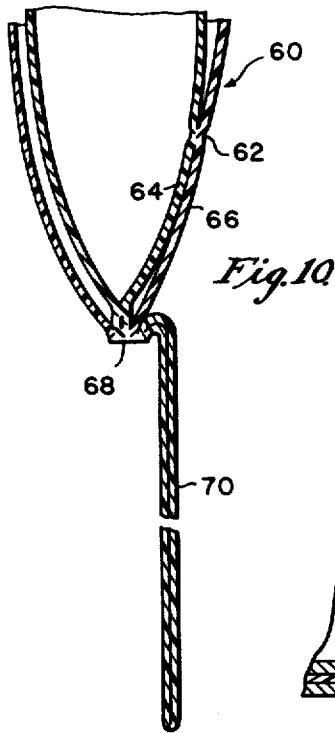


Fig. 11

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Fig. 14.

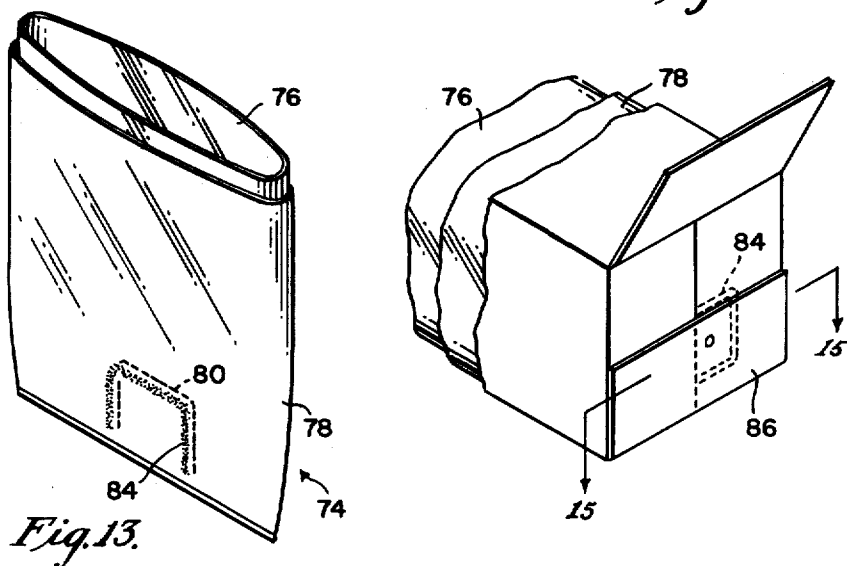
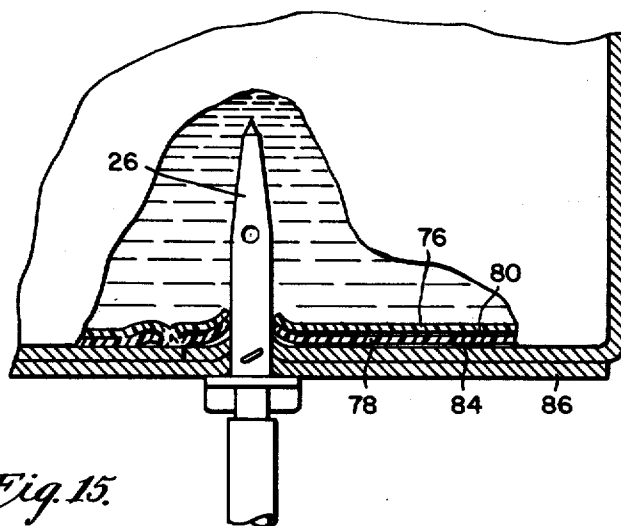


Fig. 15.



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Filed July 18, 1960, Ser. No. 43,532

8 Claims. (Cl. 229-14)

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This invention relates to a dispenser package of the type having a rigid outer container and a flexible inner container wherein fluids in the inner container can be dispensed by a removable probe-type nozzle adapted to pierce both the inner and outer containers when inserted into its dispensing position. This is a continuation-in-part of co-pending application Serial No. 9,898, filed February 19, 1960, now Patent No. 3,065,894.

As was stated in the aforesaid co-pending application, it has heretofore been discovered that because of the flexible nature of the inner container and because of the necessary thickness of the walls of this inner container, there is a resistance to the pressure of the probe which causes the inner container to slide back away from the probe thereby making it more difficult for the probe to pierce the inner container.

This defect was substantially overcome by the device disclosed in the aforesaid co-pending application. However, that device related to an inner container of single-wall construction which is provided with a filling spout. It did not solve the problems inherent in a double-walled container without a spout such as the present invention is concerned with.

The use of a double-walled inner container poses additional problems because not only must the container as a whole be kept from sliding back away from the probe but it is also necessary to prevent the inner wall from pulling away from the outer wall under pressure of the probe. In addition, where the two walls are separate from each other, the force on the probe which is required to pierce both walls would often rupture the individual walls around the points of entry of the probe. Furthermore, the absence of a filling spout on the inner container makes it necessary to provide another means of attachment to serve the purpose of preventing slide of the inner container. Such other means, however, must not tend to weaken the container and must not unduly complicate the construction or add to the expense thereof, otherwise it would be commercially infeasible.

It is, therefore, one object of the present invention to provide a dispenser package including a rigid outer container and a flexible, double-walled inner container wherein the entire inner container is held against sliding movement relative to the outer container under the force of a probe-type nozzle while, at the same time, the two walls of the inner container are also held against movement relative to each other.

Another object of the present invention is to provide a dispenser package of the aforesaid type wherein the inner container is not provided with a filling spout but is sealed at both its top and bottom ends.

Another object of the present invention is to provide a dispenser package of the aforesaid type wherein both the inner and outer walls of said inner container are held substantially secure from rupture at the point of entry of the probe.

Another object of the present invention is to provide a dispenser package of the aforesaid type which is relatively simple in construction and inexpensive to manufacture.

Other objects and many of the attendant advantages of this invention will be readily appreciated as the same become better understood by reference to the following de-

tailed description when considered in connection with the accompanying drawings wherein:

FIG. 1 is a perspective view of a package embodying the present invention, the package being shown exploded to show the inner and outer container separate from each other and the inner container being shown open prior to filling and sealing;

FIG. 2 is a fragmentary elevational view of the lower portion of the inner container of FIG. 1, the view being on the reverse side of that shown in FIG. 1;

FIG. 3 is an enlarged sectional view taken on line 3-3 of FIG. 2;

FIG. 4 is a fragmentary perspective view of a portion of the assembled package, with one flap of the outer container unfolded and with parts broken away to reveal the construction of the inner container;

FIG. 5 is a sectional view taken on line 5-5 of FIG. 5, and showing the probe in the act of being inserted;

FIG. 6 is a sectional view similar to FIG. 5 but showing the probe fully inserted;

FIG. 7 is a sectional view similar to FIG. 3 but showing a second embodiment of the invention;

FIG. 8 is a view similar to FIG. 6 but showing the second embodiment of the invention;

FIG. 9 is a fragmentary elevational view similar to FIG. 2 but showing a third embodiment of the invention;

FIG. 10 is a sectional view taken on line 10-10 of FIG. 9;

FIG. 11 is a fragmentary perspective view similar to FIG. 4 but showing the third embodiment of the invention;

FIG. 12 is a sectional view taken on line 12-12 of FIG. 11, and further showing the probe being inserted.

FIG. 13 is a perspective view of a bag embodying yet another form of the invention;

FIG. 14 is a fragmentary perspective view similar to FIGS. 4 and 11 but showing the use of the bag of FIG. 13; and

FIG. 15 is a sectional view taken on line 15-15 of FIG. 14.

Referring now in greater detail to the various figures of the drawings wherein similar reference characters refer to similar parts, there is shown a package, generally designated 10, comprising an outer container 12 of relatively rigid material and an inner container 14 of relatively flexible material.

The container 12 may be constructed of paperboard, molded pulp or similar material and is of generally rectangular shape with open ends each of which is closable by four flaps designated respectively at top and bottom as 16 and 18.

The inner container 14 is a bag constructed of polyethylene or similar plastic material and comprises two bag sections, one within the other. The inner bag section is designated 20 while the outer bag section is designated 22. The lower ends of the bag sections are sealed together at an edge 24 while the upper ends of the bag sections are initially open to permit filling of the inner bag section with the liquid to be packaged. The upper end of the inner bag section projects somewhat beyond the corresponding end of the outer bag section (as best shown in FIG. 1) to prevent spillage between the bag sections. However, after it is filled, the bag is sealed by a line of seal arranged just below the upper edge of the outer bag whereby both sections are simultaneously sealed.

At the lower end of the bag 14, approximately at the center but preferably somewhat offset from the exact center is a reinforced area (best shown in FIG. 3). This reinforced area is where the probe 26 is to be inserted. The reinforced area comprises a strip of tape 28, preferably of a material similar to the bag, which is provided with an adhesive coating 30 on its inner face. The tape

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30 is adhesively secured to the outer surface of the inner bag section 20 and is heat sealed, as at 32, to the inner surface of the outer bag section 22. The strip 28 is attached by first heat-sealing it to the outer section 22 and then, when the inner section 20 is inserted within the outer section, the adhesive surface of the strip comes into face-to-face contact with the inner section.

If desired, the reverse procedure may be used whereby the strip is first heat-sealed to the inner bag section 20 with the adhesive face out and then, when the inner section is inserted into the outer section, the adhesive face of the strip is adhered to the inner surface of the outer section.

On the outer surface of outer bag section 22, in overlying relationship to above-described reinforced area, is a strip 34 preferably of the same material as the bag. The strip 34 is provided with adhesive 36 on its inner face whereby the strip is adhered to the outside surface of the bag. Extending down from the strip 34 and integral therewith is a tail portion 38 also having adhesive on its inner surface, this adhesive-coated surface being protected by a removable cover strip 40 which is removed prior to use.

In assembling the package, the bag 14 is inserted into the outer container or box 12 in the manner illustrated in FIG. 1. Since the reinforcing strip 28 is already in place within the box 12 with its adhesive-coated side facing inwardly, the bag, when fully inserted and compressed against the strip 28, is secured thereto. The protective cover 40 is then removed from strip 38 and this strip is bent around the side of the box (in the manner shown in FIG. 4). By this means, the bag 14 is securely held fast to the box 12 in the area of the probe insertion. The flaps 18 are then brought down into place to cover the bottom of the box and are secured in position in the ordinary manner. One of these flaps is provided with an aperture 42 slightly offset from the center. This aperture 42 (as best seen in FIG. 4) is positioned in overlying relationship to the reinforced area adjacent the tail 38. The aperture accommodates the probe 26.

With the containers assembled as described above, the bag is filled with the liquid through the open top and this open top is heat-sealed by a line seal. The sealed top of the bag is then pressed down into the box and the upper flaps 16 are folded down over it and secured in place in the ordinary manner. The package is now complete and ready for storage, shipment and sale.

In order to dispense the liquid, the probe 26 is inserted through the aperture 42 and through the reinforced area (as shown in FIGS. 5 and 6). As illustrated in FIG. 5, when the probe first exerts pressure on the bag, the bag itself remains in a fixed position relative to the outer box 12 except at the immediate area of pressure. At the same time, the inner and outer sections of the bag and the reinforcing strips are held fast together. When the probe has penetrated the bag (as in FIG. 6), the bag is still firmly held against the wall of the outer box and the sections of the bag are still firmly held together around the area of penetration, thereby acting as a reinforcement.

In FIGS. 7 and 8 there is shown a modified form of the invention wherein all the parts are the same as in FIGS. 1 to 6 except that the bag 50, corresponding to bag 14, is provided with inner and outer sections 52 and 54 respectively which are held together in the area of reinforcement only by a coating of adhesive therebetween, as indicated at 56. If desired, instead of adhesive, the sections may be heat-sealed together at this area. This entirely eliminates the use of a reinforcing strip, such as shown at 28 in the first described embodiment.

In FIGS. 9 to 12 there is shown a third embodiment of the invention wherein the parts are all identical with the first and second described embodiments except that the bag 60, corresponding to bags 14 and 50, is also not provided with an intermediate reinforcing strip at the area of reinforcement. Instead, a single line of heat-sealing

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62 is provided between the inner and outer bag sections 64 and 66. These bag sections are held against relative movement to each other at the area defined by the seal line 62 and the sealed bottom edge 68.

The embodiment of FIGS. 9 to 12 also differs from the other embodiments in that instead of using a separate, adhesively-secured tail, it utilizes a tail 70 which is integral with the outer section 66 and depends from the lower edge 68. Since this tail 70 is not provided with adhesive, it is secured to the outside of the box by an adhesive strip 72 (note FIG. 11). However, if desired, an adhesive coating may be applied to the inner face of the tail 70 in the manner of the other embodiments. It is also within the scope of this invention to substitute an integral tail, such as shown at 70, for the adhesively-applied tails shown in the first two embodiments.

In FIGS. 13 and 14 there is illustrated a fourth embodiment of the invention wherein the bag 74 comprises inner and outer sections 76 and 78 which are held together in the area of reinforcement by an adhesive arranged in a partially rectangular adhesive pattern 80. The pattern is open at the bottom since the heat sealed edge 82 adequately defines the bottom of the pattern.

On the outer surface of the outer section 78 there is provided an adhesive pattern 84 identical to pattern 80 and in juxtaposition relative thereto. This adhesive pattern 84 serves to adhere the bag directly to the inner surface of the adjacent side wall of the outer container 86, thereby eliminating the use of a tail.

The patterns 80 and 84 define not only the area of reinforcement but also the area of adherence to the outer container and thereby provide the target area for insertion of the probe 26.

If desired, the patterns 80 and 84 may be provided by heat sealing so that the inner and outer bag sections are heat sealed together while the entire bag is heat sealed to the outer container. Or, if desired, only the inner and outer sections of the bag may be heat sealed together while the bag itself is adhesively secured to the outer container.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

What is claimed as the invention is:

1. A dispenser package device for holding a liquid which is adapted to be probe-dispensed therefrom comprising a relatively rigid outer container and a relatively flexible inner container for holding a liquid sealed therein, said outer container being of generally rectangular shape with oppositely disposed open ends and having closure flaps hinged to said outer container at said open ends, said inner container being of double-ply construction and including an outer section and an inner section, said inner section being sealed to said outer section at one end and being open to receive fluids at its opposite end, said outer section and said inner section being otherwise separate from each other with the exception of a small area of securement adjacent said seal at said one end, said area of securement being defined by face to face adherence between the inner and outer sections of said inner container, and means securing said inner container to said outer container adjacent said area of securement, whereby a dispensing probe may be inserted through said outer rigid container and said inner container in said area of securement while relative movement between the outer container and inner container, and between the outer section and inner section will be substantially prevented.

2. The device of claim 1 wherein the adherence between said inner and outer sections is provided by the adherence of said sections to an intermediate reinforcing strip positioned in surface-to-surface engagement between said sections.

3. The device of claim 1 wherein the adherence between

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said inner and outer sections is provided by an intermediate layer of adhesive.

4. The device of claim 1 wherein the adherence between said inner and outer sections is provided by a line of heat sealing.

5. The device of claim 1 wherein said means comprises a tail portion constituting part of a strip having another part which overlies and is secured to said outer section at the area of securement.

6. The device of claim 1 wherein said means comprises a tail portion which is integral with and depends from the sealed end of said inner container. 10

7. The device of claim 1 wherein said means comprises a pattern of adhesive arranged between said inner container and said outer container, said pattern being of pre- 15

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determined contour and being arranged in juxtaposition to a pattern of adhesive of identical contour between said inner and outer sections of said inner container.

8. The device of claim 1 wherein an aperture for a probe-type nozzle is provided in one of said flaps corresponding in position to said area of securement when said flap is closed.

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