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**Datasheet for the decision  
of 22 May 2007**

**Case Number:** T 0569/06 - 3.2.07

**Application Number:** 01125694.8

**Publication Number:** 1197438

**IPC:** B65D 8/22

**Language of the proceedings:** EN

**Title of invention:**

Method of producing a packaging container

**Patentee:**

Tetra Laval Holdings & Finance SA

**Opponent:**

SIG Combibloc Systems GmbH

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 56, 114(1)

**Keyword:**

"Late filed documents (admitted)"  
"Inventive step (yes)"

**Decisions cited:**

-

**Catchword:**

-



Case Number: T 0569/06 - 3.2.07

**DECISION**  
of the Technical Board of Appeal 3.2.07  
of 22 May 2007

**Appellant:**  
(Opponent)

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(Patent Proprietor)

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**Decision under appeal:**

**Decision of the Opposition Division of the  
European Patent Office posted 20 February 2006  
rejecting the opposition filed against European  
Patent No. 1197438 pursuant to Article 102(2)  
EPC.**

**Composition of the Board:**

**Chairman:** H. Meinders  
**Members:** K. Poalas  
I. Beckedorf

## Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal against the decision of the Opposition Division rejecting the opposition against the European patent No. 1 197 438.

Opposition had been filed against the patent as a whole based on Article 100(a) EPC (lack of inventive step).

The Opposition Division held that this ground did not prejudice the maintenance of the patent as granted.

The following documents were taken *inter alia* under consideration by the Opposition Division:

D1: EP-A-0 108 166

D2: DE-T2-692 29058 (EP-A-0 633 123 is taken instead, see the note of the Board under point 1)

D3: US-A-3 690 088

The appellant filed together with the grounds of appeal the following documents:

D8: DE-A-196 27 805, publication date: 6 February 1997

D9: FR-A-2 736 582, publication date: 17 January 1997.

II. Oral proceedings before the Board took place on 22 May 2007.

(a) The appellant requested that the decision under appeal be set aside, documents D8 and D9 be admitted into the proceedings and the patent be revoked.

(b) The respondent (patentee) requested that the

appeal be dismissed and documents D8 and D9 not be admitted into the proceedings.

III. Independent claim 1 according to the "Druckexemplar" reads as follows (this version is taken as the correct version, because claim 1 as contained in the printed version of the granted patent contained an omission):

"A method of producing a packaging container for liquid contents, comprising a casing (2) and a top portion (3) having a neck (5) and a cylindrical portion (10), wherein the casing (2) is formed by winding of a web-shaped multilayer material into a sleeve form, whereafter the material edges are sealed to one another in a liquid-tight joint seam (9) extending longitudinally of the sleeve, that the top portion is produced in that thermoplastic material is extruded for the formation of a hose (15), that the hose (15) is subjected to blow moulding and formed into a number of continuous top portions (3) which are mutually united alternately with the necks (5) and with the cylindrical portions (10) to one another, that the top portions (3) are divided into individual top portions (3), and in that the upper end of the casing (2) is united in a liquid tight fashion to the lower end of a individual top portion (3)".

IV. The appellant argued essentially as follows:

*Admission of D8 and D9 into the proceedings*

Documents D8 and D9 were filed as a reaction to the opposition division's argumentation that the inventive part of claim 1 of the patent in suit is principally

the part allowing the production of **more than two top portions** simultaneously by extruding thermoplastic material.

Figures 1 and 2 of D9 show the simultaneous production of **at least two pairs of top portions**, ie. the simultaneous production of more than two top portions, whereby the top portions are mutually connected top to top. D9 showing this continuous production of more than two top portions is more relevant than D2 showing in its figures 5 and 6 the simultaneous production of **only two top portions**.

D8, being actually the German family member of D9, although being published after the priority date of the patent in suit, should be admitted into the proceedings in order to facilitate the references of the parties to the corresponding text passages of D9, both parties presenting their arguments in German during the appeal proceedings.

Therefore, D8 and D9 should be admitted into the proceedings.

*Inventive step, Article 56 EPC*

Firstly, claim 1 of D1 defines a container comprising a tubular main body without specifying the shape of the tube. The skilled person based on said information would automatically choose the simplest form of a tubular body namely a cylindrical one. A mouth portion fixedly attachable to such a cylindrical main body has inherently also a cylindrical form. The feature of claim 1 of the patent in suit that the top portion has

a cylindrical portion is therefore inherently disclosed in D1.

Secondly, in the first sentence of page 3 of D1 it is stated that "the main body 1 is formed from a rectangular to square sheet and joining the opposite ends of the sheet to each other as at 7. The main body 1 comprises three layers...". This bending of the sheet corresponds to a winding of a web-shaped multilayer material into a sleeve form. Therefore, the feature of claim 1 of the patent in suit that the casing is formed by winding of a web-shaped multilayer material into a sleeve form is also known from D1.

From the above follows that the subject-matter of claim 1 of the patent in suit differs from the teaching of document D1 only in that "the top portion is produced in that thermoplastic material is extruded for the formation of a hose, that the hose is subjected to blow moulding and formed into a number of continuous top portions which are mutually united alternately with the necks and with the cylindrical portions to one another, and in that the top portions are divided into individual top portions".

The skilled person trying to increase the efficiency of the method of producing a packaging container according to D1 would automatically try to increase the production velocity of the top portions of such packaging containers. One of the easiest ways to achieve this goal is to produce as many top portions as possible during the same production step. He would also automatically try to minimise the waste material resulting from the production of the top portions.

In order to increase the efficiency and to minimise the waste material when producing blow moulded tubular containers having a neck portion and a bottom portion with different diameters, ie. containers which are equivalent to the top portions according to the patent in suit, document D2 teaches the person skilled in the art to produce continuously pairs of said containers/top portions, whereby said containers/top portions are connected to each other either top to top or bottom to bottom, see figures 5 and 6 of D2.

Figure 1 of D9 is obviously similar to figure 2 of the patent in suit. The apparatus of figure 1 of D9 shows a continuous chain of moulds 4a, 4b. This teaching of D9 leads the skilled person to produce the top portions of a packaging container as known from D1 by using a continuous chain of moulds, increasing thereby their production velocity.

Having in mind the teaching of D2, according to which the top portions can be produced connected to each other not only top to top but also bottom to bottom in order to minimise the produced waste, the skilled person would use the method and the apparatus of D9 in order to produce continuously alternately neck to neck and bottom to bottom connected top portions for the packaging containers known from D1 without exercising any inventive activity.

The same arguments as presented above apply also in the case that D3 and not D1 would be considered as representing the closest prior art.

V. The respondent argued essentially as follows:

*Admission of D8 and D9 into the proceedings*

D8 being published after the priority date of the patent in suit and not belonging to the state of the art according to Article 54(2) or 54(3) EPC should not be admitted into the proceedings.

Figures 2, 3 and 4 of the patent in suit show the production of top portions having a neck and a cylindrical portion. Figures 1 and 2 of D9 show the production of a complete container having a neck portion being integrally moulded into a one-piece closed casing. Therefore, there exists no similarity between figure 2 of the patent in suit and figure 1 of D9.

D9 describes a vacuum moulding and not a blow moulding as described in D2 and claimed in claim 1 of the patent in suit.

D9, just like D2, fails to show "a number of continuous top portions which are mutually united alternately with the necks and with the cylindrical portions to one another".

Therefore, D9 as not being more pertinent than D2 should also not be admitted into the proceedings.

*Inventive step, Article 56 EPC*

The appellant's argument that D1 discloses a cylindrical upper section because in claim 1 of said document no reference to a specific cross-section is made, is incorrect.



D1 defines actually a multi-layer material which is cut into a blank of rectangular form, said blank being folded and/or bent into a tube with rectangular cross-section, see page 3, lines 1 to 3. The claimed forming of the casing by **winding** of a web-shaped multilayer material into a sleeve form is therefore not disclosed in D1.

The skilled person seeking to produce, through blow moulding, top parts for multi-piece containers as known from either D1 or D3 would not take into consideration document D9 since it is directed to the production of one-piece plastic hollow blanks.

D9 teaches a method for producing plastic hollow containers, whereby said containers undergo an after-treatment by blow moulding, see page 2, lines 13 to 18; page 3, lines 4 to 9 and page 4, line 35 to page 5, line 2. They are produced in top to top connection having their closed bottoms connected to each other by a material barrier 14, see figures 1 and 2. According to lines 8 to 12 of said document this barrier is formed such that the bottom ends of these containers are closed and pressed together in order to optimise the negative pressure applied to the extruded tube. Intermediate forms 40a and 40b are foreseen in order to form both the bottom portion of the container and the connecting barrier 14 between two consecutive sets of containers, see claim 1 and figure 1. They also allow the development of and the control over the pressure within the moulding, see page 4, lines 8 to 20. A production of top portions having a bottom to bottom connection using the apparatus known from D9 would require the removal of the intermediate forms 40a and

40b and the elimination of all benefits arising from said intermediate forms, having thereby a detrimental effect to the quality of the produced containers.

Therefore, the skilled person seeking to produce blow moulded top portions for packaging containers as known from either D1 or D3 would neither take into consideration D9 nor would he be led by this document, either taken alone or in combination with D2, to the subject-matter of claim 1 of the patent in suit.

### **Grounds for the decision**

1. *Admittance of D8 and D9 into the proceedings*

Documents D8 and D9 were filed together with the grounds of appeal as reaction to the opposition division's argumentation that the inventive part of claim 1 of the patent in suit is principally the part allowing the production of **more than two top portions** simultaneously by extruding thermoplastic material "for the formation of a hose, that the hose is subjected to blow moulding and formed into a number of continuous top portions which are mutually united alternately with the necks and with the cylindrical portions to one another".

The Board follows the appellant's argument that D9 showing the simultaneous production of **at least two pairs of top portions**, ie. the simultaneous production of more than two top portions, whereby the top portions are mutually connected top to top, see figures 1 and 2, can be seen as being more relevant than D2 showing in its figures 5 and 6 the simultaneous production of **only**

**two top portions.** In this respect the Board wishes to note that D2, being the German version of European Patent EP-B-0 633 123, was only published on 5 January 2000. The Board instead, will refer to EP-A-0 633 123, the corresponding application, published 11 January 1995, if necessary.

The Board notes that D8 was published after the publication date of the patent in suit. Since both parties presented during the appeal proceedings all their arguments in German and D8 is the German version of the French document D9, the Board considers that the admittance of D8 into the appeal proceedings facilitates the references of the parties to the corresponding text passages of D9 and allows the parties to use a consistent terminology.

The Board admits therefore D8 and D9 into the appeal proceedings in accordance with Article 114(2) EPC.

2. *Inventive step, Article 56 EPC*

2.1 *Closest prior art*

It was undisputed by the parties that D1, considered by the appellant to represent the closest prior art, discloses, following the wording of claim 1 of the patent in suit, a method of producing a packaging container for liquid contents comprising a casing 1 and a top portion 3 having a neck and a lower end portion, wherein the casing 1 is formed by forming a multilayer material into a sleeve form, whereafter the material edges are sealed to one another in a liquid-tight joint seam 7 extending longitudinally of the sleeve, whereby

the upper end of the casing 1 is united in a liquid tight fashion to the lower end of an individual top portion 3.

The appellant argued that also the features

- the top portion has the lower end portion in cylindrical form,
- the casing is formed by winding a web-shaped multilayer material into a sleeve form

are known from D1.

It was also undisputed by the parties that D3, discussed during the oral proceedings before the Board, discloses, following the wording of claim 1 of the patent in suit, a method of producing a packaging container for liquid contents comprising a casing 20 and a top portion 10 having a neck 11 and a cylindrical portion 6, wherein the casing 20 is formed by forming a multilayer material into a sleeve form, whereafter the material edges are sealed to one another in a liquid-tight joint seam, see figures 5 and 6 and column 4, lines 32 to 35, extending longitudinally of the sleeve, whereby the upper end of the casing 20 is united in a liquid tight fashion to the lower end of an individual top portion 10, see column 2, lines 65 to 67.

The appellant argued that also the feature

- the casing is formed by winding a web-shaped multilayer material into a sleeve form

is known from D3.

The Board notes that neither D1 nor D3 gives any information about the method used for producing the corresponding top portions 3, respectively 10 of the

packaging containers described therein.

It is therefore undisputed by the parties, and the Board agrees to it, that the subject-matter of claim 1 of the patent in suit differs from either D1 or D3 at least in that for producing the top portion

- thermoplastic material is extruded in the form of a hose,
- the hose is subjected to blow moulding and formed into a number of continuous top portions which are mutually united alternately with the necks and with the cylindrical portions to one another, and
- the top portions are divided into individual top portions.

According to these distinguishing features at least three top portions are formed in a row. These at least three top portions can cool at the same time allowing thereby to increase the speed of the manufacturing process of said top portions and, as a result of it, to speed up the manufacturing process of the packaging containers in need of said top portions.

## 2.2 *Problem to be solved*

Starting from the method of producing a packaging container for liquid contents comprising a casing and a top portion as known from either D1 or D3 the problem to be solved can be seen in the increase of the production speed of said containers, see column 7, line 55 to column 8, line 7 of the patent in suit.

2.3 *Solution*

The above-mentioned problem is solved by the method of claim 1 of the patent in suit, especially in that the top portion is produced by extrusion of thermoplastic material for the formation of a hose, that the hose is subjected to blow moulding and formed into a number of continuous top portions which are mutually united alternately with the necks and with the cylindrical portions to one another, and in that the top portions are divided into individual top portions.

- 2.4 The Board considers that the above mentioned solution is not obvious to the person skilled in the art, even when considering the teachings of D2 or D9, or their combination.

The appellant argued that the person skilled in the art, trying to solve the above mentioned problem, would be directly and unambiguously led by the teaching of D9 in combination with the teaching of D2 to produce the top portions as claimed in claim 1 of the patent in suit without requiring an inventive activity. The Board cannot follow this line of argumentation for the following reasons:

As stated under point 2.1 above D1 as well as D3 disclose a method of producing a packaging container for liquid contents, comprising a tubular casing and a top portion having a neck and a lower portion, whereby the upper end of the casing is united in a liquid tight fashion to the lower portion of the top portion.

D2 discloses the moulding of parisons (preforms) in the

form of one-piece tubular containers comprising a top portion and a casing, whereby these portions are further blow moulded in moulds producing pairs of single containers connected to each other **either** neck to neck **or** bottom to bottom, see figures 5 and 6. Even accepting that there is a structural similarity between the single tubular containers shown in figures 5 and 6 of D2, where said containers have been blow moulded and cut along the separation line 31, and the top portion of the containers shown in D1 or D3, there is no hint in D2 that more than two containers (top portions) should be manufactured at the same time in one mould. Furthermore there is no indication to be found in D2 that the containers (top portions) should be produced continuously mutually united alternately with the necks and with the cylindrical portions to one another.

D9 is directed to the moulding of hollow plastic preforms ("ébauches") which, through further treatment, become packaging containers for liquid contents, see page 1, lines 1 to 7. An extrusion press 2 delivers a tubular preform 3 into two parallel, closed-loop chains A, B with moulds 4a, 4b. The moulds form a sequence of opposing semi-cylindrical depressions 5a and 5b, see page 2, lines 30 to 35. In order to produce the final containers 15 a pressure difference is developed between the interior of the preform and the space between the preform and the mould depressions, see page 4, lines 8 to 15. Moulds 4a, 4b are provided with intermediate sections 40a, 40b with pistons 16 which compress the preform 3 and thus form the material barriers 14 connecting consecutive pairs of containers having their neck portions connected, see page 4, lines 15 to 20; figures 1, 2 and 4.

The appellant presented no conclusive reason why the skilled person intending to increase the production speed of the top portions for packaging containers as known either from D1 or D3, ie. for packaging containers having their casings and top portions produced separately from each other and uniting these in an additional production step would take into consideration the documents D2 or D9, since these documents describe the production of cylindrical containers having their casings and top portions produced together as an integral piece, see figures 1 to 6 of D2 and figures 1 and 2 of D9.

But, even assuming that the skilled person trying to speed up the production of the top portions of packaging containers as known from D1 or D3 would consider producing top portions according to the method known from D9, ie. by using two continuous mould chains producing continuously a pair of tubular containers, he would then be obliged to develop inventive activity in order to redesign the apparatus shown in figure 1 of D9 so that the blanks are produced **continuously mutually united alternately** with the necks and **with the cylindrical portions to one another** (i.e. without the barriers 14). In order to have the containers shown in figure 1 of D9 also continuously connected to each other bottom to bottom, the intermediate forms 40a, 40b would have to be removed. These intermediate forms 40a, 40b do not only form both bottom portions of the containers and the connecting barrier 14 between two consecutive pairs of containers, see claim 1 and figure 1 of D9, they also allow the development and control of the pressure within the moulds, see page 4, lines 8 to



20. A removal from or redesign of these intermediate forms 40a, 40b from the apparatus shown in figure 1 of D9 goes against the teaching of D9, since they are indispensable for the function of the apparatus disclosed therein.

Consequently, it is not obvious to the skilled person to modify either the method disclosed in D2 or the method described in D9 in order to manufacture blow moulded top portions produced continuously mutually united alternately with the necks and with the cylindrical portions to one another.

2.5 The subject-matter of claim 1 fulfils therefore the requirements of Article 56 EPC.

## **Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders