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Device for hygienic protection of drinks, edible liquids and other products in general.

The invention refers to a device for hygienic protection for containers for drinks, edible liquids and other products in general, and calls for a protective layer (30) applied to the lid, over its opening area, so as to cover, until such time as the container

is opened, that part of its surface which will come into contact with the product contained inside the container when it is poured out, and in particular with the user's lips in the case of a drink.

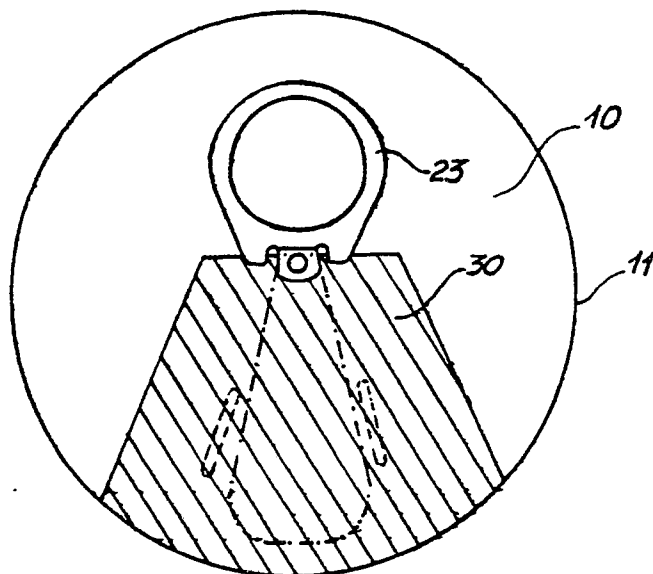


Fig. 1

EP 0 385 954 A1

Device for hygienic protection for containers of drinks, edible liquids and other products in general.

It is well-known that containers for drinks, whether made of metal or paper, have opening devices which allow holes of different shapes to be made in their lids. Sometimes this hole is used to pour the liquid into a clean cup, or to suck the drink through a straw. In most cases, the hole in the lid is used to drink the contents of the container resting one's lips directly on the lid.

This behaviour entails a serious health hazard in view of the many times the container is handled from the time it is manufactured until it is used by the customer. The same drawback from a hygienic point of view occurs for other products, edible or otherwise, of which the original state of hygiene should be maintained intact when pouring the product through preformed holes or made with any suitable instrument. The purpose of this invention is to overcome this drawback by means of a device for hygienic protection allowing the user, for example, to rest his lips on a clean surface, sterilised at the origin.

According to the invention, a protective layer wider than the hole through which the liquid passes is applied on top of the lid of the drink container. The protective layer according to the invention may be applied to the lids of containers having either a pull-off or thrust-type opening device. Generally said protective layer is applied over the lid, but it is possible to alter the described embodiment so as to apply a layer under the lid, which would become a surface for resting one's lips on and a working surface for pouring out the liquid.

If the protective layer is applied over the lid, removal of the protective layer may be associated with the operation for opening the hole through which the liquid passes; in other solutions, it is possible to prepare the hole through which the liquid passes under the protective layer on the lid of the container.

In a preferred form of embodiment of the invention, the protective layer may be applied to the lid of the container before this is fastened onto the actual container, thus reducing the manufacturing costs. Based on another preferred form of embodiment, the protective layer may be double: in this case it may be applied even only just before the user himself opens the container: thus the upper layer will be removed and the upper surface of the underlying layer will act either as a surface for the contents of the container to flow over or as a place to rest one's lips if the contents consist of a drink.

Figure 1 shows the lid of a metal container equipped with a thin plate with cut edges and which can be torn off the container to create an opening by means of a pulling ring of a type

already known; said thin plate with the cut edges is covered by a protective layer larger than the shape of said plate, and which is removed together with the plate. Figure 2 shows, from below, the plate with the cut edges after its removal together with the protective layer. Figure 3 shows the lid of the container after both said plate and the protective layer have been removed. Figure 4 is a partial axial cross-section of the side wall, the lid of the container and the protective layer applied on top of the latter, before the container is opened.

Figure 5 refers to a second variant, in which the protective layer is applied to the whole lid, which may be opened in any suitable manner after removal of the protective layer; in particular, there is nothing to prevent there being a through hole in the lid of the container under the protective layer.

Figure 6 refers to a third variant of embodiment, according to which the container is a prism-shaped container made of waterproofed cardboard.

Figure 7 is a fourth variant of embodiment, applicable specifically to extruded aluminium containers and figure 8 is a partial axial cross-section of the container illustrated in figure 7.

Figure 9 shows in perspective a further form of embodiment of the invention, while figure 10 is an axial cross-section of the container shown in figure 9. Figure 11 is similar to the previous figure, but refers to the container-opening phase. Figures 12 and 13 show the container, seen from above, before and after it is opened.

With specific reference to the first form of embodiment illustrated in figures 1 to 4, 10 indicates a metal disk used to form the lid of a container for a drink. When it is applied to the top of the container, the rim 11 of the disk 10 will be folded over so that it forms a tight seam on the upper rim of the cylindrical wall 12, as shown in figure 4. In the known manner, the disk 10 has an elongated tab 20, defined by an outline 21, cut into the disk 10 for a fraction of its thickness, so that it may be pulled away in order to create an elongated opening 22 with a shape corresponding to that of the tab 20, in order to pour out the drink. In order to remove the tab 20, one of its ends is secured to a pulling ring 23: when this ring is pulled upwards, the tab 20 is gradually torn away from the disk 10 along its cut outline 21, opening the hole 22. This system is known and is commonly used.

According to this invention, a protective layer 30, larger than the tab 20, is applied on top of the tab 20 having the cut outline. Said protective layer may extend over the whole area of the disk 10, although a circumferential extension of about 60

degrees is felt to give the user's lips sufficient hygienic protection. The solution illustrated in figures 1 to 4 is particularly effective, since it is possible to remove in a single operation, by pulling on the ring 23, both the tab 20 opening the lid of the container and the protective layer 30 protecting that part of the lid where the user is to rest his lips. Furthermore, if the protective layer 30 is applied to the disk 10 before this in turn is applied to the cylindrical side wall 12 of the container, the protective layer is also applied to the seamed wall 32: when the tab 20 and the protective layer 30 are applied, the latter will tear along its seamed edge 32, freeing an area of seamed edge which is protected from a hygienic point of view.

The protective layer may be made of various materials: a thin layer of synthetic material or plastic-coated paper may be sufficient to protect the portion of the lid in question if the tab 20 is connected to the pulling ring 23 and is removed together with the protective layer 30. The protective layer 30 may also be made of a thin layer of metal or of an equally strong material: in this case it may be applied to the disk by light brazing or using suitable adhesives and, if so, be connected to the pulling ring 23. In this case, the disk 10 may have, right from the start, the opening 22 which will be covered by the protective layer 30, in which case the latter will also function as a seal. In this case, too, in any event, the area 31 underlying the protective layer 30 will have a far greater extension than the area of the opening 22.

If, on the other hand, the opening in the lid is made using a pressure device, rather than a pull-off device as shown in the figure, the protective layer will be fitted with a flap to be pulled. In the second form of embodiment, illustrated in figure 5, the container has at least its top part and obviously the whole lid 61 covered by a protective hood 62, preferably made of synthetic material, and which has to be torn off before opening the lid, which may be done in any traditional manner. Again in this case the hygienic protection extends as far as the upper edge of the container. Obviously the protective layer may extend over the whole surface of the container.

In the third form of embodiment illustrated in figure 6, the container 70 is made preferably of plastic-coated cardboard, and has a prism shape. On the lid 71 and on one of the sides 72 of the container a protective layer is applied, of the stick-on type or glued with a suitable adhesive. It covers partly the edge between the lid 71 and the side 72. Furthermore, said protective layer covers parts of both the lid 71 and the side 72. On the lid 71, under the area covered by the protective layer 73, the lid has an opening 74, which is freed when the protective layer is removed.

In the form of embodiment illustrated in figures 7 to 9, the container is clearly made of extruded aluminium. This justifies the bulging outline 81 connecting the cylindrical side-wall 83 to the flat bottom 82. In this case the protective layer 84 is applied in a similar manner to the container 70 of figure 6, and takes in part of the side surface 83 and part of the surface of the lid 82, as well as a portion of the edge between the two. The hole 85, which is freed when the protective layer 84 is removed, may be preformed in the lid 82.

According to the invention, the type of adhesive used to connect the protective layer to the outer surface of the container is particularly important. Except in the case of light brazing, envisaged in the variant described but not illustrated with reference to figures 1 to 4, the adhesive must be of the thin-layer type, and capable of withstanding high shear stresses on its plane, but easily removable by peeling, that is to say by pulling away the protective layer in a direction perpendicular to the surface to which it is applied. By exploiting the different chemical affinity of the adhesive with the protective layer on the one hand, and with the wall of the container on the other, it is possible to arrange that, when the protective layer is peeled off, the thin layer of adhesive remains almost entirely on the under surface of the protective layer. In this way, when the lips are brought into contact with the container, the user will not encounter any unpleasant feeling of stickiness.

The container 100 of figure 9 has a protective layer 110, for example of a rectangular shape, the under surface of which is self-adhesive, so that it may be applied, even directly by the user, to the container 100. In the form illustrated in figure 9, it is applied partly to the lid 111 and partly to the side surface 112 of the container, so as to cover the edge 113. The part 121 of the protective layer 110 applied to the lid 111 covers the area of the opening 122, represented by the dashed line. The protective layer 110 is formed by two sheets, 210 and 211, the lower one being preferably equipped with an opening 213, shaped approximately like the outline of the opening 122 in the lid 111. The upper sheet 211 has no cuts or openings of any kind in it. The two sheets are held together by a thin layer of adhesive which allows them to be easily separated by the user, freeing the undoubtedly clean upper surface of the lower sheet. The presence of the opening 213 above the future opening 122 in the lid means that it is possible to remove the upper sheet 211 by removing the segment of lid corresponding to the opening 213 by means, for example, of the pulling ring 123.

If, instead of the pulling ring 123, a thrust ring is used, removal of the upper sheet 211 may be achieved by preparing on it a narrow protruding

edge for gripping it, not shown in the figure but easily made. If the container does not have a preformed opening but has to be holed, for example with a pointed object, then the bottom sheet 210 will not require a preformed opening 213.

If the protective layer is applied by the manufacturer, it can be equipped with one or more seals to guarantee its integrity. If the protective layer is applied by the user before use, the seal may be applied to the packaging in which the protective layer is supplied.

Claims

1. Device for the hygienic protection of containers for drinks, edible liquids and other substances, even bulk solids, characterised by the fact that it has a protective layer applied to the lid so as to cover, until the time of opening the container, the surface of the container which will come into contact with the product contained inside it when this is poured out, and in particular with the lips of the user, in the case of a drink.

2. Device for hygienic protection, according to claim 1, characterised by the fact that the protective layer takes in the whole surface of the lid, so that it forms a kind of two-ply lid.

3. Device for hygienic protection, according to claim 1, characterised by the fact that the protective layer takes in only part of the surface of the lid, and is located in the area in which the pouring opening is envisaged.

4. Device for hygienic protection according to the foregoing claim, characterised by the fact that said protective layer is applied over a preformed hole.

5. Device for hygienic protection according to the foregoing claims, characterised by the fact that said protective layer is applied over means for opening the lid of the container.

6. Device for hygienic protection according to the foregoing claims, characterised by the fact that said protective layer is applied over the lid of the container before said lid is seamed to the side wall of the container.

7. Device for hygienic protection according to the foregoing claims, characterised by the fact that said protective layer consists of a film of synthetic material which takes in the whole lid and part of the side surface of the container.

8. Device for hygienic protection according to the foregoing claim, characterised by the fact that said protective layer has a cut for its partial removal.

9. Device for hygienic protection according to the foregoing claims, characterised by the fact that said protective layer is made of self-adhesive and

heat-resistant materials.

10. Device for hygienic protection according to the foregoing claims, characterised by the fact that said protective layer consists of a pair of superimposed sheets, adhering to one another by means of a thin layer of adhesive which allows the upper layer to be removed, thus freeing the undoubtedly clean upper surface of the lower sheet.

11. Device for hygienic protection according to the foregoing claim, characterised by the fact that the bottom surface of the lower layer is self-adhesive, so that it may be applied directly to the lid of the container, to a portion of its side surface and to the corner between them.

12. Device for hygienic protection according to claims 10 and 11, characterised by the fact that the protective layer is applied over the position of the future opening in the lid of the container, and that, in this position, the bottom layer has an opening with an outline substantially similar to that of the hole in the lid.

13. Device for hygienic protection according to claims 10 and 11, characterised by the fact that the protective layer is applied over the whole surface of the lid, and that the top layer will have a flap to be gripped for opening purposes.

14. Device for hygienic protection according to claims 10 and 11, characterised by the fact that the protective layer is applied over the whole surface of the lid, and that for cans with thrust-type opening devices it will have in the top layer a flap to be seized for removing it, and in the lower layer a dashed cut on the tab which will have to be pushed down inside the container.

15. Device for hygienic protection according to claims 10 and 11, characterised by the fact that the protective layer is applied over the whole surface of the lid, and that for cans with pull-off opening devices it will have in the upper layer a shaped part leaving the pulling ring uncovered, and also in the upper layer a dashed line to weaken the joint with that part of the surface which one will want to remove, and in the lower layer a part shaped so as to leave the pulling ring and tab free.

16. Device for hygienic protection according to claims 10 and 11, characterised by the fact that the two layers are made to adhere to one another by means of hot methods for plastic materials, electrostatic adherence, welding and other similar methods.

17. Device for hygienic protection according to claims 10 and 11, characterised by the fact that the upper sheet of the protective layer takes in the whole lid and its edge, while the lower sheet of the protective layer has an annular shape and covers only said edge, so as to facilitate application of the protective layer.

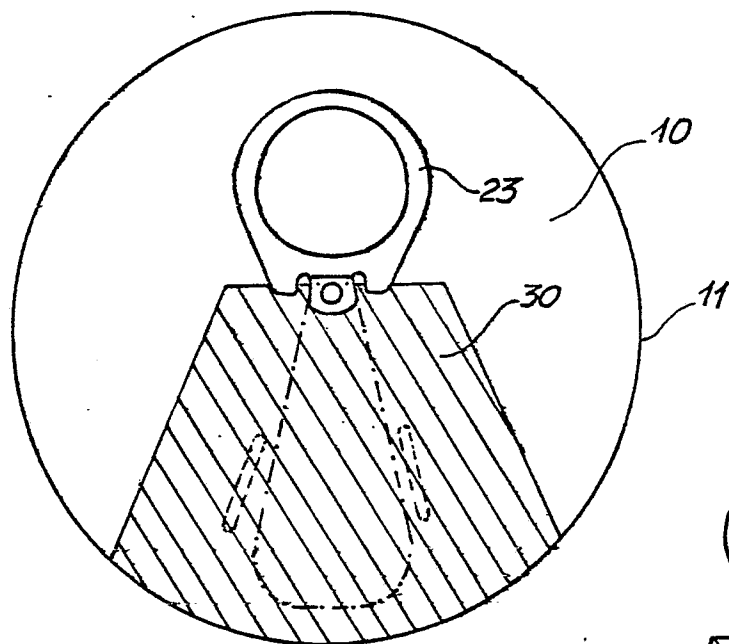


Fig. 1

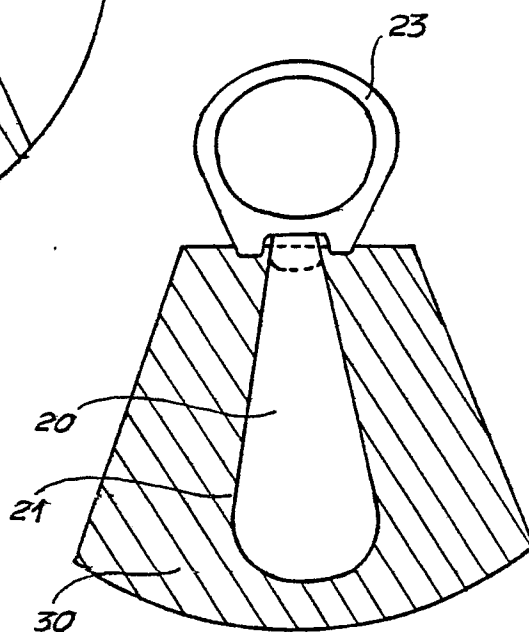
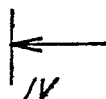


Fig. 2

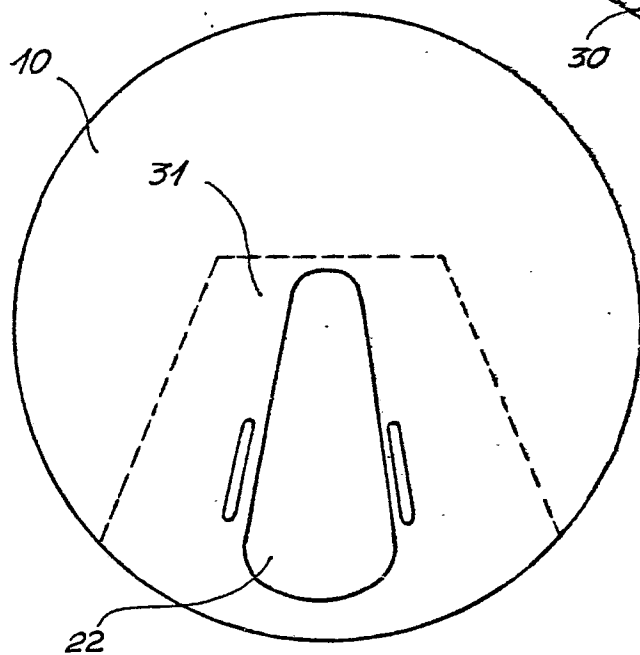


Fig. 3

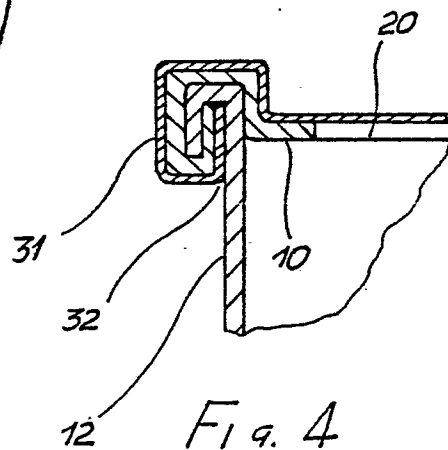


Fig. 4

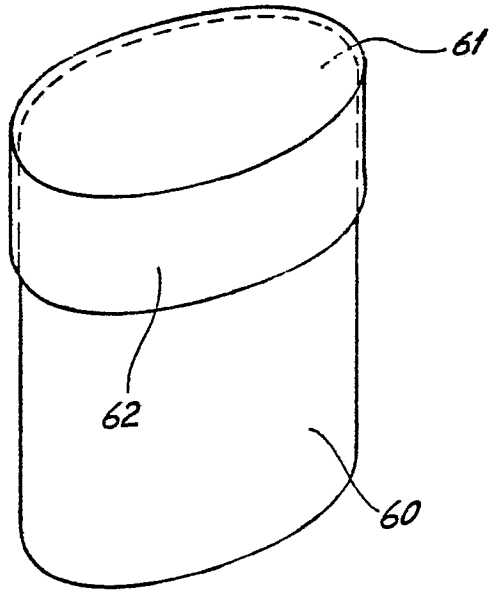


Fig. 5

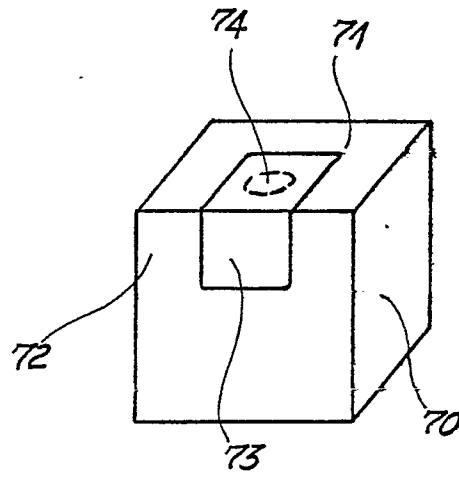


Fig. 6

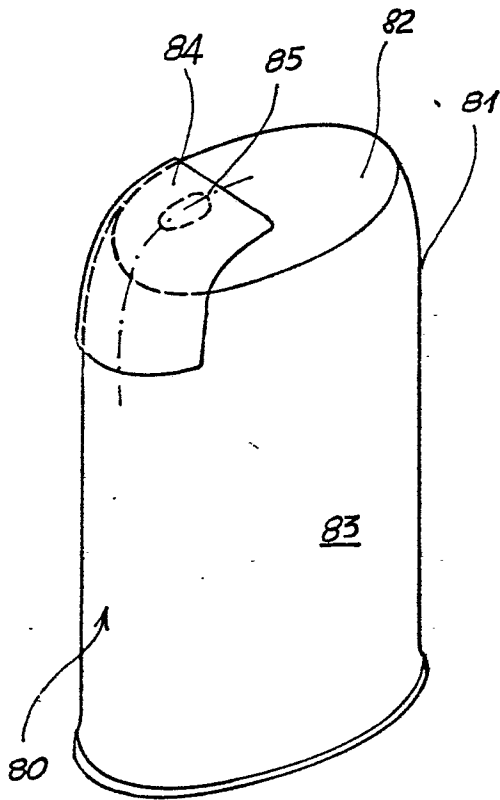


Fig. 7

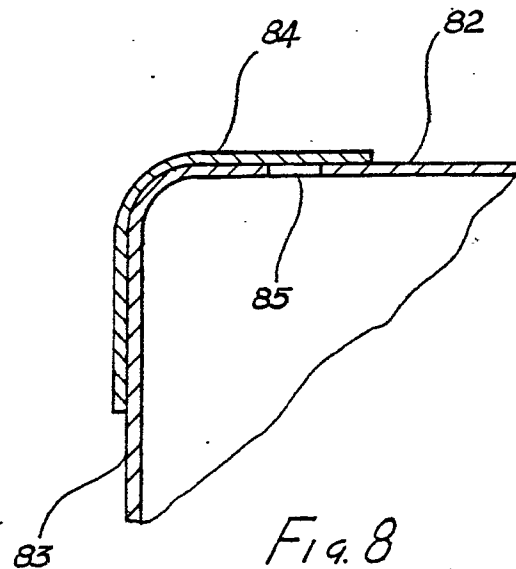


Fig. 8

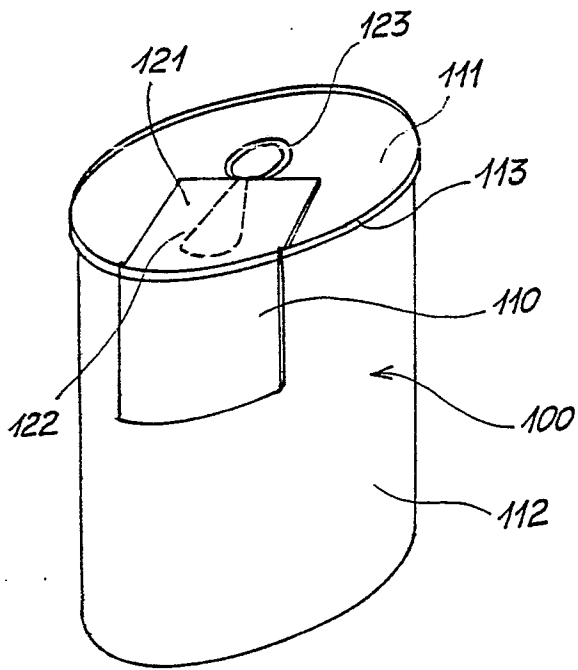


Fig. 9

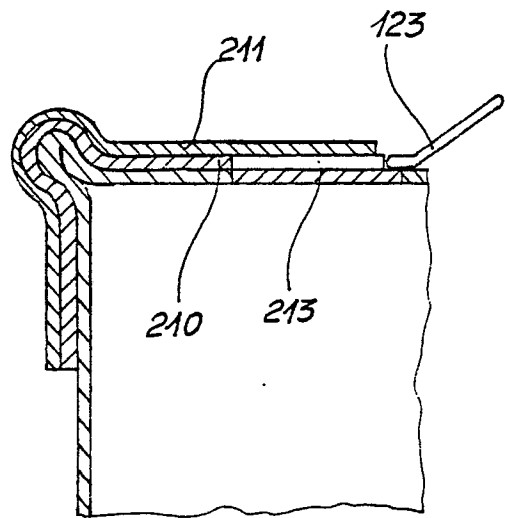


Fig. 10

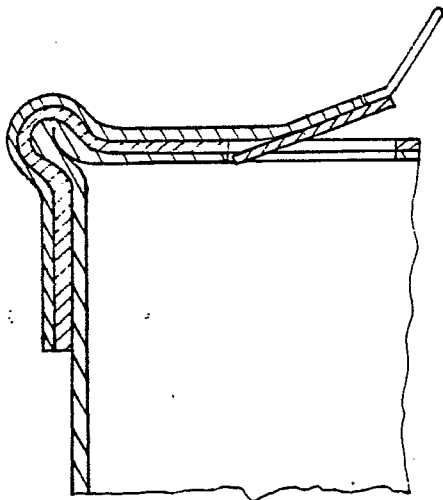


Fig. 11

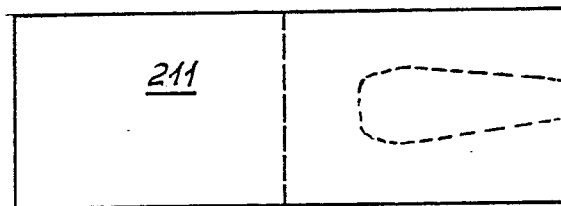


Fig. 12

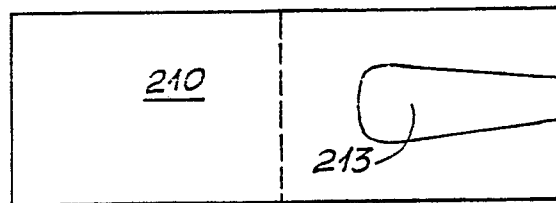


Fig. 13



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	GB-A-2 156 772 (BURCET) * Whole document * ---	1,3-6,8 ,9	B 65 D 17/00
X	US-A-3 204 805 (MAY) * Whole document * ---	1-9	
X	US-A-3 690 509 (KINOIAN) * Whole document * ---	1,3-6,8 ,10-13, 16,17 14,15	
A	-----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B 65 D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		25-05-1990	BESSY M. J. F. M. G.
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			