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(54) Folding carton with a cradling device

(57) A foldable carton for packaging a bottle or other fragile article, including a cradling device (120) for supporting and holding the article within the carton. The cradling device is defined by two, spaced, parallel walls (118, 119) or partitions which are foldable or erectable from flaps integral with the side walls of the carton, the

carton being constructed from a single paperboard blank. Parallel walls each include opposing D-shaped apertures (115) for retaining a cylindrical shoulder and cap of the bottle therebetween. A portion of the cradling walls disposed above the apertures are provided with fold lines to allow the bottle to be installed or removed without damaging the packaging.

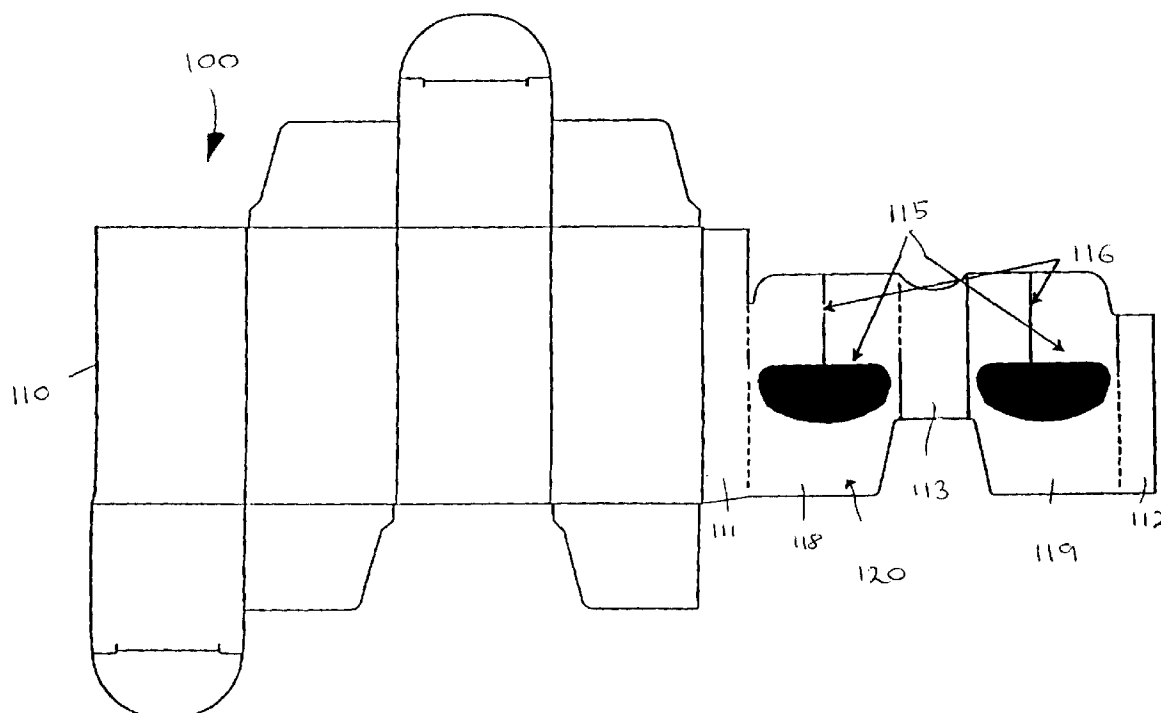


Fig. 1

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Description

BACKGROUND OF THE INVENTION

The invention is generally directed to a cradling device in a carton to cradle a contained object and lock it in place and, in particular, to a carton including a cradling mechanism which can be used with automatic loading machinery, carton erectors and fillers.

In the past, various efforts have been made to provide inner partitions to cradle contained objects.

However, in the past, these constructions have not been suitable for use with mechanized filling equipment or assembling equipment. In addition, there is a need for a cradling device which can be used to accommodate different board calipers and bottle or container sizes to be cradled.

SUMMARY OF THE INVENTION

The invention is generally directed to a carton including outer walls and an inner cradling mechanism having oppositely disposed walls with cutout regions and adapted to receive the shoulders of a bottle or other container and flexing scores proximate the cutout regions for allowing machine loading of the object into the container.

Another goal of the invention is to provide an improved cradling device for supporting or holding a bottle within a carton in which the cradling device is defined by two, spaced, parallel walls or partitions which are foldable or erectable from flaps integral with the side walls of the carton, the carton being constructed from a single paperboard blank. The parallel walls each include opposing de-shaped apertures for retaining a cylindrical shoulder and cap of the bottle therebetween. The portion of the cradling walls disposed above the apertures are provided with fold lines to allow the bottle to be installed and removed without damaging the packaging.

A further goal of the invention is to provide an improved cradling device for fragile items which may be assembled and then loaded with automatic equipment.

Still another goal of the invention is to provide an improved cradling inner shell device for folding cartons adapted to receive bottles with shoulders.

Still a further goal of the invention is to provide an improved cradling device added to hold and lock a product in place in a carton which can be machine erected and loaded with product, where the product consists of any bottle or container with a shoulder.

Yet another goal of the invention is to provide an improved cradling device to hold and lock product in place in which the carton can be machine erected and loaded with product including flexing scores to allow non-destructive movement of the cradling device during loading and unloading.

Still other goals and advantages of the invention will in part be obvious and will in part be apparent from the

specification.

The invention accordingly comprises the features of construction, combinations of elements and arrangements of parts which will be exemplified in the constructions hereinafter set forth, and the scope of the invention will be indicated in the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the invention, reference is had to the following descriptions taken in connection with the accompanying drawings, in which:

Fig. 1 is a top plan view of a card blank for a cradling device constructed in accordance with a preferred embodiment of the invention;

Fig. 2 is a top plan view of a carton blank for a cradling device constructed in accordance with another preferred embodiment of the invention;

Fig. 3 is a top plan view of the cradling device constructed in accordance with the embodiment of Fig. 2.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Reference is made to Fig. 1 wherein a blank or a carton, generally indicated as 100 constructed in accordance with a preferred embodiment of the invention is depicted. Like elements are represented by like referenced numerals. Carton 100 includes an outer container section 110 and a cradling section 120. Outer container section 110 includes four generally rectangular sides and a top and a bottom section with interlocking flaps. In addition, a bridging section 111, which connects outer container portion 110 and cradling portion 120, is connected to one of the sections of outer container portion 110 to form a generally rectangular box. It also anchors cradling section 120. An additional flap 112 is used to secure the other side of cradling device 120 to the inside of the outside container walls 110. In addition, a central section 113 is likewise attached to the inner surface of outer container walls 110, thereby placing sections 118 and 119 in a generally parallel relationship in the interior of container 100. In addition, cutouts 115 from panels 118, 119 are adapted to receive the shoulder of a bottle or the cap of a bottle. Score lines 116 above cutouts 115 enable the upper portion of panels 118 and 119 to flex outwardly as the bottle is placed downwardly into container 100.

Reference is made to Fig. 2 wherein a container blank, generally indicated as 200 constructed in accordance with another preferred embodiment of the invention is depicted. Like reference elements being represented by like reference numerals. Container blank 200 includes an outer container section 110, transition section 111, outer flap 112 and panel 113 as in Fig. 1. The cradling portion 120 of Fig. 2 likewise includes panels

118 and 119 as in the embodiment of Fig. 1. However, in this embodiment the cutouts 121 have a different shape and orientation than do the cutouts in the embodiment of Fig. 1. In addition, there are five fold lines 122, 123 above each of cutouts 121. These additional fold lines allow more flexibility of the upper portion of panels 118 and 119 during machine loading of the bottle into the cradling device in container 200.

Reference is next made to Fig. 3 wherein a top plan view of container 200 in an assembled form is depicted. The view is shown with the top and top side flaps of the container in their open, upright condition prior to sealing the container. Panels 118 and 119 are also shown with the upper portions folded along score lines 122, 123 in an exaggerated form to show the manner in which this upper portion can move outwardly to allow the shoulder or cap of the bottle to slide into cutouts 121.

The cartons shown include an inner cell partition which is used to cradle a contained object and lock it in place. The carton can be used with automatic machinery equipment which will erect the carton in the machine and will automatically fill the carton with the bottle or other object.

The carton cradling construction can be used to accommodate different board calipers and bottle or container sizes. While the cradling device for a folding carton has been shown in connection with cutout regions as shown, cutout regions of different shapes or locations can be utilized with varying container shapes. In addition, more or less score lines can be added as appropriate to make the cradling device more flexible for machine insertion of the object to be cradled. In addition, multiple cutouts can be utilized where appropriate for either multiple objects to be held or due to the shape of the object to be held.

Accordingly, an improved foldable carton for packaging a bottle or other fragile article, including a cradling device for supporting and holding the bottle or other fragile article within the carton is provided. The cradling device is defined by two, spaced, generally parallel walls or partitions which are foldable or erectable from flaps integral with the side walls of the carton, the carton being constructed from a paperboard blank. The parallel walls each include opposing D-shaped or oval shaped apertures for retaining a cylindrical shoulder and/or cap of the bottle therebetween. A portion of the cradling walls disposed above the apertures are provided with one or more fold lines to allow the bottle to be installed or removed by machine without damaging the packaging.

It will thus be seen that the goals set forth above, among those made apparent in the preceding description, are efficiently obtained and, since certain changes may be made in the above constructions without departing from the spirit and scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative, and not in a limiting sense.

It is also to be understood that the following claims

are intended to cover all of the generic and specific features of the invention, herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Claims

1. A foldable carton for packaging an object, comprising:

outer wall means for forming the exterior of the carton, including at least side panel members and a base member;

cradling means for cradling and supporting the object, the cradling means being secured inside the side walls of the container means, the cradling means including at least two generally parallel members including a cutout in each of said generally parallel members and at least one score line between the cutout and an edge of the panel;

whereby the carton and cradling device may be assembled by machine and the object loaded by machine without damaging the article or the packaging.

2. The foldable carton of Claim 1 wherein the outer wall means and cradling means are formed from a single structural element.

3. The foldable carton of Claim 1 wherein the at least one score line in each of the generally parallel members is located between the cutout and a top edge of each of the generally parallel members.

4. The foldable carton of Claim 1 wherein there are a plurality of score lines in each of the at least two generally parallel members.

5. The foldable carton of Claim 1 wherein each of the two generally parallel members are glued to the interior of side panel members.

6. The foldable carton of Claim 1 wherein the cutouts are formed as generally D-shaped apertures.

7. The foldable carton of Claim 1 wherein the cradling means includes at least two cutouts in each of the generally parallel members.

8. A foldable carton for packaging an object, comprising:

outer wall means for forming the exterior of the carton, including at least side panel members and a base member;

cradling means for cradling and supporting the

object, the cradling means being secured inside the side walls of the container means, the cradling means including at least two generally parallel members including a cutout in each of said panels and at least one score line between the cutout and a top surface of the panel; whereby the carton and cradling device may be assembled by machine and the object loaded by machine without damaging the article or the packaging.

9. The foldable carton of Claim 8 wherein the outer wall means and cradling means are formed from a single structural element.

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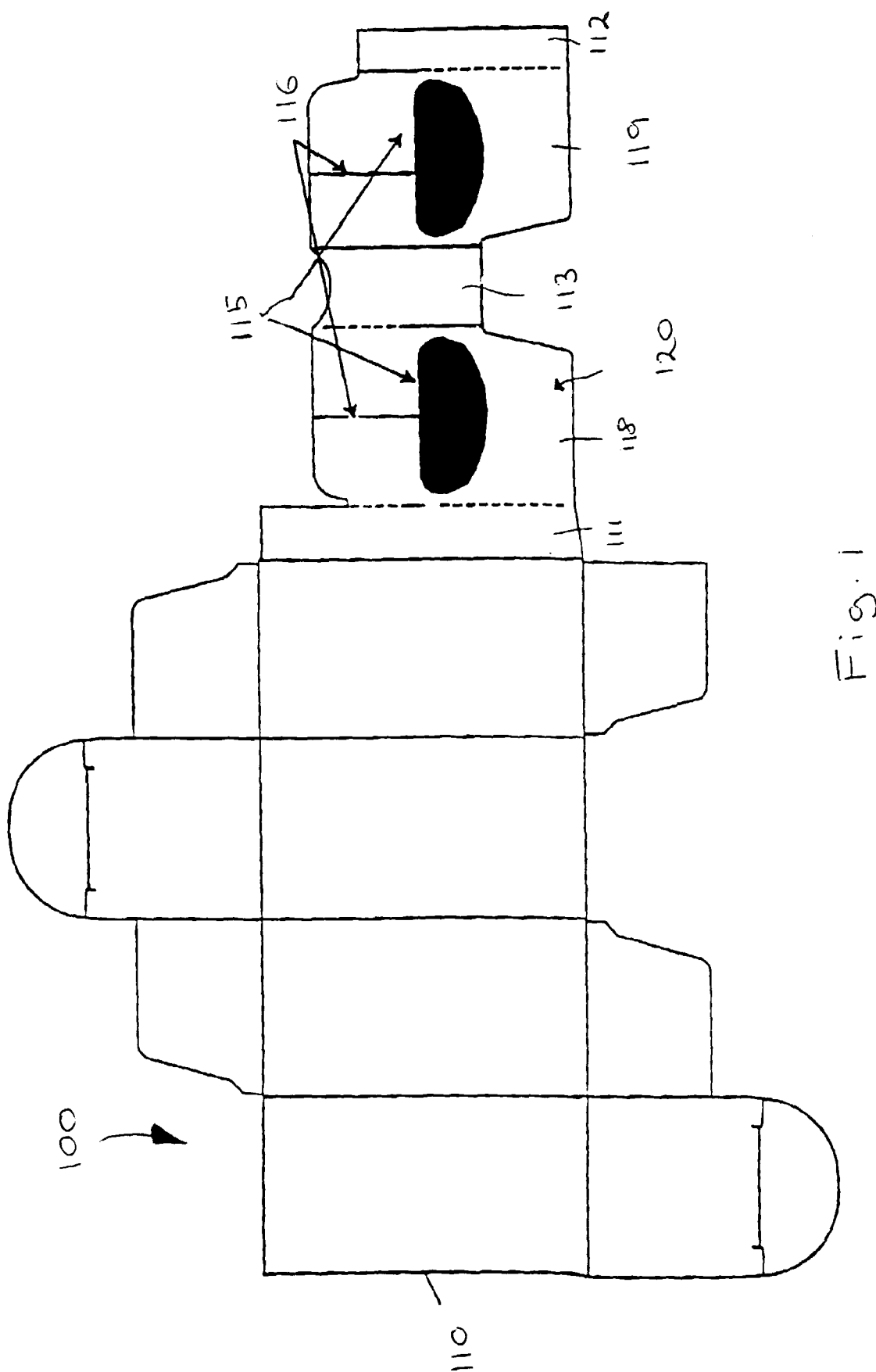
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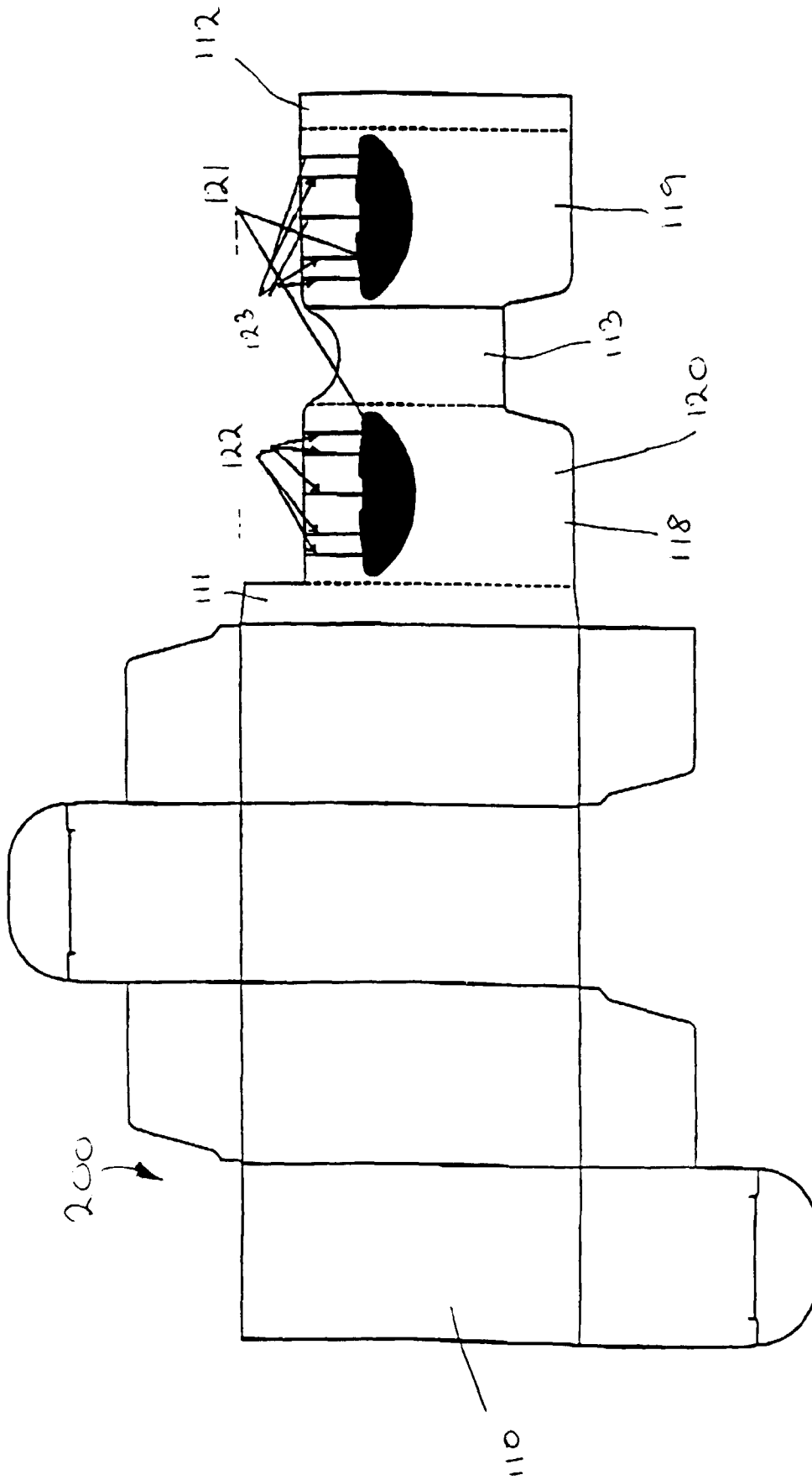


Fig. 2

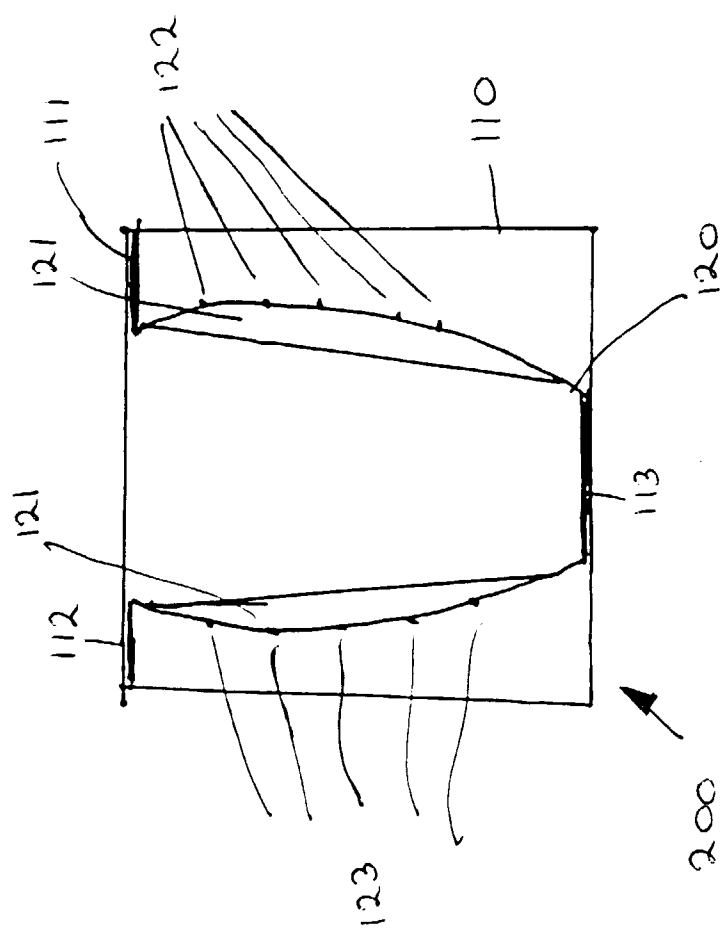


Fig. 3