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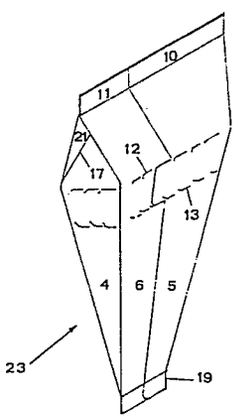
(54) Tear-open container, in particular for waterice or the like.

(57) A tear-open container, in particular for waterice or the like, obtained in a three-dimansional form by means of folding and fastening operations starting from a flat single piece member of an impermeable sheet material, both relatively rigid and relatively flexible.

FIG. 5



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Description

A TEAR-OPEN CONTAINER, IN PARTICULAR FOR WATERICE OR THE LIKE

SPECIFICATION

The present invention relates to a container, destined in particular for the packaging of solid ice confectionary products, such as waterice or the like.

A known packaging for the above mentioned products includes an envelope of paper-like material wherein the waterice or the like is contained, provided with a stick to be grasped extending integrally from its base. At the moment of consumption, the product; completely freed from its envelope, is carried to the mouth by grasping said stick.

From the above one may easily deduce both the lack of hygiene of the packaging and the risk of soiling of the consumer, in particular children, in consequence of drips falling from the product itself, which liquefies rather rapidly, in particular under the summer heat. To the above inconveniences another one should be added, in that said paper-like envelope does not provide any protection for the products against shocks or falls.

Another more recent kind of packaging includes a tubular envelope made with a suitable relatively rigid material, having a closed bottom and an upper delivery mouth which is closed after the filling of said envelope with the product in question, for the consumption of which it will be necessary to open said delivery mouth through which the product is gradually pushed out of the envelope by exerting a compression action on the latter.

Even this packaging, on the other hand, is not free from inconveniences, in particular of a practical and functional kind, mainly caused by the likelyhood that following too strong a pressure on the envelope the product might come out of the latter and, anyhow, by the difficulty of maintaining an adequate quantity of product protruding from the delivery mouth for an easy consumption.

The object of the present invention is to provide a container, in particular for a waterice or the like, having a structure, obtained in a three-dimensional form starting from a single-piece flat punched member which, in the completely sealed condition is extremely effective for a hygenic packaging and protection of the above mentioned product and is such as to allow, in the open condition, a trouble free consumption of the product itself without danger of soiling or other.

Another object of the present invention is to provide a container of the above mentioned kind provided with tear-open means from the completely sealed condition.

The present invention will be better illustrated hereinafter from the disclosure an embodiment thereof, with reference to the attached drawings, wherein:

figure 1 is a plan view of the flat single-piece punched member for obtaining the container in question;

figure 2 is a front elevation view of the container in question obtained from the punched member of figure 1, with the top opening not sealed;

figure 3 is a side elevation view of the container of figure 2;

figure 4 is a perspective view from the rear of the container of figure 2;

figure 5 is a front perspective of the container of figure 2 in the completely sealed condition; and

figure 6 is a perspective view from the rear of the container of figure 2 with the top part taken away for the exposure of the product therein contained.

With reference to figure 2, in plan view is shown the starting flat single-piece punched member for obtaining the container according to the present invention by means of folding and fastening operations.

The punched member generally shown in 1, made of paper-like material, substantially rigid and substantially flexible, and treated for impermeabilization, for instance polyethylene coated so as to impart to it characteristics of heat welding, includes in a central position a panel 2 having the shape of a trapezium having each of the non parallel sides united through a crease line to a side of a respective panel 3 and 4 constituting the side wall and having the shape of an isosceles triangle, the opposite side of each of which is connected by means of a crease line to one of the non-parallel sides of a respective half-panel 5, 6 of the front wall, having the shape of a trapezium.

The greatest base of the trapezium shaped panel 2, the bases of the triangular panels 3 and 4 and the greatest bases of the trapezium shaped panels 5, 6, which constitute the contour of the upper opening of the container in question following its assembly into a three-dimensional form, are connected by means of crease lines to long sides corresponding to the respective substantially rectangular flaps 7, 8, 9, 10 and 11 which limit said upper opening of the container.

The punched member formed in this way has, in a position lying between the top and bottom ends of said panels, two reduced strength lines 12 and 13 spaced from one another, constituted by a double sequence of segments obtained on each of said panels, in a relationship which is parallel to each other and to the respective bases of said panels.

A tear tab 14, having a width equal to the distance existing between the two reduced strength lines 12 and 13 and positioned as a continuation of these, extends integrally from the side of the panel 5 opposed to that of connection to panel 3.

It should be then remarked that, starting from a central point of the base of each panel 3, 4, two crease lines 15, 16 and 17, 18, respectively, extend obliquely, with the same slope of 45° with respect to the axis of said panels, up to intersect the respective

edges of the panel 3, 4 itself, so as to constitute in the panel 3 a first and a second triangular portion 19 and 20 bounded by the crease line 15, the terminal portion of the connection edge to the panel 5, and a first half of the base, and, respectively, by the crease line 16, the terminal portion of the connection edge to panel 2, and the second half of the base and in the panel 4 third and fourth triangular portions 20 and 22 bounded by the crease line 17, by the terminal portion of the connection edge to the panel 2, and a first half of the base and, respectively, by the crease line 18, by the terminal portion of the connection edge to the panel 6, and the second half of the base; said pairs of crease lines 15, 16 and 17, 18 together with said triangular portions 19, 20 and 21, 22 being destined to allow the formation of the closure of said top opening of the container in its three-dimensional form, as it will be better explained hereinafter.

When the starting punched member 1 has been formed in this way, the assembly of the container according to the present invention in its three-dimensional form is performed as follows: the half-panels 5 and 6 are folded at right angles with respect to the panels 3 and 4 along the respective connection crease lines so as to overlap a portion of the longitudinal free edge of the panel 5 over the corresponding portion of longitudinal free edge of the panel 6, said overlapping entailing moreover the overlapping of the corresponding portions of the flaps 10, 11; said overlapped edge portions of the panels 5, 6 and of the flaps 10, 11 are sealed in watertight manner, for instance by thermal welding if this is allowed by the starting material, without, obviously, involving in said sealing the tear tab 14; then the closed bottom is formed, indicated in 19 in the figures 2-5, by a watertight sealing one with the other of the lower terminal portions of the panel 2 and of the whole constituted by the two half-panels 5 and 6 made integral as previously disclosed.

The container according to the present invention, assembled in its three-dimensional form, is shown in its open condition in figures 2, 3 and 4, where it is generally shown in front elevation, side elevation and rear perspective, respectively.

After the introduction of the product into the interior of the container through its top opening, the tight closing of said opening is performed by exerting a pressure on the portions of the panels 3 and 4 included between the crease lines 15, 16 and 17, 18, respectively, with the consequent folding inwards along said pairs of crease lines of the first, second, third and fourth triangular portions 19, 20, 21 and 22 until bringing the first two into contact with the corresponding portions of the half-panel 5 and of the half-panel 5, respectively, as well as into contact with each other and the second two into contact with the corresponding portions of the panel 2 and of the half-panel 6, respectively, as well as also these into contact with one another, the above entailing the foldover of the flaps 8 and 9 and the adhesion of the respetive halves, as well as the adhesion of the flap 7 to the flaps 10 and 11, the latter having been fastened to one another as previously said.

At this moment the sealing is effected, for instance by thermal welding if the material is such as to allow such procedure, of the abutting half of each of the flaps 8 and 9, as well as of the flap 7 with the integral whole of the flaps 10 and 11, obtaining in this way the container of the present invention which is completely watertightly closed and which appears as shown in front perspective in figure 5.

In the actual use, when one desires to consume the product introduced into the container 23 of the present invention prior to its total sealing, the container is held grasped in one hand, grasping it under the second reduced strength line 13, and with the other hand one grasps the tab 14, then exerting on it a tear away action in such a way as to take away, with relative ease because of the presence of the reduced strength lines 12 and 13, the peripheral strip included between said reduced strength lines, thus separating the upper part, extending above the reduced strength line 12, from the lower part, extending below the reduced strength line 13, and, while the former will be eliminated, the latter will perform the function of support of the contained product which will conveniently protrude out of its upper opening, defined by the reduced strength line 13, to be easily consumed, as shown in figure 6 in which said product is an ice cream 24, partially consumed. Once the protruding part of the product is finished, for consumption of the remaining portion which is in the interior of said lower part of the container 23, it is sufficient to exert a compression action on this latter so that this remaining portion is also compelled to protrude from the upper opening formed in said lower part of the container 23 following its separation from its upper part.

The present invention is not limited to the exemplary embodiment which has been disclosed, but encompasses any change or modification thereof.

Claims

1. A tear-open container in particular for waterice or the like, obtained in a three-dimensional form by means of folding and fastening operations starting from a flat single piece punched member of an impermeable sheet material, both relatively rigid and relatively flexible, comprising in a central position a rear wall panel of a polygonal shape, having two opposed longitudinal sides connected by means of a crease line to respective first longitudinal edges corresponding to a first and second side wall panel having the shape of a polygon, which have the longitudinal edges opposed to said first edges connected by means of a crease line to respective first longitudinal edges of a first and of a second front wall half-panel, having a polygonal shape, suitable to be partially overlapped in the assembly step and sealed one on the other along respective free longitudinal edges opposed to said first edges, each of said panels and half-panels having the upper edge con-

nected through a crease line to a respective flap of polygonal shape, being a boundary of the upper opening of said container, the sealed bottom of which is formed, following the assembly by sealing to each other the lower parts of said panels and half-panels in register with the respective edges opposed to said upper edges, in said sequence of said panels and half-panels being formed transversely in a continuous way at least one reduced strength line, ending on one end with a tear tab protruding integrally from the longitudinal free edge of one of said first and second front wall half-panels, in the upper portions of each of said first and second side wall panels being formed crease lines arranged in such a way as to allow, following the assembly, effectuation of the sealed closure of said upper opening of said container in a three-dimensional form by folding inwards of said upper portions of said first and second side wall panels, so as to fold over on themselves said flaps respectively associated to said first and second side wall panels, and to bring said flap on said rear wall panel into contact with said flaps on said first and second front wall half-panels and then sealing one against the other the portions folded on themselves of said flaps associated to said first and second side wall panels and among them said flap of rear wall in contact with said flaps on said first and second front half-panels.

2. A container according to claim 1, wherein said rear wall panel has the shape of a trapezium and has each of the non-parallel sides connected through a crease line to a side of a respective one of said first and second side wall panels having the shape of an isosceles triangle, the opposed side of each being connected through a crease line to one of the non-parallel sides of a respective one of said first and second front wall half panels having the shape of a trapezium, and in which the greatest base of said trapezium-shaped rear wall panel, the bases of said triangular first and second side wall panel and the greatest bases of said trapezium shaped first and second half-panels of front wall, which constitute the borders of the upper opening of said container after its assembly into a three-dimensional form, are united by means of respective crease lines to corresponding long sides of respective of said flaps having a substantially rectangular shape which defines said upper opening of said container, and in which at least a reduced strength line extends along the whole sequence of said panels parallel to the respective bases of the same.

3. A container according to claims 1 and 2, wherein said at least one reduced strength line is parallel to a second reduced stranght line so as to create a strip that can be torn away included between them, ending with a tear tab having a width corresponding to the distance existing between said two reduced strength lines and extending integrally from the longitudinal free side of one of said front wall first and second half-panels.

4. A container according to any of the claims 1 to 3, wherein said crease lines formed in the upper portion of said side wall first and second panels include two crease lines extending from the central point of the side of said panels constituting the border of said upper opening of said container, in a opposed relationship with a slope of 45° with respect to the axis of said panels, up to intersect respective longitudinal sides of said side wall first and second panels.

5. A container according to any of the preceding claims wherein said impermeable sheet material constituting said flat single-piece punched member is a material that can be thermally welded.

6. A container according to claim 5, wherein said impermeable thermally weldable sheet material is a polyethylene coated material.

7. Container according to claim 5 and 6, wherein said seals of the overlapped portions of said front wall first and second panels and of the associated relative flaps, of said lower portions of the sequence of said panel of said punched member for the constitution of the closed watertight bottom of said container, and of said flaps associated to said rear wall panel, to said first and second side wall panel, as well as to said front wall half-panels for forming the water-tight closure of said upper opening of said container, are formed by means of thermal welding.

FIG.1

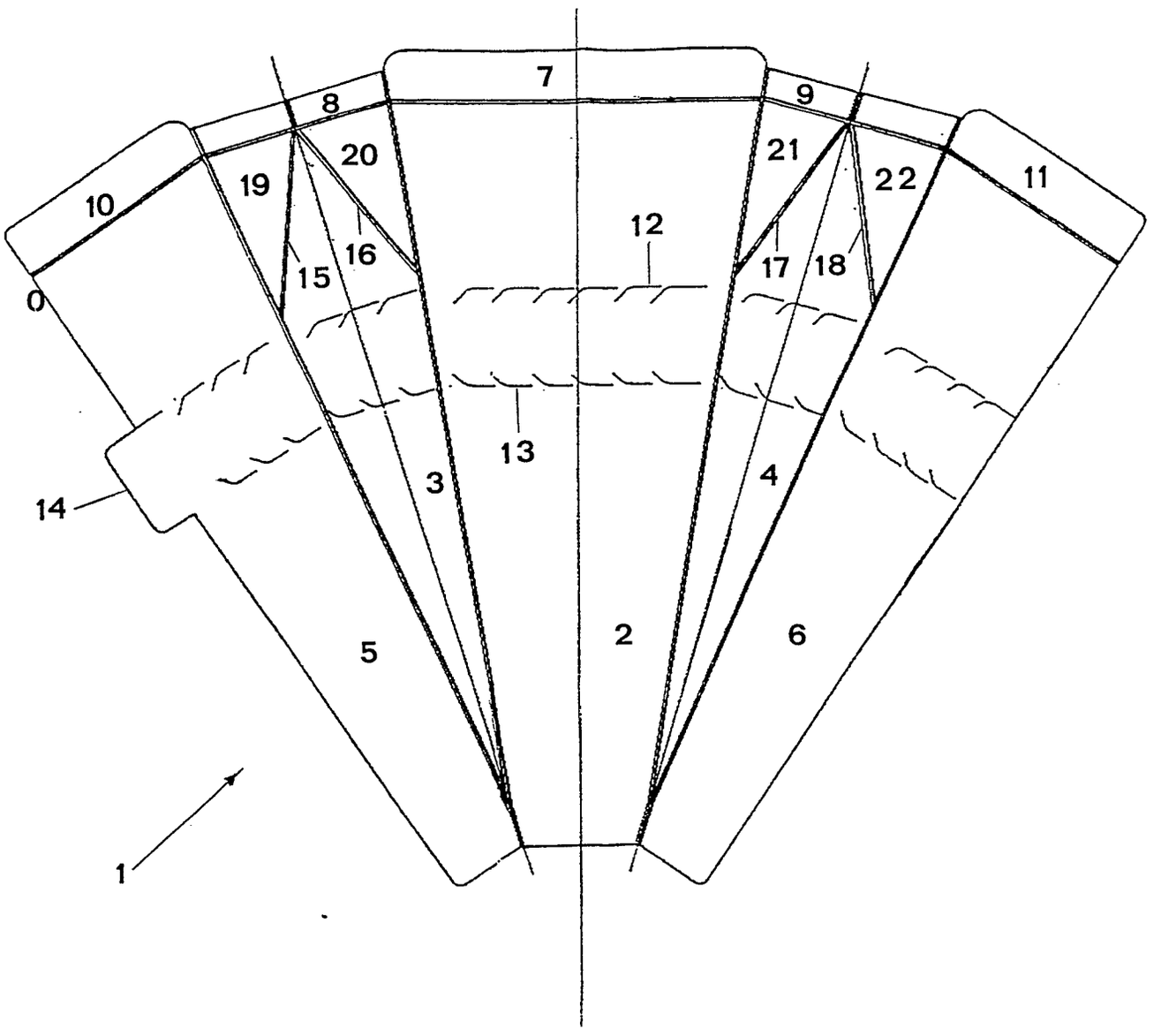


FIG. 2

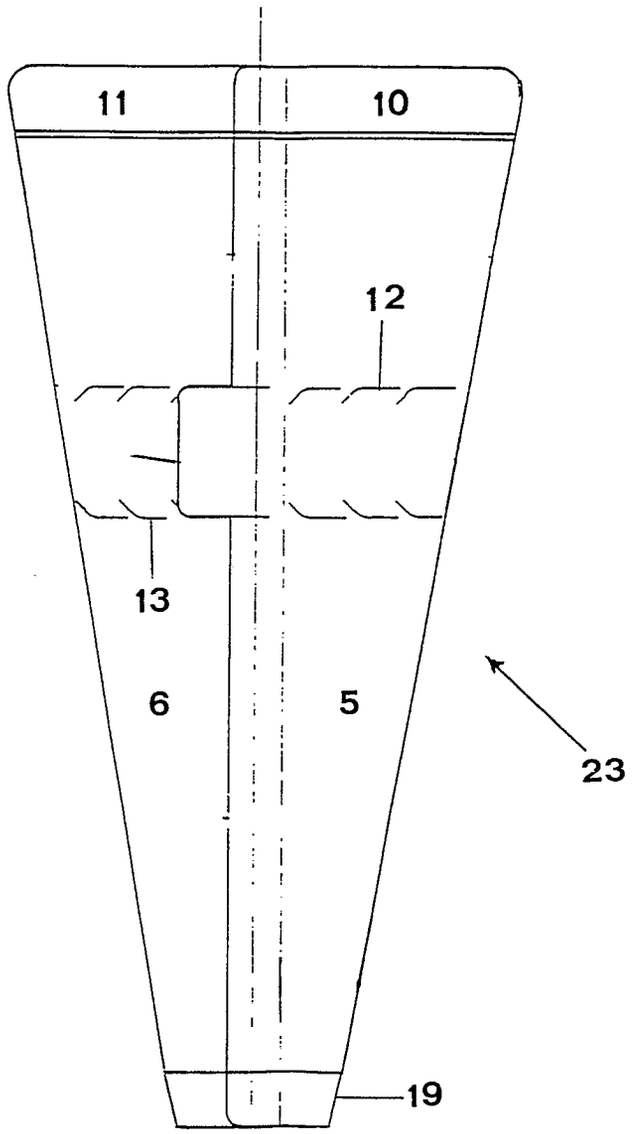


FIG. 3

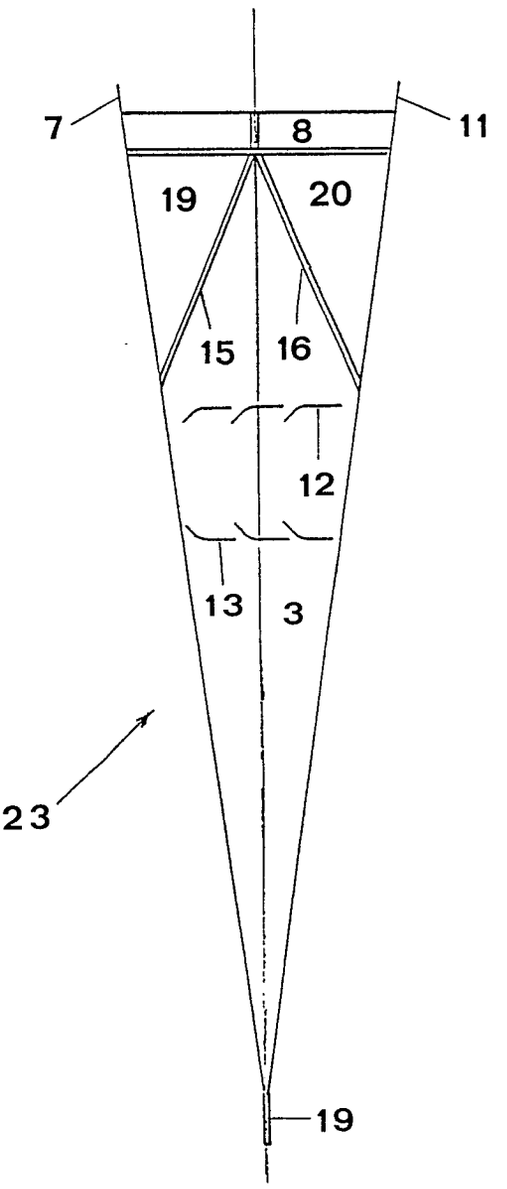


FIG. 4

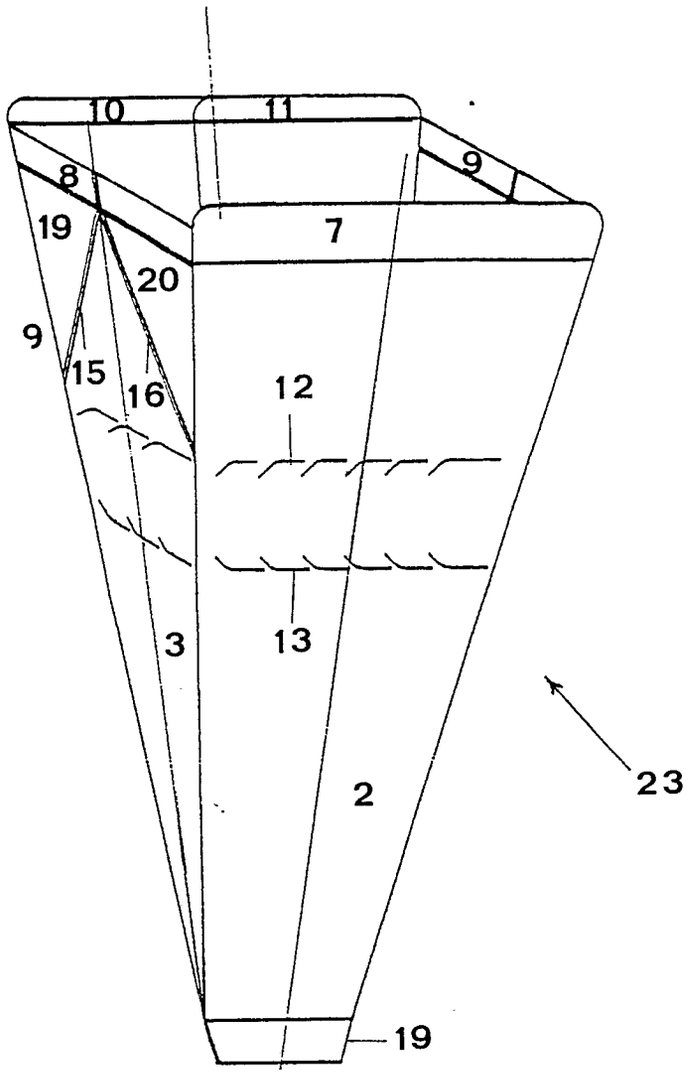


FIG. 5

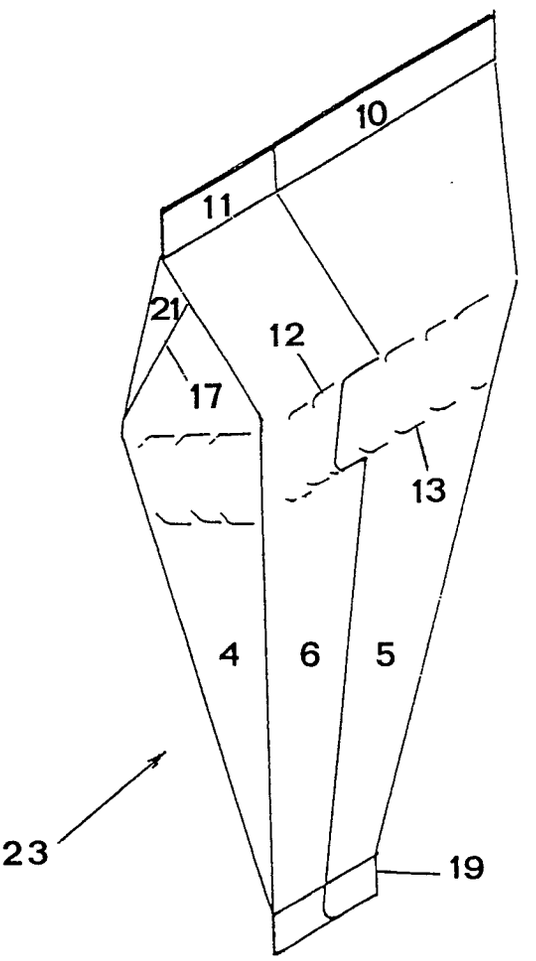
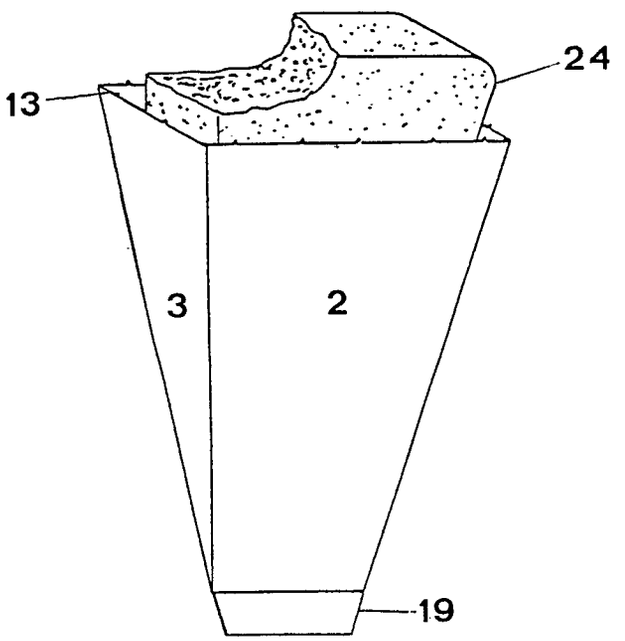


FIG. 6



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EUROPEAN SEARCH REPORT

Application Number

EP 88 83 0399

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.4)
Y	US-A-4 657 142 (Y. MIZOGUCHI et al.) * Column 1, lines 37-54; column 3, line 44 - column 4, line 36; column 5, lines 48-65; figures 1-3,18-20 *	1-7	B 65 D 5/00 B 65 D 3/06 B 65 D 85/78
Y	US-A-2 344 359 (H. LEHMANN) * Page 2, column 1, lines 30-32; claims; figures *	1-7	
A	BE-A- 487 406 (G. PASTEUR) * Whole document *	1-7	
A	GB-A- 463 205 (TECALEMIT LTD) * Page 1, line 80 - page 2, line 9; figure 3 *	1-2	
A	US-A-3 851 813 (E. SMITH) * Abstract; figures *	1-2	

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

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	22-11-1988	CLARKE A.J.

CATEGORY OF CITED DOCUMENTS

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