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D E C I S I O N
of 21 January 2000

Case Number: T 0601/94 - 3.2.5

Application Number: 90200453.0

Publication Number: 0379264

IPC: B29C 49/00

Language of the proceedings: EN

Title of invention:
Preform for blow moulding refillable polyester beverage bottle

Patentee:
CONTINENTAL PET TECHNOLOGIES, INC.

Opponent:
PEPSICO, Inc.
PLM AB
Wellstar Holding B.V.

Headword:
-

Relevant legal provisions:
EPC Art. 54(1), (2), 56

Keyword:
"Prior use (not approved)"
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
-

Catchword:

-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0601/94 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 21 January 2000

Appellant I: (Opponent 01)
PEPISCO, Inc.
700 Anderson Hill Road
Purchase, New York 10577 (US)

Representative:
Körber, Wolfhart, Dr.rer.nat.
Patentanwälte
Mitscherlich & Partner
Postfach 33 06 09
D-80066 München (DE)

Appellant II: (Opponent 03)
PLM AB
Djäknegatan 16
21135 Malmö (SE)

Representative:
Rostovanyi, Peter
AWAPATENT AB
Box 5117
200 71 Malmö (SE)

Other party: (Opponent 04)
Wellstar Holding B.V.
42 Hengelder
6942 AL DIDAM (NL)

Representative:
van der Saag, Johannes
Octrooibureau Vriesendorp & Gaade
Dr. Kuyperstraat 6, Postbus 266
2501 AW 's-Gravenhage (NL)

Respondent: (Proprietor of the patent)
CONTINENTAL PET TECHNOLOGIES, INC.
800 Connecticut Avenue
Norwalk
Connectitcut 06904 (US)

Representative: Jenkins, Peter David
PAGE WHITE & FARRER
54 Doughty Street
London WC1N 2LS (GB)

Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 1 June 1994 rejecting the oppositions filed against European patent No. 0 379 264 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: A. Burkhart
Members: W. R. Zellhuber
W. Moser

Summary of Facts and Submissions

I. The appellants I and II (opponents 01 and 03) lodged an appeal against the decision of the Opposition Division rejecting the oppositions against the patent No. 0 379 264.

The oppositions had been filed against the patent as a whole and were based on Article 100(a) EPC. The Opposition Division held that the grounds for opposition mentioned in Article 100(a) EPC did not prejudice the maintenance of the patent in suit unamended having regard to the cited documents and to the alleged prior use.

II. During the appeal proceedings, the following documents were in particular considered:

(i) Published documents:

E1: DE-A 2 910 609

E2: JP-A 58-185229 including English translation

E3: CA-A 1 184 718

E4: US-A 4 261 948

E10: US-A 3 137 748

E11: DE-A 2 807 949

E15: BASF, "Kunststoff-Verarbeitung im Gespräch; 3 Blasformen, 1973;

(ii) Documents concerning the alleged prior use:

- "Okhai": Declaration of Mr Okhai of 14 December 1993 including exhibits A-I (filed by Appellant I);

- "Kleimenhagen": Declaration of Mr Kleimenhagen of 17 January 1994 and letter dated 14 March 1994 (filed by Appellant II);

- "Blank": Declaration of Mr. Blank of 20 January 1998 including annexes (Anlagen) 1-19 (filed by Appellant 02);

- "McLaren": Declaration of Mr McLaren of 17 December 1997 including exhibits A-I (filed by the Respondent);

- "Ben Hassan": Declaration of Mr Ben Hassan of 10 March 1995 (filed by the respondent with letter of 12 May 1995, Tab T)

- "Tacito": Declaration of Mr Tacito of 3 May 1995 (filed by the respondent with letter of 12 May 1995, Tab S);

- "Smith": Declaration of Mr Smith of 5 May 1995 (filed by the respondent with letter of 12 May 1995, Tab R)

- Standardized invoice forms (filed by the respondent with letter of 12 May 1995, Tabs K,L,M)

III. Oral proceedings before the Board of Appeal were held on 21 January 2000.

(i) The appellants I and II requested that the decision under appeal be set aside and the patent be revoked.

(ii) The respondent (patentee) requested that the appeals be dismissed, or that the decision under appeal be set aside and the patent be maintained on the basis of the following documents filed on 26 December 1999:

(a) Claims 1 to 8 as first auxiliary request, or

(b) claims 1 to 8 as second auxiliary request, or

(c) claims 1 to 8 as third auxiliary request, or

(d) claims 1 to 7 as fourth auxiliary request.

(iii) Claim 1 as granted (main request) reads as follows:

A preform (10) for use in blow molding a returnable transparent refillable container, said preform being an injection molded member formed of a polyester, said preform having an elongated body (16) for forming a container body and being closed at one end and open at the

opposite end, said preform open end having a neck finish (12) and said elongated body having a portion (14) adjacent said neck finish (12) tapering in wall thickness for forming a container shoulder portion, said closed one end (20) being defined by a bottom having a generally hemispherical outer surface, characterised in that said closed one end (20) of said preform body comprises a cylindrical container base-forming flute portion (22) having a greater wall thickness relative to the wall thickness of said preform body (16).

(iv) In their written submissions and during the oral proceedings, the appellants I and II argued essentially as follows:

1. The subject matter of claim 1 as granted was not novel with regard to the so-called Krupp/Meri-Mate preform which was made available to the public before the priority date of the patent in suit.

The basic idea underlying the patent in suit, namely the idea of a replacement of the "continental type" ribs of a preform as described in document E4 by a thicker preform in that area, was expressed by Mr Okhai in a Telex ("Okhai" exhibit A) transmitted on 10 December 1984 from Mr Okhai (Meri-Mate Ltd) to Mr Günther Kleimenhagen (Krupp-Corpoplast Maschinenbau GmbH).

Subsequently, such a modified preform was the

subject matter of a telefax ("Blank", Anlage 12) sent on 10.12.1984 from Krupp Corpoplast to Köppern GmbH and of a further correspondence between the companies Meri-Mate LTD, Krupp Corpoplast Maschinenbau GmbH and Köppern GmbH.

The declarations "Okhai", "Blank" and "Kleimenhagen"; stating that there was no agreement or obligation to keep the documentation concerning the new preform confidential proved the public availability of the new so called Krupp/ Meri-Mate preform.

Even though confidentiality of the documentation of the new preform might have been expected by the people involved in the project, it was asserted that the actions showed that there was no obligation to keep the information concerning the new preform confidential and that the information was not kept confidential.

That assertion was particularly based on the following points:

(a) The declaration of Mr Blank, especially Anlagen 12, 13, 15, 18 and 19 showed that a mould according to Anlage 15 showing the new preform was produced by Köppern, tested and shipped to the customer Meri-Mate, wherein the mould was the subject of an acceptance test performed by Mr Schürz, an employee of a another company, namely Cincinnati Milacron (CMA);

(b) Mr Schürz, an employee of CMA, which is a competitor of Krupp Corpoplast, was given the opportunity to acquire knowledge about the new and modified preform in the course of the acceptance test;

(c) according to the declaration of Mr Kleimenhagen, the drawing 0360.00.ag (cf. "Okhai", Exhibit I) which shows the new preform was contained in a sample folder which was presented to several customers without secrecy restrictions; and

(d) according to the declaration of Mr Okhai, one hundred million of these preforms were produced, and beverage bottles made therefrom were sold by Meri-Mate in the period from 1985 to 1987.

With regard to the declaration of Mr McLaren, which is in contradiction to the declarations of Mr Okhai, Mr Blank and Mr Kleimenhagen as far as the question of confidentiality is concerned, it was suggested that the people concerned should be invited as witnesses in order to be able to assess the divergent statements correctly.

2. The subject-matter of claim 1 as granted was not novel with regard to the preforms described in documents E1, E2, E3 and E4, in view of the fact that claim 1 was drafted in such a way that it also encompassed the preforms known from these documents.

3. Moreover, the subject-matter of claim 1 did not involve an inventive step. If the bottle described in document E1, which represented the closest prior art, was to be improved with respect to the stability and stress crack resistance, it would be obvious to provide a preform having a cylindrical thickened bottom portion as shown in each of the documents E2, E10 and E15 or to replace the ribs described in E4 by a continuous thickened bottom portion.

(v) In its written submissions and during the oral proceedings, the respondent argued essentially as follows:

1. The appellants I and II could not prove that there was any public prior use of a preform having an increased wall thickness in the bottom area as shown, among others, in "Blank", Anlage 12, or that any information concerning such a preform had been made available to the public before the priority date of the patent in suit.

The respondent especially focussed on the following issues:

- According to the statutory declaration of Mr McLaren, all communications between Meri-Mate Limited, Krupp Corpoplast and Köppern relating to the development of Meri-Mate preforms and bottles were regarded by Meri-Mate Limited as confidential. This evidence contradicted the evidences filed by the

appellants, but was completely consistent with normal business practice.

- No evidence had been produced showing that a preform mould for making preforms having the structure as shown in "Blank", Anlage 12, had been manufactured. In the acceptance test ("Blank", Anlage 18) Mr Schürz had confirmed that the dimensions of the preforms corresponded to that of the drawing SK 9055/086, which showed an unmodified preform having a constant wall thickness.

- Even when asked by the Opposition Division, Mr Kleimenhagen could neither confirm that the drawing No. 0 360.00 Ag was in one of the sales folder nor could he name any specific customer who had seen the preform drawing.

- There was no evidence to support Mr Okhai's allegation that one hundred million preforms were produced, and that bottles made therefrom were sold; moreover it had to be taken into consideration that preforms normally did not leave the factory.

- There was a number of inconsistencies between the declarations of Mr Blank and Mr Okhai, on the one hand, and the accompanying documents concerning the development of the new preform, on the other, which gave rise to doubts whether there had been any public prior disclosure

or use of the new preform.

- The documents, especially the drawings "Blank", Anlagen 12 and 15 and "Okhai", exhibit F, allegedly showing embodiments of the new preform, comprised hand-written amendments of unknown origin and it would thus be impossible to determine when and, in particular, in which form the documents had originally been drawn up and transmitted.

2. With regard to the allegation of lack of novelty, it had to be considered that claim 1 was meant to be read by the person skilled in the art and that a preform was particularly related to the container to be made therefrom. The preform of claim 1 was novel, since none of the documents E1 to E4 disclosed a preform comprising all the features of claim 1 as granted.

3. The preform according to claim 1 also involved an inventive step. Starting from document E1, the object underlying the invention was to provide a preform suitable for making a specific, especially transparent and refillable container, and there was no motivation to combine the teachings of any of the documents E2, E4, E10 and E15 with the teaching of E1 in a way which would lead to a preform as claimed in claim 1.

Reasons for the Decision

1. *Alleged public prior use*

The subject-matter of the alleged public prior use, however the shape of the preform might have been in detail, had not been made available to the public before the priority date of the patent in suit for the following reasons:

1.1 According to the declarations of Messrs. Okhai, Kleimenhagen and Blank, a new preform wherein the ribs (cf. document E4) were replaced by a thickened lower portion was suggested and discussed in several telexes and letters between the firms Meri-Mate, Krupp Corpoplast and Köppern.

In the course of this project a number of modifications (location of the thickened part, wall thickness etc.) and alternative shapes for the thickened portion (e.g. a conical form) of the preform were the subject of suggestions exchanged between the firms Meri-Mate, Krupp Corpoplast and Köppern in the period between December 1984 and April 1985 (cf. Okhai Exhibits A to I and Blank Anlagen 12, 15 and 16). Irrespective of the question of whether these documents had been produced during this period in the form as presented, this shows, in the Board's judgement, that these firms were obviously involved in a common project concerning the development of a new preform, and according to general business practice, it is expected that the firms and their employees involved in the development keep the information concerning the project confidential; see also the declarations of Mr Ben Hassan, Mr Tacito, Mr Smith and the standardized invoice forms, filed by the respondent with letter of 12 May 1995, Tabs K,L,M.

Admittedly, the declarations of Messrs Okhai, Kleimenhagen and Blank contain statements concerning the question of confidentiality from which the appellants concluded that there was no agreement or obligation to keep the information confidential. In these declarations, Mr Blank only confirms that there was "no written or spoken agreement" and Mr Kleimenhagen only stated that the "contacts between KC and MM were not confidential". Solely, Mr Okhai declared that "there was no agreement or obligation of any kind between Meri-Mate and Krupp or those others ... to keep said communications confidential or secret". However, these statements are in contradiction to the statement in the statutory declaration of Mr McLaren. Mr McLaren, who was the factory manager at the same company as Mr Okhai, i.e. Meri-Mate, from 1984 to September 1987, declared that "all communications ... with Krupp Corpoplast and Köppern in this development were confidential" and, as can be seen from the declarations of Messrs Ben Hassan, Tacito and Smith, the statement of Mr McLaren seems to be consistent with normal business practice.

Moreover, on the document "Blank", Anlage 8 there is a handwritten indication that "This drawing with the approval of Okhai is in the files of Dr. Staude 17.8.84". This indication shows that the drawings were to be treated as confidential.

Finally, the remark of Mr Okhai in the telex of 10 December 1984 ("Okhai", Exhibit A), "I have given a great deal of thought to this matter ...", indicates that the information answering the problem was not supposed to be forwarded to anybody else and that

confidentiality was expected.

To sum up, it follows that the firms and their employees did not represent the public having regard that they were involved in a common project concerning the development of a new preform. In view of the above mentioned divergent declarations and the annexed documentation it cannot be concluded that the public, in general, had access to the communications and information exchanged between the firms Meri-Mate, Krupp and Köppern, simply because there was, allegedly, no expressly formulated agreement or obligation to keep the information secret or confidential.

Therefore, it has to be examined if, contrary to the general business practice, any information concerning the new preform was actually made available to the public and, if yes, which information. The burden of proof is on the side of the appellants I and II.

1.2 The appellants I and II argued that a fourth firm, namely Cincinnati Milacron (CMA), had been informed about the new preform (cf. section IV (v), paragraph 1, points a) and b) above).

However, the documents, especially "Blank", Anlagen 18 and 19, are not suitable to support the declaration of Mr Blank that a mould for producing preforms with increased wall thickness in the bottom area was subject of an acceptance test carried out by CMA service engineer Mr Schürz. Furthermore, the declaration of Mr Blank is inconsistent with the declaration of Mr Okhai on that point.

In "Blank", Anlage 18, page 2, Mr Schürz noted that, as far as the dimensions are concerned ("maßlich"), the preforms correspond to the drawing SK 9055/086 C (Blank, Anlage 9), which, also confirmed by Mr Blank's declaration, point 3, shows an unmodified preform without any increased wall thickness in the bottom area.

Mr Schürz only noted a deviation of the weight of the preform (14,7 g average) from the indication on the drawing (13,9g) which lies slightly above the upper tolerance value of 14,6 g, cf. "Blank", Anlage 18, Blatt 1. The origin of the handwritten remark "Dies ist bedingt durch die Wandstärkenvergrößerung im Bodenbereich YY" from which the appellants I and II concluded that the tested mould comprised the new preform tools, is unclear and thus not suitable to doubt the finding of Mr Schürz that the preforms correspond in their dimensions to the drawing SK 9055/086 C. It has further to be taken into consideration that there may be other reasons for the deviation concerning the weight of the preforms and that Mr Schürz explicitly noted that the point has to be discussed directly between Köppern and Okhai, thus excluding CMA, cf. "Blank", Anlage 18, Bl. 2.

Furthermore, there are inconsistencies between the declarations "Blank" and "Okhai" (cf. point II(ii) supra) at least as far as the chronological order of the events is concerned.

For example, on the one hand, according to the declaration "Blank", point 4, tests of a mould for producing preforms with an increased wall thickness in

the bottom area were carried out in January and February 1985 with the final test carried out on 14 February 1985. On the other hand, on 20 March 1985, Mr Okhai communicated to Krupp "the urgency of making a final determination of the preform configuration" (cf. declaration "Okhai", point 8). Thus, the tests identified by Mr Blank probably were not directed to a preform having an increased bottom wall thickness, because the precise preform structure had not yet been decided.

Consequently, from the above-mentioned documents it cannot be concluded that the mould tested by CMA and delivered to Meri-Mate on 21st March 1985, as asserted in the declaration "Blank", point 4, was a mould for producing preforms with an increased wall thickness in the bottom area.

1.3 As far as the assertion of Mr Kleimenhagen is concerned that the drawing 0360.00.ag (cf. declaration "Okhai" Exhibit I), which shows that the new preform was contained in a sample folder which was presented to several customers without secrecy restrictions, Mr Kleimenhagen could neither confirm that the drawing No. 0 360.00 Ag was in one of the sales folder nor could he name any specific customer who had seen the preform drawing. Thus, there is no evidence that the drawing No. 0 360.00 Ag was made available to the public.

Furthermore, there was no need to reconsider the question of hearing Mr Kleimenhagen as a witness, because there was no indication that any additional information could be expected.

1.4 Finally, as far as the declaration of Mr Okhai is concerned, that one hundred million of these preforms were produced, and that beverage bottles made therefrom were sold by Meri-Mate in the period from 1985 to 1987, it has to be noted that there is no evidence to support Mr Okhai's allegation. Even if such preforms had been produced at Meri-Mate this would not meet the requirement of public availability, because the preforms do not normally leave the factory.

1.5 From the above it follows that there is no evidence that the subject- matter of the alleged prior use, i.e. a preform having an increased wall thickness in the bottom area or any document describing such a preform was made available to the public before the priority date of the patent in suit. Therefore, the subject-matter of the alleged prior use does not constitute prior art within the meaning of Article 54(2) EPC.

2. *Subject-matter of claim 1 as granted*

Claim 1 as granted concerns

A preform (10) for use in blow moulding a returnable transparent refillable container, said preform

(a) being an injection moulded member formed of a polyester, said preform

(b) having an elongated body (16) for forming a container body and

(c) being closed at one end and open at the opposite end,

(d) said preform open end having a neck finish (12) and

(e) said elongated body having a portion (14) adjacent said neck finish (12) tapering in wall thickness for forming a container shoulder portion,

(f) said closed one end (20) being defined by a bottom having a generally hemispherical outer surface,

(g) said closed one end (20) of said preform body comprises a cylindrical container base-forming flute portion (22)

(h) having a greater wall thickness relative to the wall thickness of said preform body (16).

There might be a source for different interpretations as far as the features (g) and (h) are concerned, because both features refer to "said preform body", whereby the term "preform body" has not previously been defined. The features (a) to (f) define the preform and its different parts, one of the parts of the preform being "an elongated body for forming a container body". Thus, it has to be examined what is meant by the term "said preform body" in feature (g) and in feature (h).

In features (b) and (c) the preform is defined as having an elongated body, an open end and a closed end. Thus, the open end is defined as being a part of the preform rather than being a part of the elongated body. Consequently, in feature (g) the term "said preform body" relates to the "preform".

Feature (g) further specifies that said closed end of the preform comprises a cylindrical container base-forming flute portion. In feature (h) the wall thickness of that portion is defined relative to "said preform body". At first sight, the term "said preform body" might be understood as relating either to the preform itself or the elongated body defined in feature (b).

However, as said flute portion is defined as being a part of the closed end which is a part of the preform it does not make sense to compare the wall thickness with itself.

Thus it is evident that in feature (h) the term "said preform body (16)" refers to the elongated body (16) defined in feature (b).

This is fully supported by and consistent with the description, cf. especially page 4, lines 45 to 53, and the drawings, Figure 2, which according to Article 69 EPC shall be used to interpret the claims. This is also consistent with the indication of the reference numeral "16" in feature (h).

Thus, in the following the features (g) and (h) are interpreted as follows:

(g) said closed one end (20) of said preform comprises a cylindrical container base-forming flute portion (22)

(h) having a greater wall thickness relative to the wall thickness of said elongated body (16).

3. *Novelty*

The documents E1, E2, E3 and E4 have been cited by the appellants I and II to show a lack of novelty of the subject-matter of claim 1 as granted. However, none of the documents discloses a preform comprising, in combination, all the features of claim 1 as granted:

3.1 Document E1 discloses a preform according to the preamble of claim 1 as granted. The preform comprises an elongated body 3 having a tapered portion 2 adjacent the neck finish 1 and a bottom portion which has a generally hemispherically or flat outer surface. The portion of the preform between said tapered portion and the bottom portion is of constant thickness, cf. Figure 1 of document E1.

Thus, the closed end of the preform disclosed in document E1 does not comprise a cylindrical container base-forming flute portion having a greater wall thickness relative to the wall thickness of the elongated body 3 for forming the container body.

Appellant II argued that the portion 3 of the preform shown in Figure 1 of document E1 may be regarded as the "container base-forming flute portion" and that this portion has a greater thickness than the tapered portion.

However, claim 1 as granted defines the preform as having an elongated body for forming the container body having a tapered portion for forming a shoulder portion **and** a container base-forming cylindrical flute portion of different wall thicknesses. The interpretation of

the appellant II would result in a preform either comprising an elongated body for forming the container body **or** a container base-forming cylindrical flute portion. That interpretation of claim 1 is not in line with the subject-matter for which protection is sought in claim 1 as granted.

3.2 Document E2 describes a preform for blow moulding a dropper, such as an eyedropper. The preform comprises -
an open end having a neck finish,
- an elongated body having
  - an upper portion for forming the shoulder portion and the upper part of the side walls of the container,
  - a middle part of lower wall thickness for forming a middle part of the side walls and
  - a lower portion for forming the base portion and the lower part of the side walls of the container, and
- a closed end being defined by a bottom having a generally hemispherical outer surface, cf. Figures 2, 4 and 5 of the drawings.

In the transient portions between the neck finish and said upper portion of the elongated body and between said upper portion and said lower portion, on the one hand, and the middle portion, on the other, there are short taperings in the wall thickness.

The preform disclosed in document E2 differs from the preform claimed in claim 1 in that the elongated body does not have a portion adjacent the neck finish tapering in wall thickness **for forming a container shoulder portion.**

It has to be taken into consideration that claim 1 is meant to be read by the person skilled in the art and that the construction, especially the proportions and dimensions of a preform for blow moulding a container, are particularly related to the container.

As can be seen from the figures, the tapered portions of the preform described in E2 are not suitable for forming a container shoulder portion, because they are too short in relation to the length of the preform. Figure 5 of the drawings also shows that, effectively, these tapered portions are not used for forming a shoulder portion of the container.

The preform described in E2 further differs from the preform claimed in claim 1 as granted in that the closed end of the preform does not comprise a cylindrical container base-forming flute portion having a greater wall thickness than the wall thickness of the elongated body.

Firstly, the cylindrical part of the lower portion 8 of the preform disclosed in document E2 is mainly used for forming the container side walls, cf. Figure 5 of the drawings. Thus, the known preform is not constructed such as to comprise a cylindrical **container base-forming** portion, on the one hand, and an elongated body for forming the container side walls and a shoulder

portion, on the other.

Secondly, even though the lower portion 8 of the preform shown in document E2, Figures 2 and 4 of the drawings is defined as being a cylindrical container base-forming flute portion, this portion does not have a greater wall thickness in relation to the elongated body, which, following the definition in claim 1 as granted also includes the portion adjacent the neck finish. This upper portion 6 of the elongated body has, however, at least the same wall thickness.

Admittedly, the middle portion of the elongated body shown in document E2 has a smaller wall thickness in relation to the lower portion and upper portion. However, in claim 1 as granted, especially when seen in the light of the description, the wall thickness of a container base- forming portion is put into relationship with the portion for forming the container side walls and the shoulder, and it appears hardly acceptable to interpret claim 1 as granted in the way the appellants I and II did, namely, regarding said relationship, to focus only onto the middle part and to disregard a significant part of the container-forming portion, namely the upper portion of the elongated body.

3.3 Document E3 discloses a preform having an elongated body wherein the preform body has an external taper and the bore of the preform has a much greater taper, with the result that the body increases in thickness from the open end toward the closed end, cf. page 4 lines 6 to 13 and Figure 2 of the drawings.

Thus, the preform disclosed in E3 differs from the preform claimed in claim 1 in that the closed end of the preform does not comprise a **cylindrical** container base-forming flute portion.

3.4 Document E4 discloses a preform wherein internal ribs are added to the interior surface of the bottom-defining portion of the preform.

This preform differs from the preform claimed in claim 1 in that the closed end of the preform does not comprise a cylindrical container base-forming flute portion having a greater wall thickness in relation to the wall thickness of the remaining container forming portion of the preform.

Appellant I argued that the ribs shown in document E4 may be defined as a cylindrical container base-forming flute portion. However, the Board cannot follow that argumentation because a cylindrical form of the ribs is not shown in document E4 and because that argumentation clearly goes beyond the content of claim 1 as granted and is based on an interpretation of that claim which is in clear contradiction to the description, cf. page 4, lines 44 and 45 of the patent in suit, where it is stated that the present invention replaces the rib enforced base by a continuous, cylindrical base.

Therefore, the subject-matter of claim 1 as granted is novel within the meaning of Article 54 EPC.

4. *Inventive step*

4.1 The Board shares the opinion of the appellants I and II

and the respondent that document E1 represents the closest prior art.

Document E1 discloses a preform for use in blow moulding a returnable transparent refillable container. The subject-matter of document E1 thus relates to the same object.

The technical problem underlying the present invention is to provide an improved preform suitable for making such a returnable transparent and refillable container. The criteria for a container being returnable and refillable are indicated on page 3, lines 35 to 44, of the patent in suit.

The question to be answered is whether it is obvious to combine the teaching of document E1 with the teachings of any of documents E2, E4, E10 or E15 and, if so, whether any of these combinations would result in a preform as defined in claim 1 of the patent in suit.

4.2 First of all, it has to be noted that document E1 discloses a preform for making a transparent container wherein the preform is made of PETP, a polyester. This is an important aspect of the preform with regard to the transparency of the container made therefrom; cf. document E1 page 1, first and second paragraph and document E11, especially page 4. Document E11 is from the same inventor and discloses a method for making such a transparent refillable container.

Documents E1 and E11 teach that plastic materials other than PETP are not suitable for making a transparent returnable and refillable container, because, on the

one hand, relatively high wall thicknesses are required to meet the stability requirements while, on the other hand, an increased wall thickness has a negative impact on the transparency of the container.

The person skilled in the art will take that into consideration when looking for a possibility to improve the preform and the container disclosed in document E1.

4.3 Document E15 shows on page 226, Figure b) a preform having a greater wall thickness in the bottom area than the remaining part of preform. Document E15 neither specifies the material which is used for making the preform shown on page 227 nor does the preform comprise a portion adjacent the neck finish tapering in wall thickness for forming a container shoulder portion.

According to a remark on page 227 of document E15, an injection moulded preform may be provided with a thickened wall in the bottom area, because more material is needed in the bottom area of the bottle.

However, in the following paragraph it is noted that this may create problems, because, when blowing the preform for forming the bottle, the preform shows in its thickened area a behaviour different from that in its other parts, and it may occur that in that area no deformation whatsoever takes place.

Furthermore, on page 243 of document E15, it is noted that in a stretch blow moulding process the wall thickness of the preform has to be uniform and that this process was, at that time, only used with polystyrene.

Consequently, in view of these negative aspects mentioned in document E15 in relation with the blowing of a preform having a non-uniform wall thickness, there is no motivation for the person skilled in the art to provide the preform known from document E1 with a cylindrical container base-forming flute portion having a different, in particular greater wall thickness relative to the remainder of the preform and to use such a preform for blow moulding, especially for stretch blow moulding a transparent, returnable and refillable container.

4.4 Document E10 discloses methods for making hollow, thin-walled plastic articles, especially of a material having the physical properties of polyethylene, wherein the wall thickness can be controlled as desired, either so as to have substantially uniform thickness of walls throughout regardless of the article shape, or so as to dispose the thickness variations in the final article according to a predetermined desired plan. Another object is the production of hollow, thin-walled plastic articles by an injection blow moulding method, but overcoming the usual stress-cracking tendencies, cf. column 2, line 67 to column 3 line 9.

Document E10 relates to preforms made of polyethylene for manufacturing thin-walled containers which probably are not suitable for making transparent, returnable and refillable containers.

It is therefore questionable whether the person skilled in the art would include this document in his considerations because he is looking for an improvement of a preform as defined in document E1, namely a

preform made of polyester suitable for making transparent, returnable and refillable containers.

As a matter of fact, document E10 does not include any suggestion that a cylindrical container base-forming flute portion having a greater wall thickness relative to the remaining part of the preform would make the preform more suitable for making a transparent, returnable and refillable container.

Moreover, the preform described in document E10 has a flat bottom area, and there is no indication that a preform having a greater wall thickness in the bottom area should be combined with a bottom having a generally hemispherical outer surface as claimed in claim 1 as granted, so much the more as document E1 also suggests preforms having a flat bottom area, cf. Figure 5.

As noted above, document E10 mentions as a further object to overcome the usual stress-cracking tendencies. This problem is also mentioned in the patent in suit with regard to a preform having longitudinal ribs in the bottom area, cf. document E4. According to the patent in suit the problem of stress cracking is reduced by replacing the ribs with said cylindrical container base-forming flute portion of greater wall thickness.

According to document E10, cf. especially column 4, line 71 to column 5, line 28, this problem is apparently solved by a selection of a specific material, namely linear polyethylene. Thus, there is also no suggestion that the stress cracking problem may

be solved by providing a preform made of polyester with a cylindrical container base-forming flute portion of greater wall thickness.

4.5 Document E4 discloses a preform made of polyester for blow moulding a bottle according to the preamble of claim 1 as granted, but comprising ribs in the bottom part to strengthen the latter. Document E4 points out that "this is highly advantageous and provides for a very stiff, high strength bottom with a minimum of added plastic material"; cf. column 4 lines 23 to 25.

With regard in particular to the requirement of a minimum of added plastic material, it was not obvious to replace the ribs with a continuous cylindrical flute portion of greater wall thickness which would require more material.

4.6 Document E2 describes a preform for blow moulding a dropper, such as an eyedropper. In order to provide a container having a good and precise dropping function, the side walls of the preform and the container made therefrom have a lower thickness in the middle part, cf. pages 4 and 5 of the English translation of document E2. When squeezing the container, only this thinner middle part will be deformed and the liquid will accurately be dispensed drop by drop.

In view of the object underlying the preform described in document E2, which is completely different from that of the patent in suit, and the shape of the preform, which is also different from that claimed in claim 1 of the patent in suit as granted, there is no pointer which would render obvious the combination of the

teachings of documents E1 and E2. Moreover, such a combination would not result in a preform as claimed in claim 1 as granted, because the upper part of the preform as disclosed in document E2, having a greater wall thickness, is essential for the intended purpose of the container made therefrom; therefore, such a modification would not be considered.

4.7 To sum up it follows that there is no motivation for a person skilled in the art to combine the teaching of document E1 with the teachings of any of the documents E2, E4, E10 or E15. In particular, none of these documents teaches that a preform as described in document E1 and the container formed therefrom may be improved by providing a preform comprising a cylindrical container base-forming flute portion having a greater wall thickness relative to the wall thickness of the elongated body for forming the container including the shoulder portion.

The other published documents cited in the course of the appeal and opposition procedure are of less relevance than the above-mentioned documents.

4.8 Therefore, the subject-matter of independent claim 1 as granted (main request) involves an inventive step within the meaning of Article 56 EPC.

Dependant claims 2 to 8 define further embodiments of the invention and as such also involve an inventive step within the meaning of Article 56 EPC.

5. Consequently, the reasons given by the appellants I and II do not prejudice the maintenance of the patent as

granted.

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar: The Chairman:

A. Townend A. Burkhart