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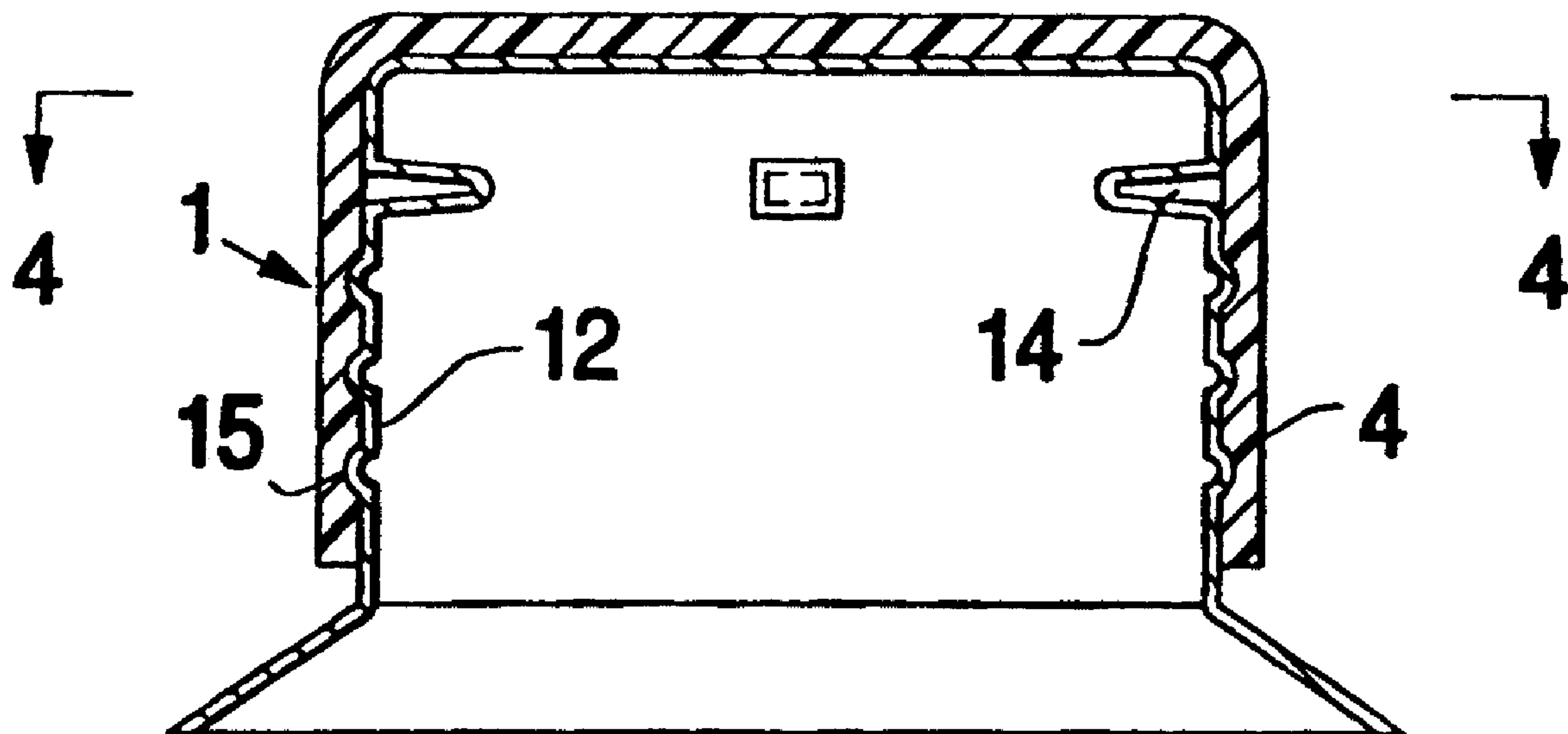
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(54) Titre : DISPOSITIF D'OUVERTURE POUR CONTENANT D'EMBALLAGE

(54) Title: OPENING ARRANGEMENT FOR A CONTAINER PACKAGE



(57) Abrégé/Abstract:

Disclosed is an opening arrangement for a container package comprising a sealing portion formed with a threaded interior configuration, a pouring spout, one end of the pouring spout being attachable to a container package, another end of the pouring spout, forming a continuous, liquid-tight part, the pouring spout being formed with a threaded exterior configuration corresponding to the threaded interior configuration of the sealing portion, the pouring spout being inflexibly engaged with and at least partially surrounded by the sealing portion, and at least two penetration devices extending inwardly from the threaded interior configuration of the sealing portion toward the pouring spout.



ABSTRACT

Disclosed is an opening arrangement for a container package comprising a sealing portion formed with a threaded interior configuration, a pouring spout, one end of the pouring spout being attachable to a container package, another end of the pouring spout, forming a continuous, liquid-tight part, the pouring spout being formed with a threaded exterior configuration corresponding to the threaded interior configuration of the sealing portion, the pouring spout being inflexibly engaged with and at least partially surrounded by the sealing portion, and at least two penetration devices extending inwardly from the threaded interior configuration of the sealing portion toward the pouring spout.

AN OPENING ARRANGEMENT FOR A CONTAINER PACKAGE

TECHNICAL FIELD

5 The present invention relates to an opening arrangement for container packages, comprising a sealing portion which inflexibly engages with and surrounds a pouring spout, whose end facing away from the container package consists of a continuous, liquid-tight material layer which is shaped in accordance with the inner configuration of the sealing portion.

10 BACKGROUND ART

Container packages or cartons of the single-use disposable type are largely employed today to pack consumer goods such as, for example, beverages like milk or juice. The container package is made from a laminate with carrier layers of paperboard or cardboard, different layers of thermoplastic being laminated thereto. The laminate may also have a
15 different core material, such as metal foil. The packaging material, which may be in web form or as sheet blanks, is folded, sealed and finally formed into a liquid-tight container package.

The finished container package should naturally also include an
20 opening arrangement which must be simple to open and pour from, with the liquid contents in a compact jet and without any risk of spilling or dripping. However, it has proved that container packages manufactured from a packaging material consisting of a paper laminate may be difficult to tear open and fold to form a functional pouring spout. Moreover, when the
25 intention is to reclose and reseal the container package, it is not possible to make the package liquid-tight once again.

It is also known in the art to manufacture container packages whose main portion consists of a packaging laminate in accordance with the above description, but whose upper defining surface consists of an injection
30 moulded thermoplastic lid. The thermoplastic lid also includes an opening arrangement integral with the lid. This opening arrangement is relatively easy to open but neither is this version liquid-tight on reclosure and resealing.

In order to obviate the above-outlined drawbacks, various forms of
35 penetrating screw stoppers or plugs have been produced which are intended to be placed on the surface of the container package so that the

screw plug penetrates through the surface layer when the package is opened.

It is further known in the art to form a partly integrated pouring spout from the surface of the packaging material. The pouring spout is surrounded by a sealing portion of the so-called screw stopper or plug type which, on being opened, tears off an outer portion of the pouring spout. That part of the pouring spout which is torn off during the opening operation has been sealed against the outer sealing portion by means of heat. As a result, the tear-off operation generally entails that the pouring spout has no smooth outer edge, which may render difficult pouring of the contents enclosed in the container package.

15 SUMMARY OF THE INVENTION

The invention provides an opening arrangement (1) for a container package (2,5) including a sealing portion (4) which inflexibly engages with and surrounds a pouring spout (12), whose end facing away from the container package (2, 5) consists of a continuous, liquid-tight material layer which is formed in accordance with the interior configuration of the sealing portion (4), characterized in that there are provided, in the upper region of the sealing portion (4), at least two penetration devices (14) oriented inwardly in the pouring spout (12).

The penetration devices (14) can be placed on different levels within the sealing portion (4), and in one embodiment the penetration devices (14) are four in number. The pouring spout (12) of the opening arrangement (1) can be made of a material which includes layered thermoplastic, preferably polyethylene. The thermoplastic material can constitute a part of the upper end wall (6) of the container package (5).

In one embodiment the sealing portion (4) is a screw stopper.

A ring can be provided for the sealing portion (4) said ring being secured against the edge of the pouring spout (12) and intended to be removed before opening of the container package (2,5).

More specifically, the present invention provides an opening arrangement for a container package comprising a sealing portion formed with a threaded interior

2a

configuration, a pouring spout, one end of the pouring
spout being attachable to a container package, another end
of the pouring spout, forming a continuous, liquid-tight
part, the pouring spout being formed with a threaded
5 exterior configuration corresponding to the threaded
interior configuration of the sealing portion, the pouring
spout being inflexibly engaged with and at least partially
surrounded by the sealing portion, and at least two
penetration devices extending inwardly from the threaded
10 interior configuration of the sealing portion toward the
pouring spout.

The present invention also provides an opening
arrangement for a container package, comprising a sealing
portion formed with a threaded interior, a pouring spout, a
15 first end of the pouring spout being attachable to a
container package, a second end of the pouring spout being
formed as a continuous, liquid-tight part, a portion of the
exterior of the pouring spout conforming to the threaded
interior of the sealing portion, and at least one
20 penetration device extending inwardly from the threaded
interior of the sealing portion and into the pouring spout
such that the penetration device severs the second end of
the pouring spout from the first end when the sealing
portion is rotated.

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BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

One preferred embodiment of the present invention will
now be described in greater detail hereinbelow with
particular reference to accompanying Drawings, in which:

30 Fig. 1 is a perspective view of an opening arrangement
according to the present invention in a container package
of known type;

Fig. 2 is a perspective view of the opening
arrangement according to the present invention in another
35 type of container package;

Figs. 3A-E show stepwise and partly in section how an
opening arrangement according to the present invention is
applied to a container package according to Fig. 1;

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Fig. 4 shows a top plan view of an opening arrangement according to the present invention; and

Fig. 5 is a side elevation partly in section of the opening arrangement according to the present invention.

The Drawings show only those details essential to an understanding of the present invention.

DESCRIPTION OF PREFERRED EMBODIMENT

Fig. 1 shows an opening arrangement 1 according to the present invention applied to a container package 2 of known type. The container package 2, which is manufactured from a laminate with a core of paper, cardboard or metal to which is laminated different layers of thermoplastic, is folded, sealed and formed into a so-called gable-top carton 2. The opening arrangement 1 is placed on one of the upper defining surfaces 3 of the carton 2 forming a so-called gable-top. The Figure shows only the outer sealing portion 4 of the opening arrangement 1, this portion being formed as a screw stopper of substantially conventional type, with interior threading, or alternatively a snap top with an inner bead (not shown).

Fig. 2 shows another type of container package 5 also of known type in which the lower portion of the container package 5 consists of a laminate in accordance with the above description. The upper defining surface 6 of the container package 5 consists of a thermoplastic panel, part of the surface of which has been formed into a pouring spout surrounded by an outer sealing portion 4. The remaining parts of the thermoplastic panel are folded about the upper edge of the container package 5 and are sealed by means of heat against the thermoplastic surface of the packaging laminate.

Figs. 3A-E schematically show how an opening arrangement 1 according to the present invention is realized in a container package 2 according to Fig. 1. A circular opening 7 (Fig. 3A) is made in one of the upper sloping gable-top panels 3 of the container package 2. A thermoplastic panel 8 is placed inside the circular opening 7, this panel having a diameter which exceeds that of the circular opening 7 in the wall surface 3 of the container package 2. As shown in Fig. 3B, the thermoplastic panel 8 is sealed interiorly against the inner wall surface of the container package 2 by means of a sealing tool 9.

In Fig. 3C, the thermoplastic panel 8 is heated to a temperature at which the thermoplastic plasticizes (for polyethylene approx. 110°C) with

the aid of a heater 10. Once the thermoplastic panel 8 has become plasticized and pliable, it is subjected to vacuum or pressure forming in a moulding tool 11 as illustrated in Fig. 3D. The outer sealing portion 4 acts as a mould for the vacuum forming, i.e. the screw stopper which is to surround the pouring spout 12. Fig. 3E finally shows the finished pouring spout 12 provided with threads 15. The pouring spout 1 is completely sealed and constitutes a liquid-tight part of the container package 2 when the outer sealing fin or flap 13 is finally sealed together after the filling operation.

Figs. 4 and 5 show the outer sealing portion 4 from two different views. The outer sealing portion 4 substantially consists of a conventional screw stopper or plug but there are provided, in its upper region, at least two, but preferably four penetration devices 14. These penetration devices 14 may consist of small bevelled plastic pieces which project out from the inner wall of the sealing portion 4. They may also consist of small metal pieces which have been fixed in place and which, on opening of the opening arrangement 1, easily penetrate the upper portion of the pouring spout 12.

In the vacuum forming of the pouring spout 12, when the outer sealing portion 4 serves as a mould, the plasticized thermoplastic will form itself about the penetration devices 14 without the plastic cracking or being severed in this position. By employing four penetration devices 14 placed at mutually different levels, there will be obtained, on removal of the outer sealing portion 4, an even and horizontal outer edge of the pouring spout 12. That part of the pouring spout 12 which is severed in the opening operation will be retained by the penetration devices 14 in the upper region of the sealing portion 4. The number of penetration devices 14 is dependant upon the length and pitch of the thread 15. The longer the thread 15, the fewer will be the number of penetration devices 14 required. The penetration devices 14 must together be capable of cutting off a complete circular surface of the upper region of the pouring spout 12.

As a modified embodiment of the present invention, it is possible, in association with the outer sealing portion 4, to place a removable ring of plastic which is secured or sealed to the edge of the pouring spout 12. This pull-ring is torn off before opening of the opening arrangement 1 proper and thereby constitutes a safeguard against the unauthorized opening of the container package 2, 5.

As will have been apparent from the above description, the present invention realizes an opening arrangement for conventional container packages or cartons which is simple to open and reseal. The opening arrangement is furthermore relatively cheap to manufacture and, as a result of the penetration devices characteristic of the present invention, the user will obtain a pouring spout which makes possible pouring of the contents of the container package without spilling and without dripping.

The present invention should not be considered as restricted to that described above and shown on the Drawings, many modifications being conceivable without departing from the spirit and scope of the appended Claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An opening arrangement for a container package comprising:

a sealing portion formed with a threaded interior configuration;

a pouring spout, one end of the pouring spout being attachable to a container package, another end of the pouring spout, forming a continuous, liquid-tight part, the pouring spout being formed with a threaded exterior configuration corresponding to the threaded interior configuration of the sealing portion, the pouring spout being inflexibly engaged with and at least partially surrounded by the sealing portion; and

at least two penetration devices extending inwardly from the threaded interior configuration of the sealing portion toward the pouring spout.

2. The opening arrangement as set forth in claim 1, wherein the penetration devices are positioned at different levels within the sealing portion.

3. The opening arrangement as set forth in claim 1 or 2, wherein the penetration devices are four in number.

4. The opening arrangement as set forth in claim 1, 2 or 3, wherein the pouring spout of the opening arrangement is made of a material which includes thermoplastic.

5. The opening arrangement as set forth in claim 4, wherein the thermoplastic includes polyethylene.

6. The opening arrangement as set forth in claim 4 or 5, further comprising a container package, wherein the thermoplastic material forms a part of an upper end wall of the container package.

7. The opening arrangement as set forth in any one of claims 1 to 6, wherein the sealing portion is a screw stopper.

8. The opening arrangement as set forth in any one of claims 1 to 7, further comprising a ring formed with the sealing portion, the ring being secured against an edge of the pouring spout such that it is necessary to remove the ring before opening of the container package.

9. An opening arrangement for a container package, comprising:

a sealing portion formed with a threaded interior;

a pouring spout, a first end of the pouring spout being attachable to a container package, a second end of the pouring spout being formed as a continuous, liquid-tight part, a portion of the exterior of the pouring spout conforming to the threaded interior of the sealing portion; and

at least one penetration device extending inwardly from the threaded interior of the sealing portion and into the pouring spout such that the penetration device severs the second end of the pouring spout from the first end when the sealing portion is rotated.

10. The opening arrangement as set forth in claim 9, wherein two or more penetration devices are provided, the penetration devices being positioned, on the threaded interior of the sealing portion, at different levels, such that a substantially horizontal edge is formed when the second end of the pouring spout is severed from the first.

11. The opening arrangement of claim 9 or 10, wherein the pouring spout is formed by vacuum molding material in a mold formed by the threaded interior of the sealing portion.

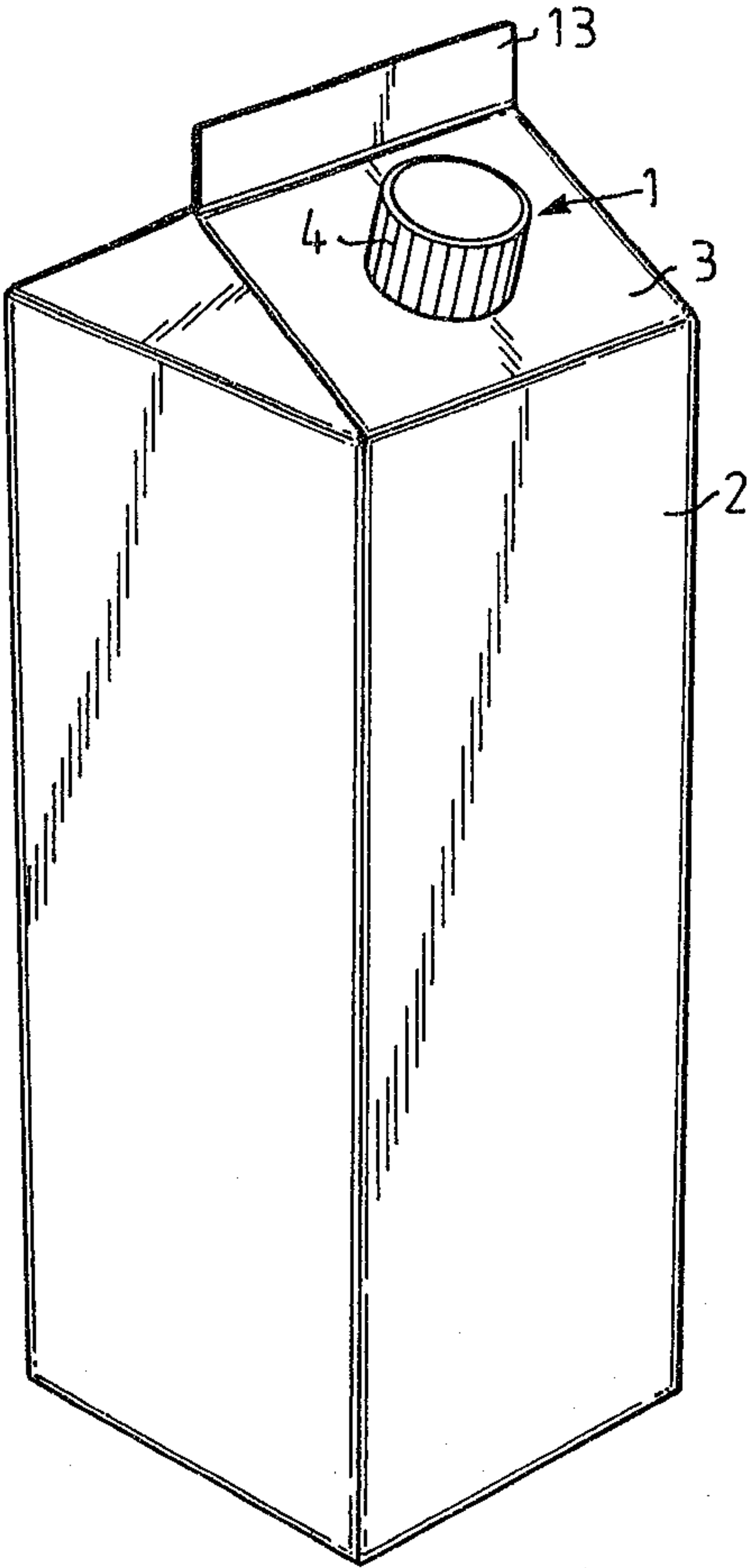


FIG. 1

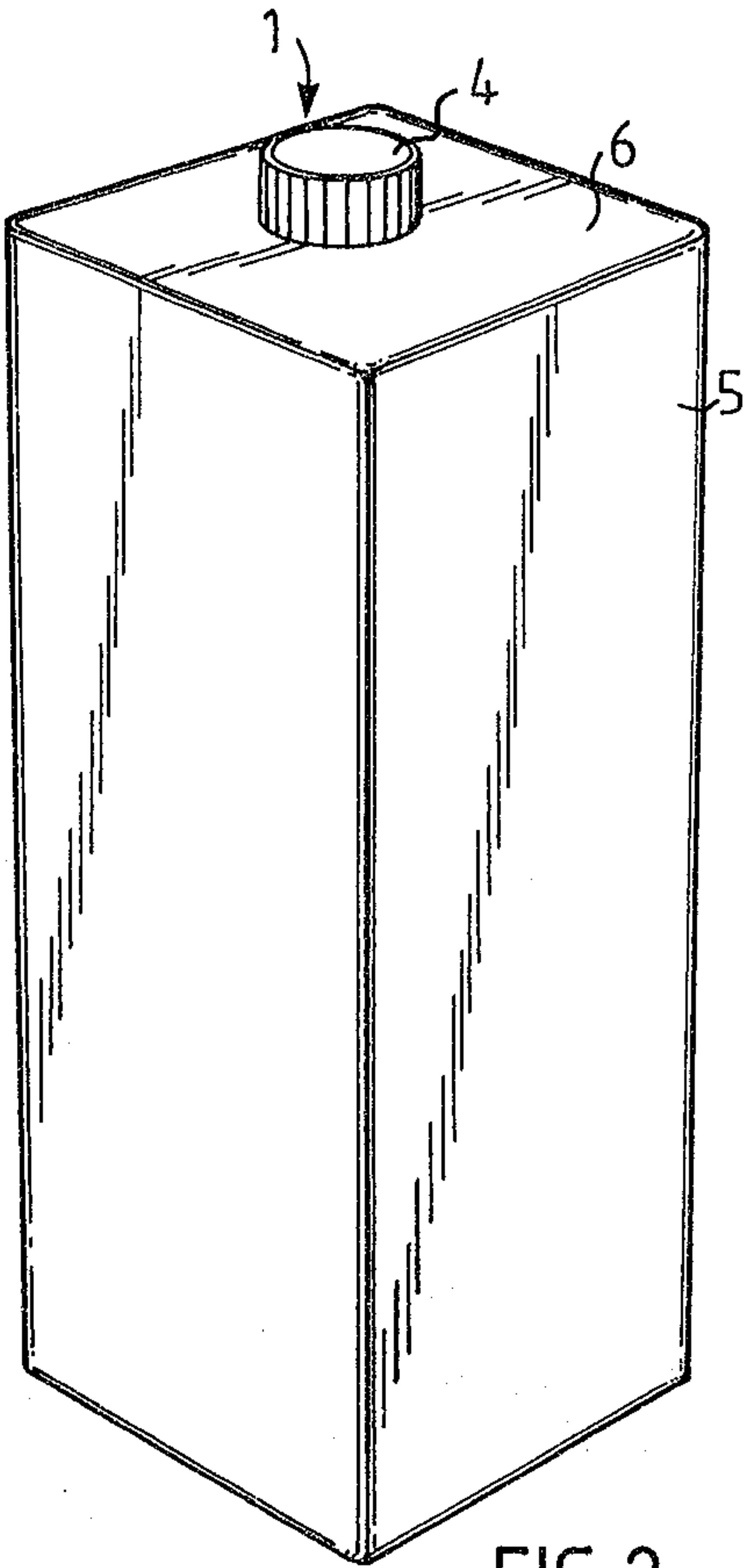


FIG. 2

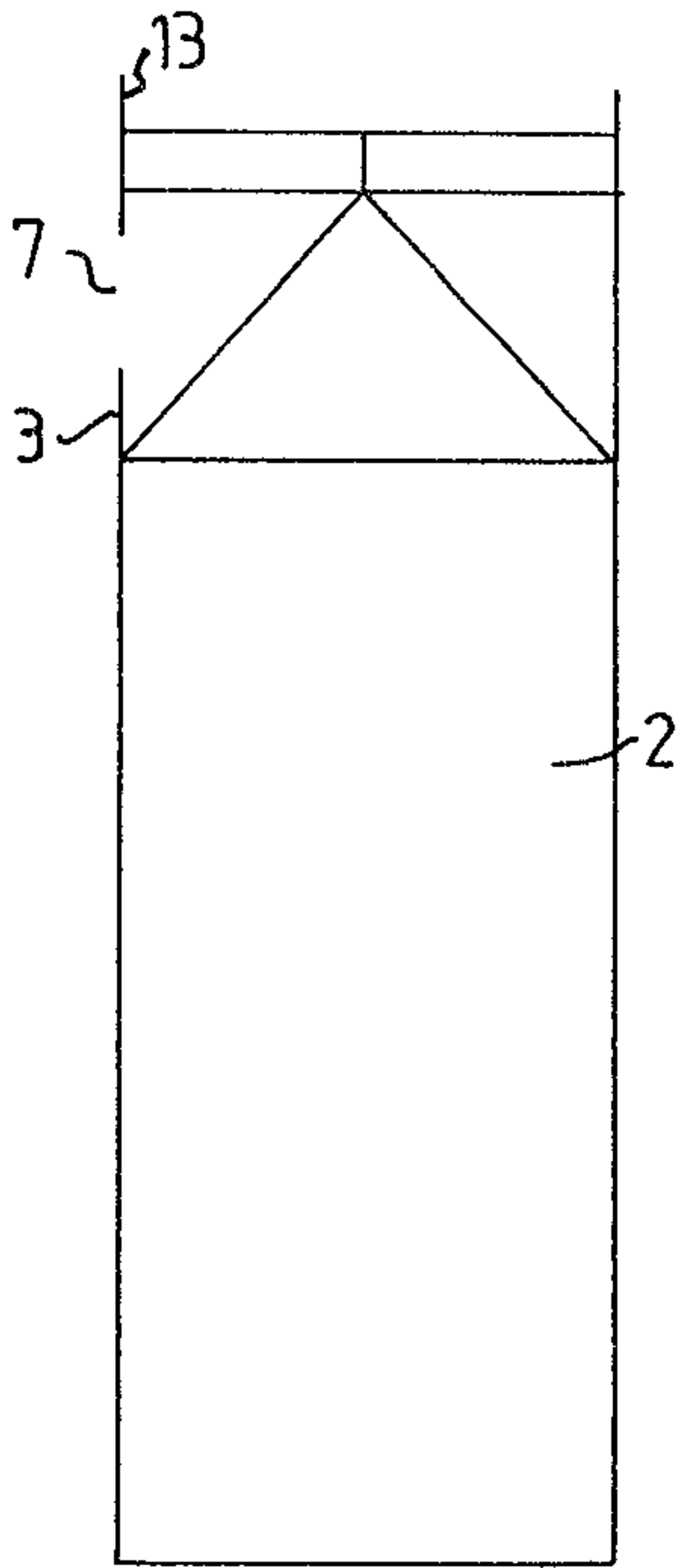


FIG. 3A

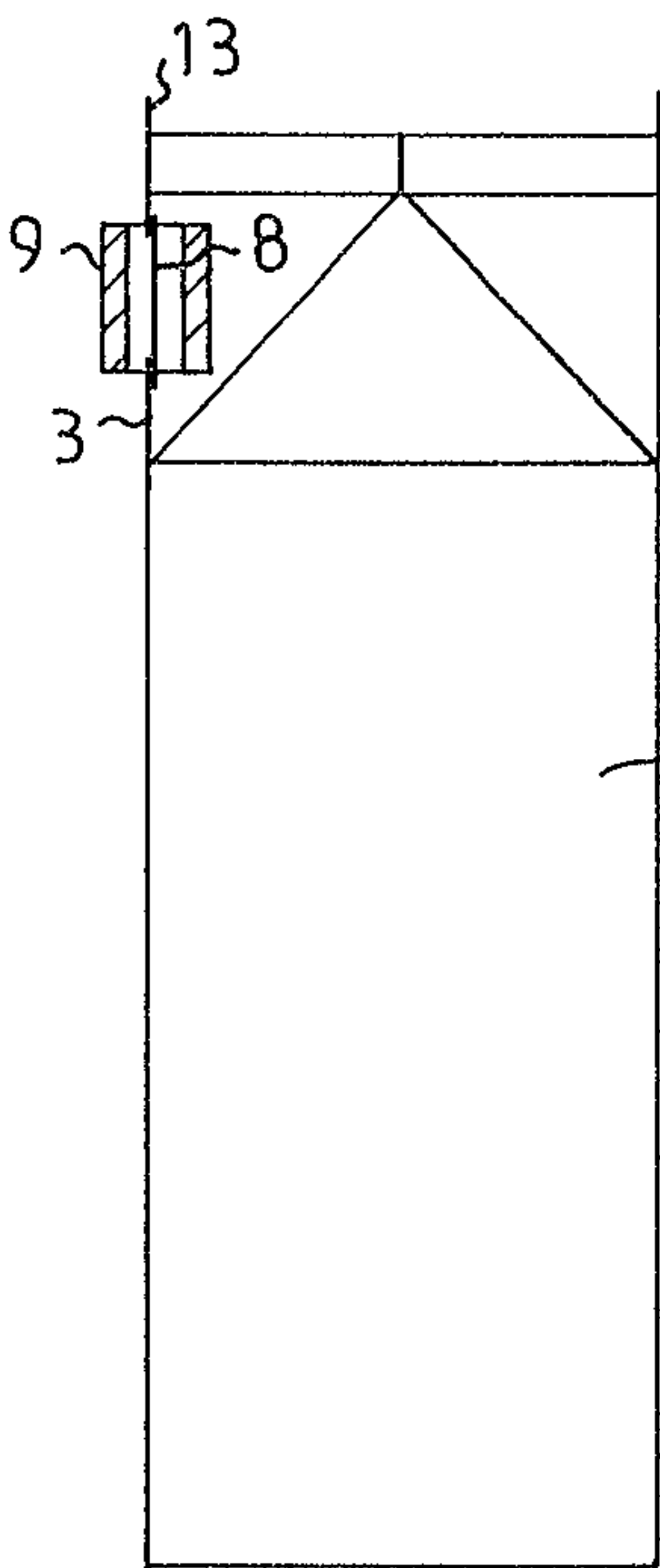


FIG. 3B

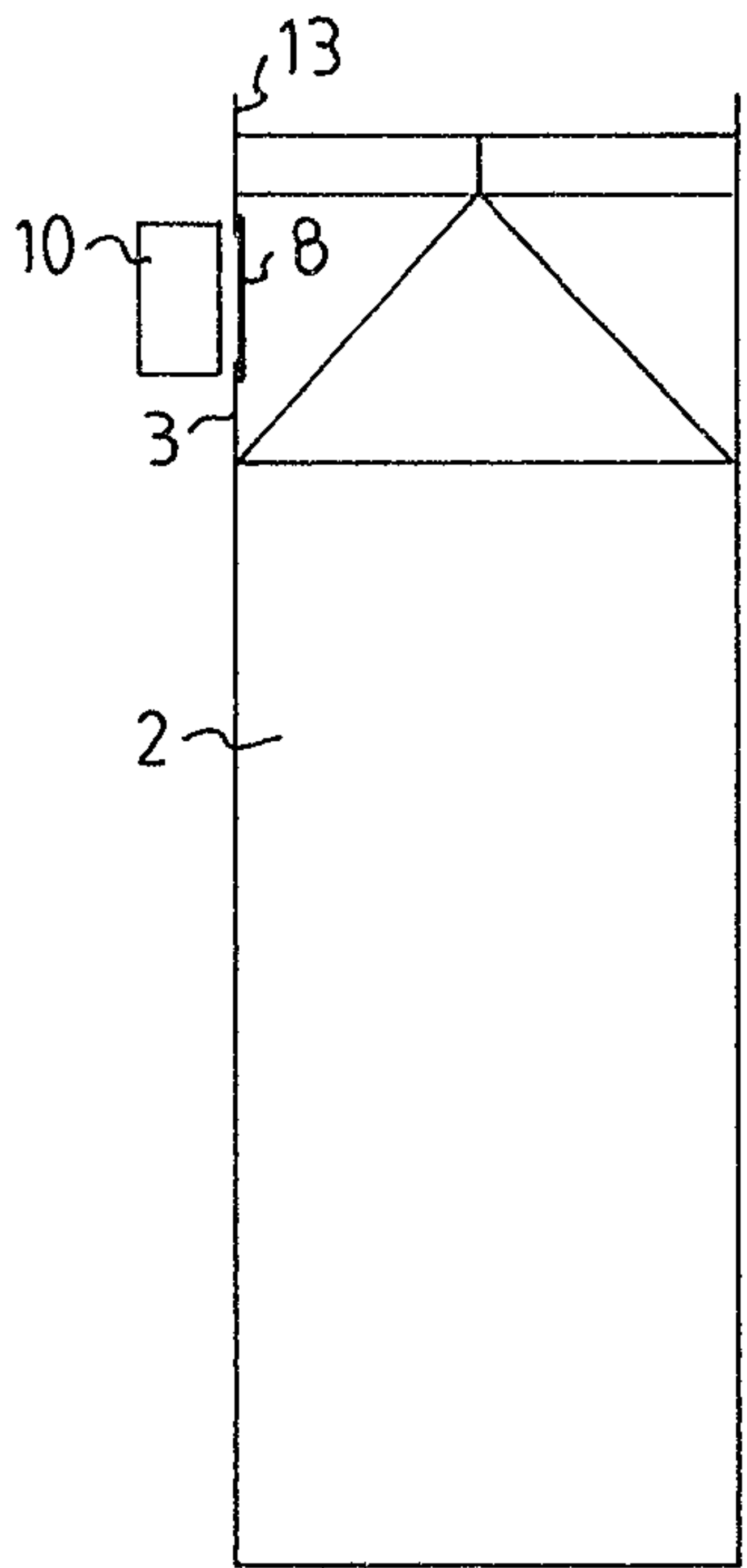


FIG. 3C

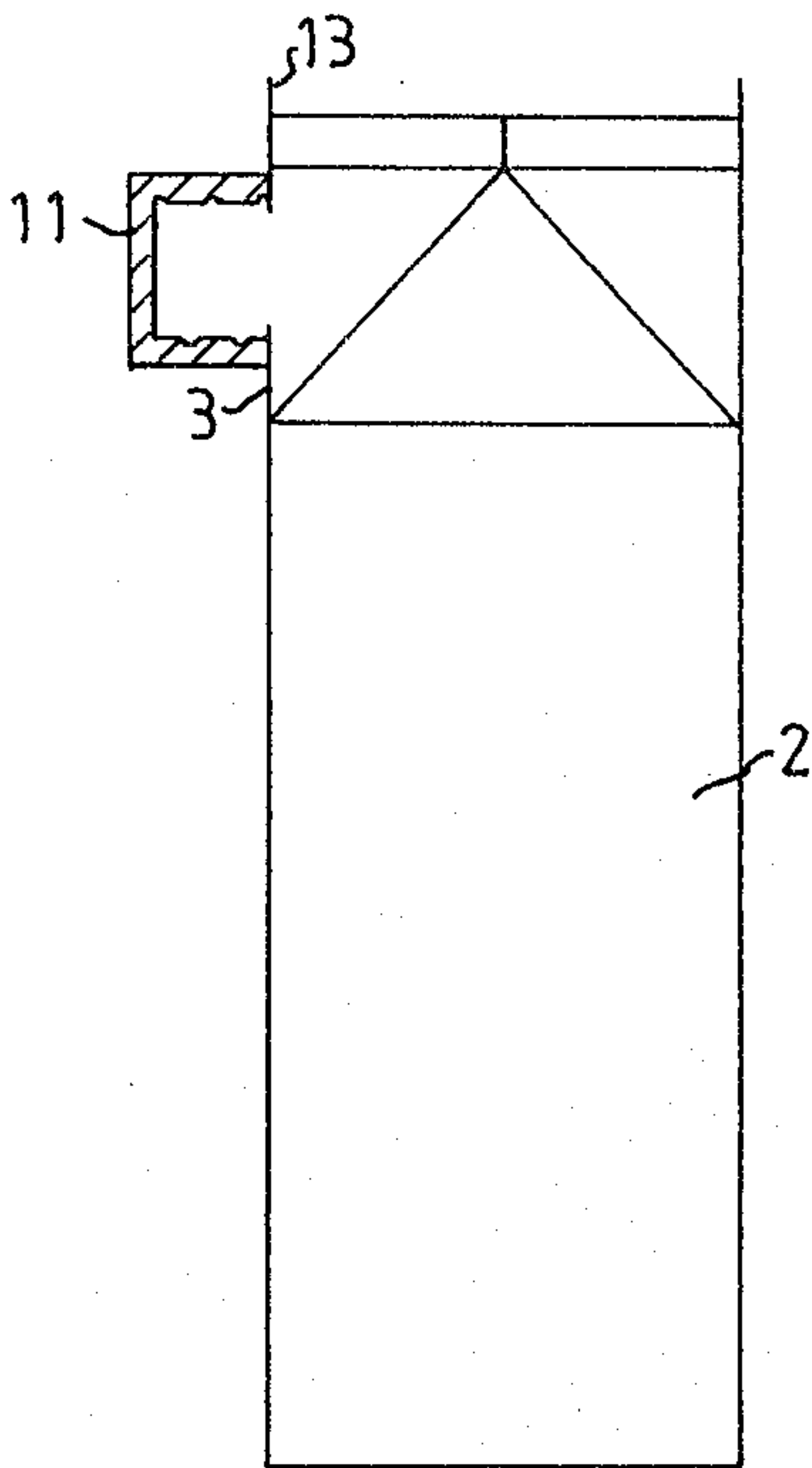


FIG. 3D

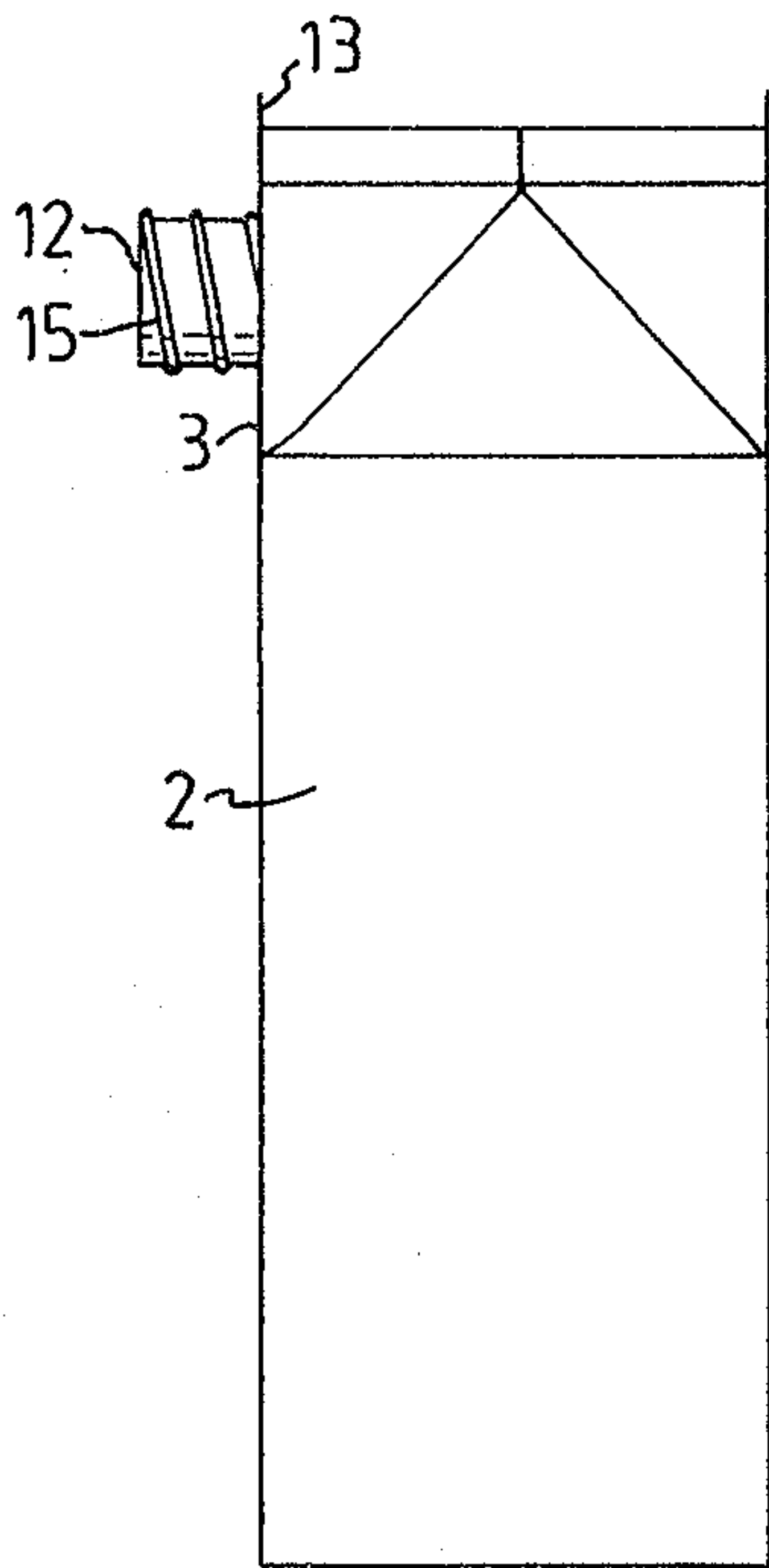


FIG. 3E

