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HANGER CONSTRUCTION FOR PARENTERAL LIQUID CONTAINER

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FIG. 1.

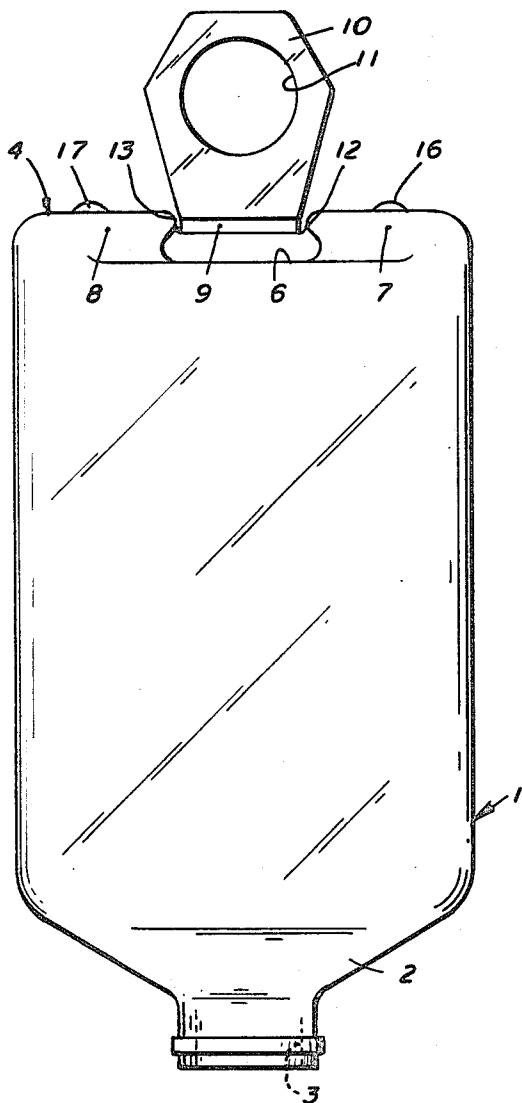


FIG. 2.

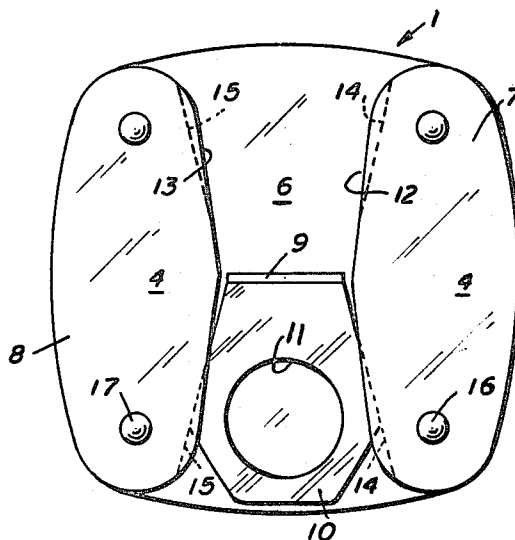
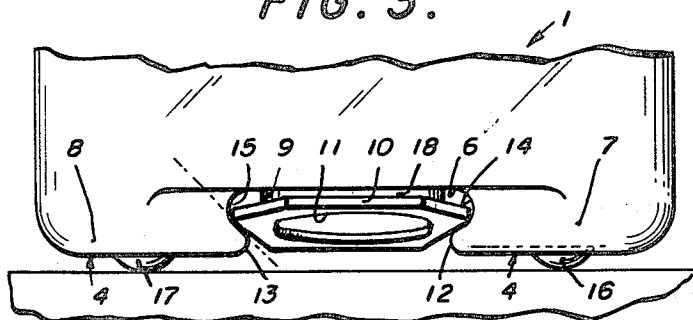


FIG. 3.



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HANGER CONSTRUCTION FOR PARENTERAL LIQUID CONTAINER

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9 Claims. (Cl. 215—100)

ABSTRACT OF THE DISCLOSURE

A plastic intravenous solution bottle with a hinged hanger integrally connected to the container at an indented recess in the container's bottom wall. This hanger has edges which snap into retention pockets in protuberant base sections of the container bottom, thus keeping the hanger tucked into the recess when the plastic bottle sits on a flat surface.

My invention concerns a plastic parenteral liquid container and more particularly a hanger construction on a bottom of this container.

Parenteral liquid containers usually have some means at their bottoms for hanging them mouth downwardly when dispensing liquid to a patient. The conventional hanger for a glass bottle is a metal band secured in a groove in the bottle and a wire bail connected to this band. With the advent of plastic solution bottles, it has been proposed to integrally form a hanger tab with a bottom wall of the plastic container as in United States Patent No. 3,208,710. This hanging tab was integrally joined to a flexible web so it could fold into a recess in the bottom wall in United States Patent No. 3,215,299.

The hanging tab of this later patent was fine when the container was full and manually set on a flat surface. The weight of the liquid in the container would keep the hanging tab folded up in the bottom wall recess. However, when the container was empty, as when feeding through automatic machinery prior to filling or after its contents were administered to a patient, the hinged tab could prevent the container from sitting upright. This is because the empty container was so light it did not overcome a plastic memory of the flexible hinge causing it to unfold and topple the container.

My invention overcomes this shortcoming of the prior containers by providing a retention means integral with the container for holding the suspension tab or hanger within its recess regardless of whether the container is filled or empty, setting upright or lying on its side. This retention means includes an undercut pocket in a supporting leg of the container bottom into which the suspension tab snaps. This undercut pocket keeps the suspension tab in its recess until pulled out by an operator. Any time the operator wants to get the suspension tab out of the way, he simply snaps it back into this pocket.

The following drawings will help in understanding my invention:

FIGURE 1 is a front elevational view of the container suspended mouth downwardly by its hanger construction;

FIGURE 2 is a bottom plan view showing the suspension tab tucked into two retention pockets; and

FIGURE 3 is an enlarged fragmentary front elevational view of a bottom portion of the container showing the suspension tab tucked into the container's retention pockets.

Referring to these drawings in which the same numbers are used throughout the various views, numeral 1 designates generally the plastic container with its neck 2 terminating in a dispensing outlet 3. The container has a bottom 4 (shown at an upper end of FIGURE 1) which includes a pair of protuberant base sections 7 and 8 along

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opposite sides of a recessed base wall 6. The protuberant base sections 7 and 8 have inner walls 12 and 13, respectively, which are closest together at a center of the container's bottom and diverge outwardly from each other as they proceed to an edge of bottom 4. Base pads exemplified by 16 and 17 can be included with the protuberant base sections 7 and 8 if desired.

As best shown in FIGURES 2 and 3, these inner walls 12 and 13 have undercut pockets 14 and 15, respectively. In the particular embodiment shown, these inner walls have undercut portions forming an acute angle with recessed base wall 6. As shown in FIGURE 3, the suspension tab 10 with a hole 11 therein has two edges retained in these undercut pockets 14 and 15. So the suspension tab can tuck into the recess at either extreme of its 180° hinged arc and be retained therein, the inner walls 12 and 13 each have undercut retention pockets on opposite sides of a center of bottom 4. Preferably, these undercut pockets hold the suspension tab 10 a short distance 18 from recessed bottom wall 6 so an operator can get his finger in this space to pry the suspension tab loose from retention pockets 14 and 15.

I have found that a suspension tab 10 of the shape shown in FIGURE 2 works particularly well when it has spaced from flexible web 9 a widened section 19 that snaps into deepened portions of the retention pockets. Thus, the undercut retention pockets have a considerable lever arm advantage with which to overcome the plastic memory of flexible web 9 caused by flexible web 9 being molded in its natural position in FIGURE 1. These undercut retention pockets can be made so they become progressively deeper in a lateral dimension as they proceed outwardly from a center of bottom 4 to an edge thereof.

The container shown in the attached drawings can be blow molded of a thermoplastic material such as polyethylene, polypropylene, or copolymers of these and thus give a hanger construction wherein the suspension tab is conveniently stored and retained in its recess. However, when he wants to, an operator can manually pull this suspension tab out of its recess with little effort.

In the foregoing specification, I have used a specific example to explain my invention. It is understood that persons skilled in the art can make certain modifications to this example without departing from the spirit and scope of this invention.

I claim:

1. A parenteral liquid container comprising: a plastic body; an integral base on said body, said base including protuberant base sections adapted to rest on a flat surface and an indented base wall spaced from the base sections to form a recess, at least one of said protuberant base sections having an undercut wall section forming a retention pocket; a thin, flexible web forming an integral, one-piece unit with the indented base wall and extending into the recess; and a suspension tab forming an integral one-piece unit with said web with said suspension tab capable of extending beyond the base sections, said suspension tab being of a shape and dimension to snap into said retention pocket in the protuberant base's wall section, whereby the suspension tab can be retained within said recess and not interfere with a flat surface on which the container is adapted to sit.

2. A parenteral liquid container as set forth in claim 1 wherein a plurality of protuberant base sections each have an undercut wall section forming a retention pocket to receive a plurality of edges of the hanger as the hanger is folded into the recess to be retained therein.

3. A parenteral liquid container as set forth in claim 1 wherein a protuberant base section has portions of its undercut wall section lying on opposite sides of the base's center so the hanger can be retained at either extreme

of a 180° hinged movement as the hanger is folded up adjacent the indented base wall.

4. A parenteral liquid container as set forth in claim 1 wherein the suspension tab has a widened portion spaced from the flexible web and said widened portion is adapted to snap into said retention pocket.

5. A parenteral liquid container as set forth in claim 1 wherein the undercut pocket becomes progressively deeper in a lateral dimension as it proceeds outwardly from the flexible web toward an edge of the container base.

6. A parenteral liquid container as set forth in claim 1 wherein the suspension tab is retained within the retention pocket while spaced a short distance from the indented base wall so an operator can get his finger in this space to pry the suspension tab out of the retention pocket to free the suspension tab.

7. A parenteral liquid container comprising: a plastic body; an integral base on said body, said base including a pair of protuberant base sections adapted to rest on a flat surface and an indented base wall spaced from the base sections to form a recess, said base sections having inner opposed walls which face each other with at least one of said inner walls having a portion which forms an acute angle with respect to the indented base wall to form an undercut retention pocket; a thin flexible web forming an integral, one-piece unit with the indented base wall and extending into the recess; and a suspension tab

forming an integral one-piece unit with said suspension tab capable of extending beyond the base sections, said suspension tab being of a shape and dimension to snap into said retention pocket in the protuberant base's wall section, whereby the tab can be retained within said recess and not interfere with a flat surface on which the container is adapted to sit.

8. A parenteral liquid container as set forth in claim 7 wherein the opposed inner walls of the protuberant base sections are closest to each other at a center of said base and diverge outwardly from each other as they proceed toward outer edges of the base.

9. A parenteral liquid container as set forth in claim 7 wherein each of the opposed inner walls of the protuberant base sections have undercut pockets on opposite sides of the base's center so the suspension tab can have an edge retained by each of said protuberant base sections at either extreme of a 180° hinged arc of the suspension tab.

References Cited

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3,215,299	11/1965	Coanda et al.	-----	215—100	

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