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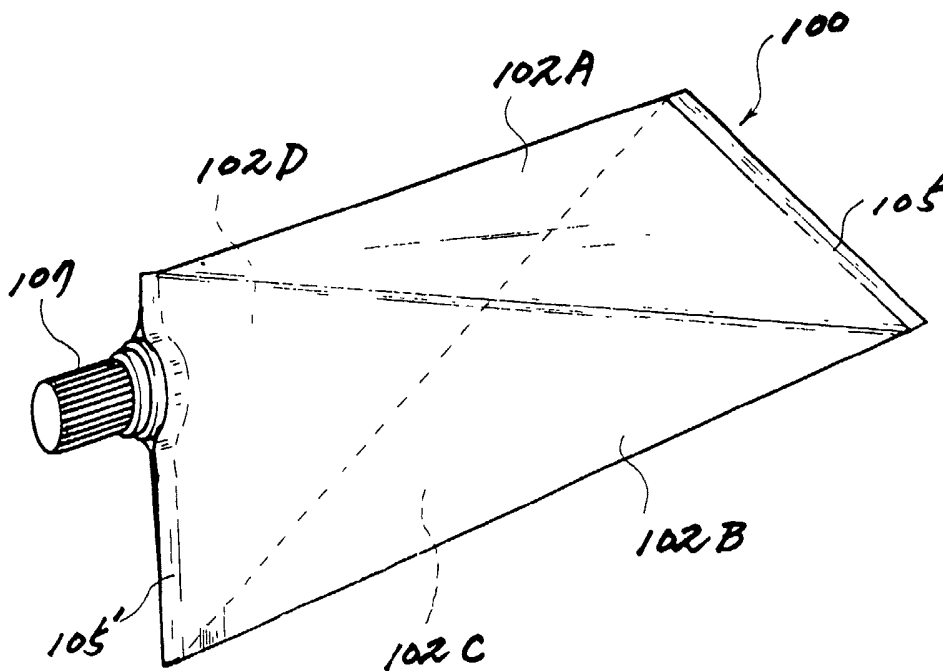
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(54) Title: TRIANGULAR-TETRAHEDRON CONTAINER WITH SPOUT ASSEMBLY



(57) Abstract: A triangular-tetrahedron container with a spout assembly is disclosed. The triangular-tetrahedron container includes four triangular surfaces. The surfaces are grouped in first and second pairs. The surfaces of each pair are disposed facing each other. Bases of facing triangular surfaces of the first pair are sealed by a first sealing portion formed in a horizontal direction. Bases of facing triangular surfaces of the second pair are sealed by a second sealing portion formed in a vertical direction. The spout assembly is provided on a predetermined portion of the triangular-tetrahedron container.



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TRIANGULAR-TETRAHEDRON CONTAINER WITH SPOUT

ASSEMBLY

TECHNICAL FIELD

5 The present invention relates to a triangular-tetrahedron container with a spout assembly that can contains liquid such as juice, milk or other beverages so as to be packaged, transported and sold in the market.

 Particularly, the present invention relates to a
10 triangular-tetrahedron container that is provided with a spout assembly enabling a user to easily dispense and suck the contents contained in the container.

BACKGROUND ART

15 Generally, beverages such as cola, juice, mineral water and other drinkable liquid are contained in a variety of containers to be packaged, transported and sold in the markets.

 As such containers, a cylindrical container such as pet bottles and cans, a square-hexahedron container, and a triangular-tetrahedron

containers have been well known and widely used.

In recent years, due to its outstanding self-standing ability and aesthetic sense, the triangular-tetrahedron containers have been widely used as a beverage container for storing a small amount of liquid.

5 Such conventional triangular-tetrahedron containers are shown in FIGS. 1 to 4.

FIG. 1 shows a typical triangular-tetrahedron container. The container includes opposite first and second sealing portions 3 and 3' that are disposed perpendicularly to each other, thereby defining the
10 triangular-tetrahedron body. To open such a triangular-tetrahedron container, a corner of one of the first and second sealing portions 3 and 3' is cut-away so as to dispense and suck the contents. To make it easy to cut-away, a cutting line 2 is formed around the corner. However, it is troublesome to use a special cutting tool wherever a user
15 intends to open the container.

FIG. 2 shows a container similar to that of FIG. 1. A thin film 4 is attached on a surface of the container 1 so that a straw can be inserted into the container through the thin film. This structure requires an additional process for attaching the thin film 4 and a straw attached on

an outer surface of the container 1.

A container 6 depicted in FIGS. 3a and 3b is designed to be assembled enclosing a pump dispenser main body 5. The container 6 is provided with a spout. This has a limitation it can be used only for a
5 refill type pump dispenser main body 5. Particularly, when the container 6 self-stands without the main body 5, the contents may overflow through the spout 7.

FIG. 4 shows another conventional container provided with an easy opening structure 8 so as for a user to easily drink the contents.
10 However, when the user intends to suck the beverage, a straw is still required.

DISCLOSURE OF INVENTION

Therefore, the present invention has been made in an effort to
15 solve the above-described problems of the prior art. It is an objective of the present invention to provide a triangular-tetrahedron container that is provided with a spout assembly enabling a user to easily dispense and suck the contents contained in the container.

It is another objective of the present invention to provide a

triangular-tetrahedron container provided with a spout assembly that is mounted so as to preventing the contents from overflowing.

To achieve the above objectives, the present invention provides a triangular-tetrahedron container for storing fluid comprising a first
5 pair of triangular surfaces disposed facing each other, bases of which being horizontally sealed by a first sealing end; a second pair of triangular surfaces disposed facing each other, base of which being sealed by a second sealing end in a direction perpendicular to the first sealing end; and a spout assembly for dispensing and sucking the fluid
10 contained in the container, the spout assembly being mounted on a predetermined portion of the container.

According to one embodiment, the spout assembly is fixed on one of the first and second sealing ends.

According to another embodiment, the spout assembly is fixed in
15 the vicinity of an angular point opposing a base of one of the triangular surfaces.

According to still another embodiment, the spout assembly is fixed on a corner of the first and second sealing ends.

Preferably, the spout assembly is enclosed by a protecting cover

provided with a cutting-line.

Preferably, the spout assembly is fixed on the second sealing end during a process of sealing the second sealing end after the first sealing end is sealed and the fluid is filled into the container through the second
5 sealing end before the sealing end is sealed.

Alternatively, the spout assembly may be fixed on the first sealing end during a course of sealing the first sealing end and the fluid is filled in the container through the second sealing end before the second sealing end is sealed.

10 Alternatively, the fluid may be filled in the container through the spout assembly after the spout assembly is fixed on the first sealing end during the course of sealing the first sealing end and the second sealing end is sealed.

15 BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. 1 to 4 are views of conventional triangular-tetrahedron container;

FIG. 5 is a perspective view of a triangular-tetrahedron container with a spout assembly according to a first preferred

embodiment of the present invention;

FIG. 6 is a perspective view of a triangular-tetrahedron container with a spout assembly according to a second preferred embodiment of the present invention;

5 FIG. 7 is a perspective view of a triangular-tetrahedron container with a spout assembly according to a third preferred embodiment of the present invention;

FIG. 8 is a perspective view of a triangular-tetrahedron container with a spout assembly according to a fourth preferred
10 embodiment of the present invention; and

FIG. 9 is a perspective view of a spout assembly that can be employed to the present invention.

BEST MODE FOR CARRYING OUT THE INVENTION

15 Preferred embodiments of the present invention will be described more in detail hereinafter in conjunction with the accompanying drawings.

The present invention is described through a couple of embodiment and like reference Nos. are assigned to like parts

throughout the drawings for the description convenience.

In addition, material used for a container of the present invention is formed of a multi-layer film laminated with at least two materials selected from the group consisting of paper, synthetic resin, and
5 aluminum foil.

FIG. 5 shows a triangular-tetrahedron container according to a first preferred embodiment of the present invention.

As shown in the drawings, the inventive container 100 is a triangular-tetrahedron container including four triangular surfaces
10 102A, 102B, 102C and 102D.

The container 100 having opposite first and second sealing ends 105 and 105'.

Describing more in detail, the first sealing end 105 is formed along a horizontal straight line to seal bases of the corresponding
15 triangular surfaces 102A and 102C. That is, the first sealing end 105 is formed along a horizontal straight line connecting angular points of the bases of the triangular surfaces 102A and 102C. The first sealing end 105' is formed along a straight line perpendicular to the horizontal straight line to seal bases of the corresponding triangular surfaces 102B

and 102D. That is, the first sealing end 105 is formed along a horizontal straight line connecting angular points of the bases of the triangular surfaces 102B and 102D.

As a feature of the present invention, a spout assembly 107 for
5 dispensing and sucking contents container in the container is mounted on a predetermined position of one of the first and second sealing ends 105 and 105'.

Considering the filling process of the contents, after the spout assembly 107 is located on one of the first and second sealing ends 105
10 and 105', the rest of the first and second sealing ends 105 and 105' may be maintained without being sealed so that the contents can be filled in the container through the rest of the first and second sealing ends 105 and 105'.

Alternatively, after one of the sealing ends 105 and 105' is sealed,
15 the contents are filled in the container through the rest of the sealing ends, after which the spout 107 can be mounted on the rest sealing end during the course of sealing the rest sealing end.

Alternatively, after one of the sealing ends 105 and 105' is sealed, the rest is sealed together with the spout assembly 107, after which the

contents are filled in the container through the spout assembly 107, and then a cap of the spout assembly is assembled on the spout assembly 107.

Any types of the spout assembly can be used for the present invention as far as it can dispense and suck the contents. One example of the spout assembly is shown in FIG. 9.

As shown in the drawing, the user contacts the lip contacting portion 206 of the spout assembly to suck the contents through a pouring hole 207. In addition, to dispense the contents to another cup or container, when the user upsets the container 100 and depresses the surfaces 102A-102D, the contents pours through the pouring hole 207 provided with a spouting guide 209.

FIG. 6 shows a triangular-tetrahedron container with a spout assembly according to a second embodiment of the present invention.

In this embodiment, the spout assembly 107 is disposed on a portion in the vicinity of an angular point opposing a base of one of the triangular surfaces.

The filling process can be performed by a variety of methods as described in the first embodiment.

FIG. 7 shows a triangular-tetrahedron container with a spout assembly according to a third embodiment of the present invention.

In this embodiment, the spout assembly 107' is formed on a corner of the sealing ends 105 and 105' after the corner is cut-away.

5 The spout assembly 107' is enclosed by a protecting cover 109 so as to prevent the spout assembly 107 from being contaminated.

In addition, the spout assembly 107' of this embodiment is designed such that a cap is integrally formed so that it can be broken away by twisting force to open the spout assembly.

10 Likewise, the filling process can be performed by a variety of methods as described in the first embodiment.

FIG. 7 shows a triangular-tetrahedron container with a spout assembly according to a fourth embodiment of the present invention.

In this embodiment, the spout assembly 107 is mounted on one of

15 the triangular surfaces in the vicinity of the base.

Likewise, the filling process can be performed by a variety of methods as described in the first embodiment.

As described above, the present invention provides users with more convenient container, which is a triangular-tetrahedron structure

having a stable self-standing ability and an outstanding aesthetic aspect, as a spout assembly enabling the user to dispense and suck the contents contained in the container is provided on the container.

In addition, since the spout assembly is located slanting on one
5 side of the container, the contents in the container do not overflow even when the cap of the spout assembly is opened.

Although preferred embodiments of the present invention have been described in detail hereinabove, it should be clearly understood that many variations and/or modifications of the basic inventive
10 concepts herein taught which may appear to those skilled in the present art will still fall within the spirit and scope of the present invention, as defined in the appended claims.

INDUSTRIAL APPLICABILITY

15 As is well known from the above-described embodiments, the container of the present invention can be used for storing beverages such as milk and juice so that the user can suck or dispense the beverages. The container can be also used for storing industrial fluid such as detergent and oil as it is designed to easily pour the contents

without spilling them.

CLAIMS

1. A triangular-tetrahedron container for storing fluid comprising:

a first pair of triangular surfaces disposed facing each other,
5 bases of which being horizontally sealed by a first sealing end;

a second pair of triangular surfaces disposed facing each other,
base of which being sealed by a second sealing end in a direction
perpendicular to the first sealing end; and

a spout assembly for dispensing and sucking the fluid contained
10 in the container, the spout assembly being mounted on a predetermined
portion of the container.

2. A triangular-tetrahedron container of claim 1 wherein the
spout assembly is fixed on one of the first and second sealing ends.

3. A triangular-tetrahedron container of claim 1 wherein the
15 spout assembly is fixed in the vicinity of an angular point opposing a
base of one of the triangular surfaces.

4. A triangular-tetrahedron container of claim 1 wherein the
spout assembly is fixed on a corner of the first and second sealing ends.

5. A triangular-tetrahedron container of claim 1 wherein the

spout assembly is enclosed by a protecting cover provided with a cutting-line.

6. A triangular-tetrahedron container of claim 4 wherein the spout assembly is enclosed by a protecting cover provided with a cutting-line.

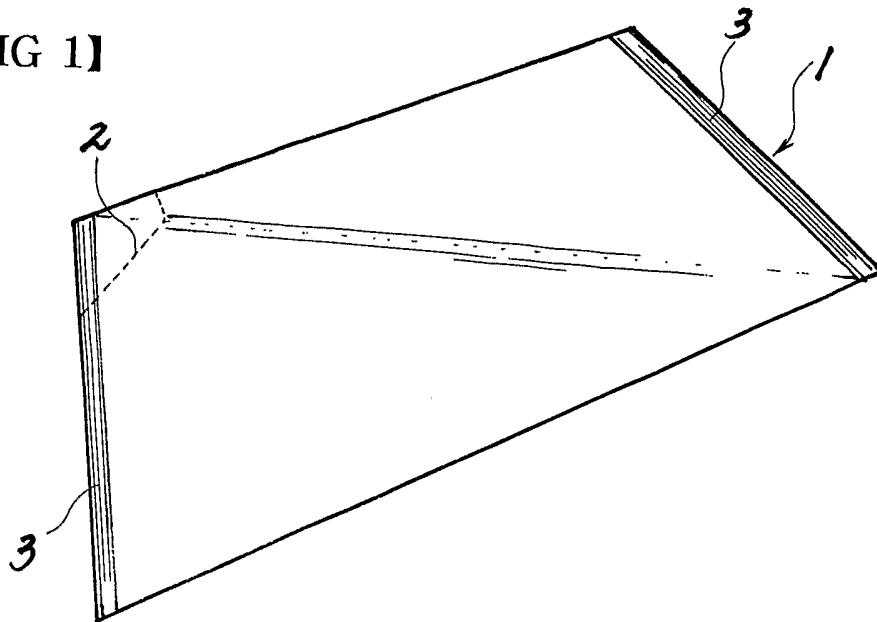
7. A triangular-tetrahedron container of claim 1 wherein the spout assembly is fixed on the second sealing end during a process of sealing the second sealing end after the first sealing end is sealed and the fluid is filled into the container through the second sealing end before the sealing end is sealed.

8. A triangular-tetrahedron container of claim 1 wherein the spout assembly is fixed on the first sealing end during a course of sealing the first sealing end and the fluid is filled in the container through the second sealing end before the second sealing end is sealed.

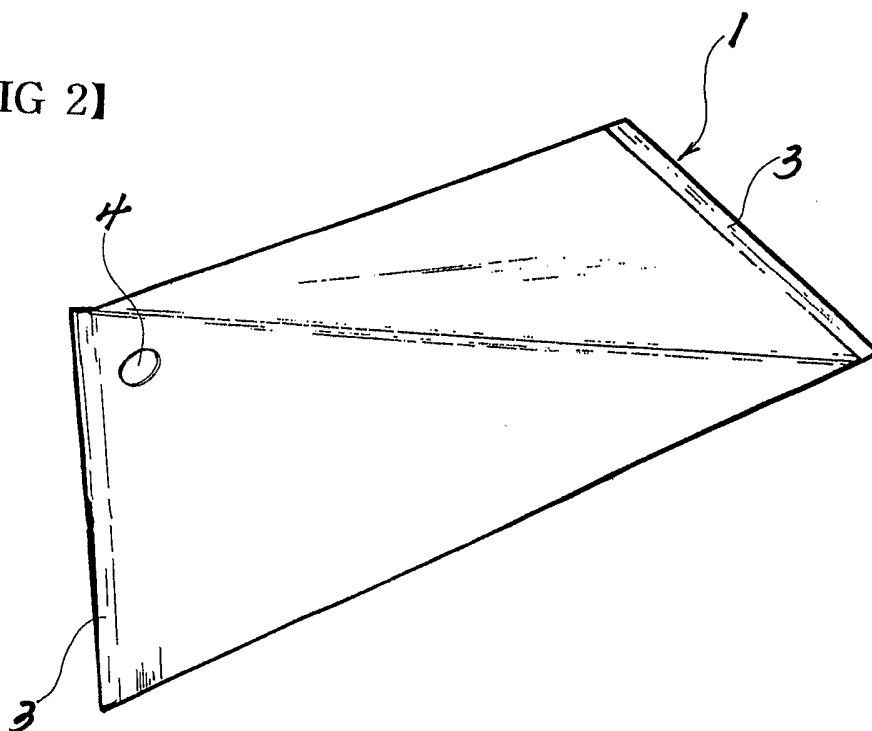
9. A triangular-tetrahedron container of claim 1 wherein the fluid is filled in the container through the spout assembly after the spout assembly is fixed on the first sealing end during the course of sealing the first sealing end and the second sealing end is sealed.

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【FIG 1】

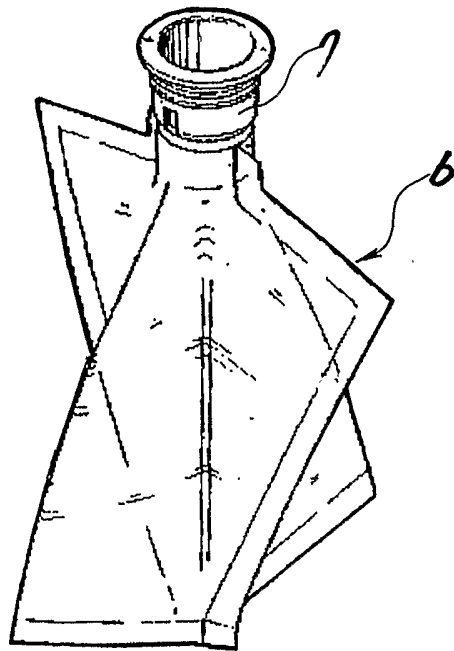


【FIG 2】

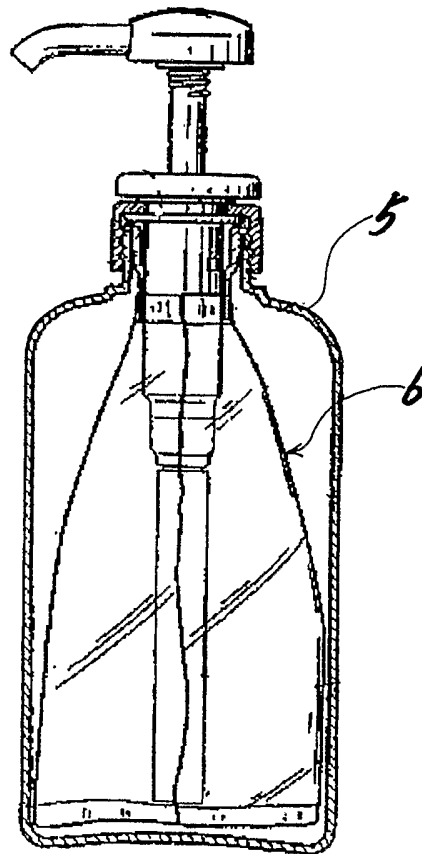


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【FIG 3 a】

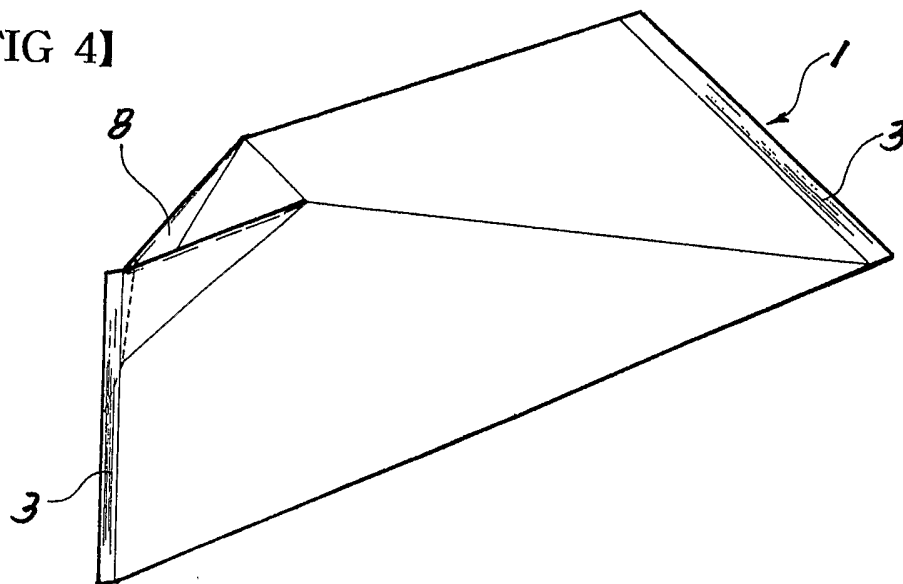


【FIG 3 b】

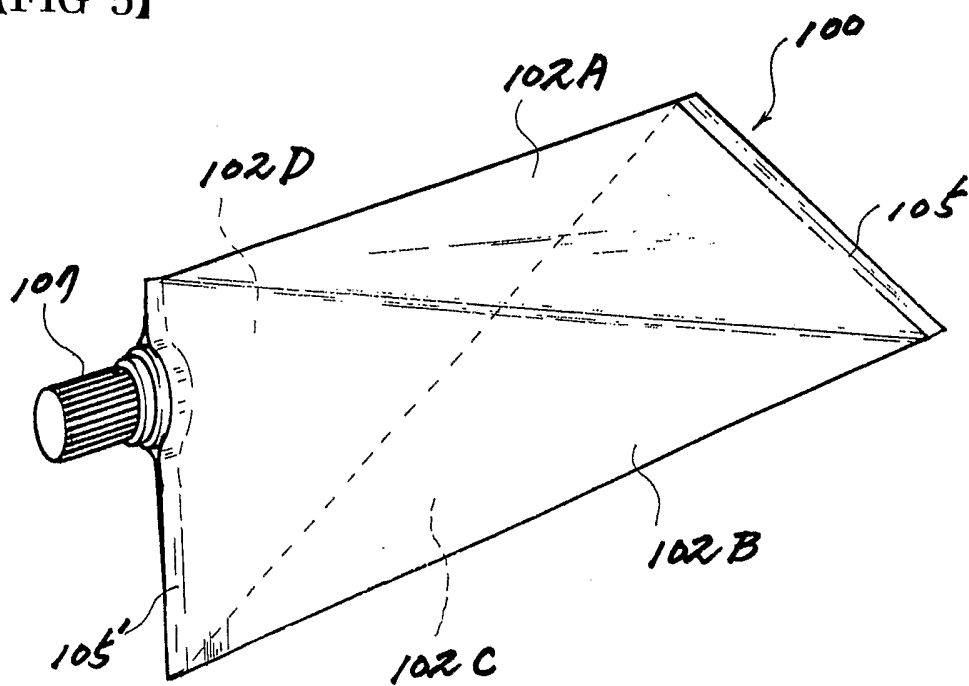


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【FIG 4】

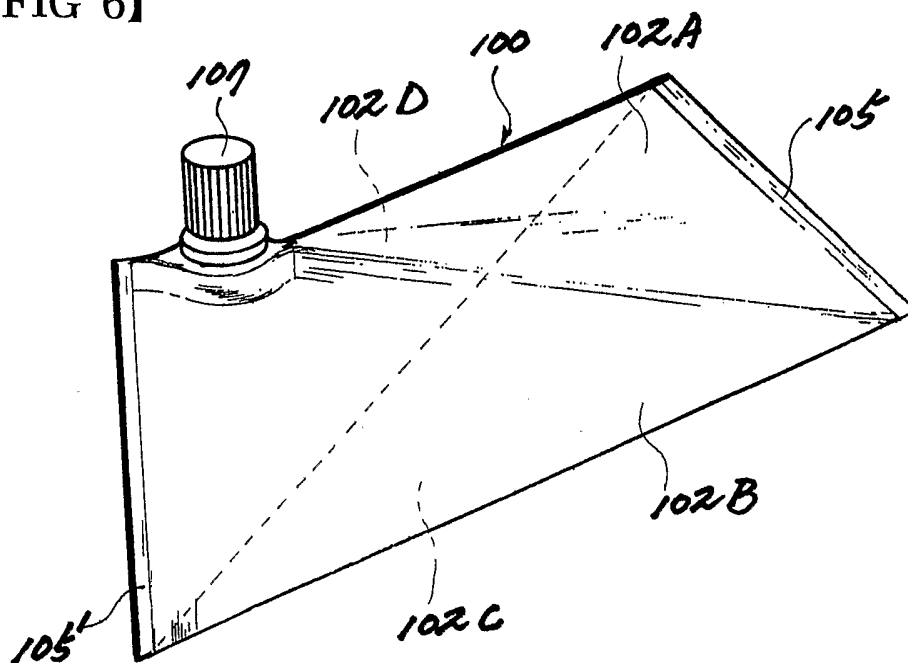


【FIG 5】

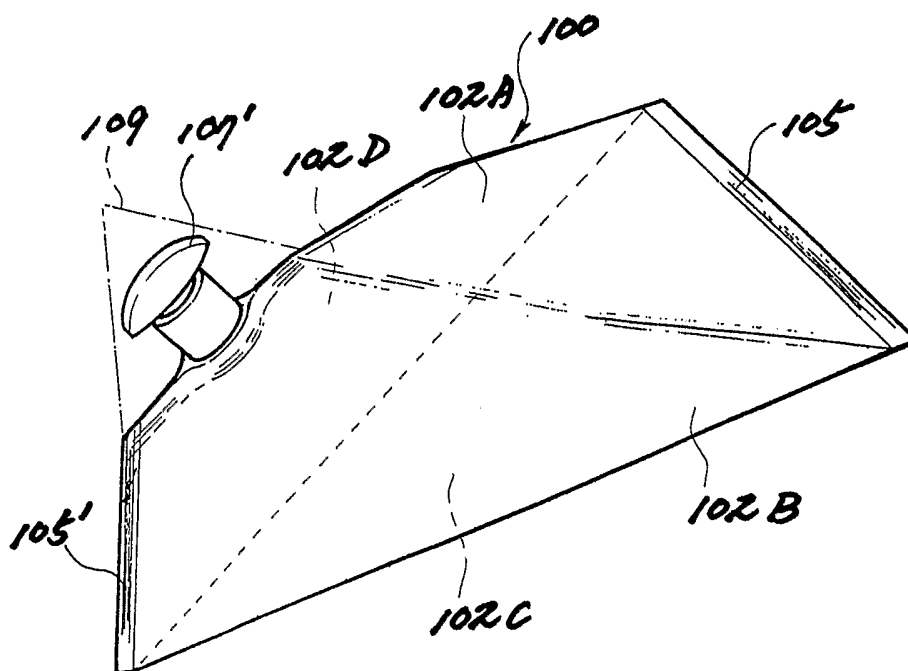


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【FIG 6】

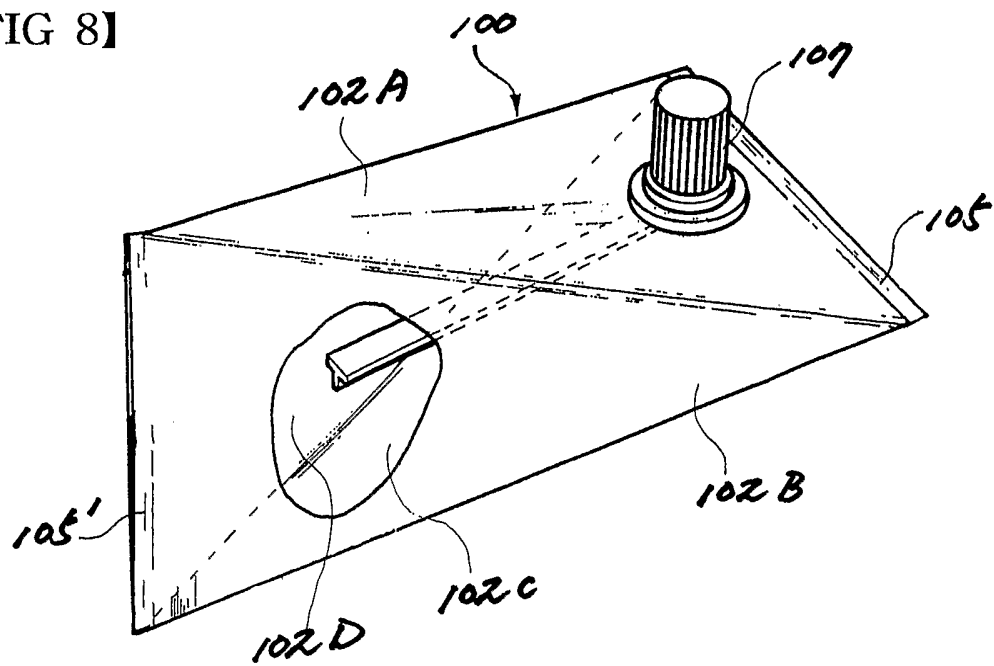


【FIG 7】

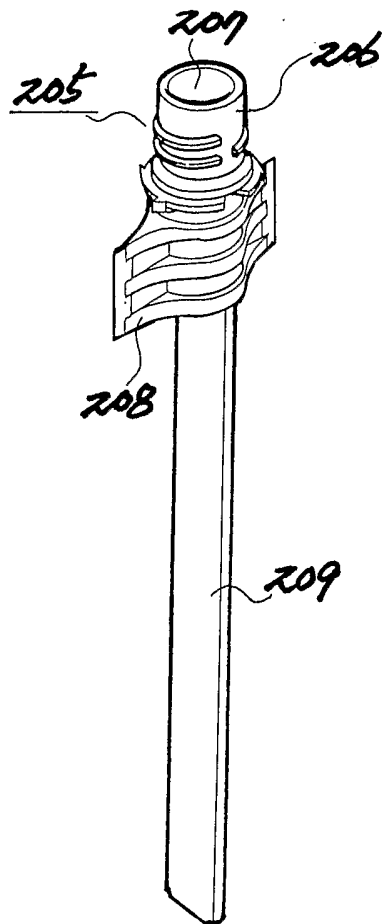


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【FIG 8】



【FIG 9】



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR02/01472

A. CLASSIFICATION OF SUBJECT MATTER**IPC7 B65D 77/28**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 B65D, B65B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4367828A (Tetra Pak Developpement S.A.) 11 JANUARY 1983 See the whole document	1
A	US 4445309A (Tetra Pak Developpement S.A.) 1 MAY 1984 See the whole document	1
A	US 4027455A (Tetra Pak Developpement S.A.) 7 JUNE 1977 See the whole document	1

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

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"P" document published prior to the international filing date but later than the priority date claimed

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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