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**Datasheet for the decision
of 30 September 2010**

Case Number: T 0033/08 - 3.2.07

Application Number: 99915901.5

Publication Number: 1080020

IPC: B65D 51/20

Language of the proceedings: EN

Title of invention:

Thin-walled plastics bottle, closure and bottling process

Patent Proprietor:

BAPCO CLOSURES RESEARCH LIMITED

Opponent:

AB Tetra Pak

Headword:

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Relevant legal provisions:

EPC Art. 54, 56, 84, 100(c)

Relevant legal provisions (EPC 1973):

-

Keyword:

"Clarity: yes"

"Added subject-matter: no"

"Novelty (claim 2): yes"

"Inventive step: no"

Decisions cited:

-

Catchword:

-



Case Number: T 0033/08 - 3.2.07

DECISION
of the Technical Board of Appeal 3.2.07
of 30 September 2010

Appellant: AB Tetra Pak
(Opponent) Ruben Rausings Gata
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Representative: Hatt, Anna Louise
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Respondent: BAPCO CLOSURES RESEARCH LIMITED
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Representative: Cookson, Barbara Elizabeth
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
18 October 2007 concerning maintenance of
European patent No. 1080020 in amended form.

Composition of the Board:

Chairman: H. Meinders
Members: P. O'Reilly
E. Dufrasne

Summary of Facts and Submissions

- I. Opposition was filed against European patent No. 1 080 020 as a whole based on Article 100(a) EPC (lack of novelty and lack of inventive step) and Article 100(c) EPC (added subject-matter).

The opposition division decided that the patent could be maintained in amended form in accordance with the auxiliary request.

- II. The appellant (opponent) filed an appeal against that decision.

- III. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed.

- IV. Claims 1 and 2 of the only request read as follows (amendments to claim 1 when compared to claim 1 **of the application as originally filed**, and to claim 2 when compared to claim 2 **of the patent as granted** are depicted in bold by the Board):

"1. A thin walled plastics bottle comprising an extrusion blow moulded body (2) **suitable for non-carbonated drinks**, and an injection moulded neck (16) and cap (50) assembly adapted to be fused together with the body (2) after the body has been filled with a fluid, **wherein a foil (70) is interposed between the body (2) and the neck (16) and cap (50) assembly to allow said fusion, and** wherein the cap (50) is fitted

to the neck (16) in order to provide a leak free resealable closure."

"2. A closure for use with a thin-walled plastics bottle as claimed in claim 1 or another type of container having a body (2), **wherein a foil is interposed between the body and neck and cap assembly and** the neck (16) and cap (50) assembly comprises a base fitted to the body (2), a removable annular flange (30) connected to a pull ring (42) and secured to the foil (70), the removable annular flange (30) being separated from the base (20) by a frangible region (32), and a plurality of depending teeth (36) each having a saw tooth profile inclined inwardly to a centre of the base (20) formed in the base (20) in or adjacent to the frangible region (32) such that on removal of the pull ring (42) the foil (70) is torn by the teeth (36)."

V. The documents cited in the present decision are the following:

D1: DE-A-4 340 553

D8: US-A-4 815 618

VI. The relevant arguments of the appellant may be summarised as follows:

(i) The amendment made to claim 2 during the opposition proceedings has introduced a lack of clarity contrary to Articles 84 and 101(3)(a) EPC.

The claim was already unclear as granted since it is directed to a closure which is merely "for use with" a bottle or container having a body. It then goes on to

define a neck and cap assembly having a base that is "fitted to the body". This is unclear because the body is not being claimed, only the closure. This existing lack of clarity is now compounded by the amendment which defines the position of the foil between the body and the neck and cap assembly although the body is not being claimed. The opposition division considered, contrary to the respondent, that the claim was directed to the combination of the closure and the body (see decision grounds point 3.1.1). These two possible interpretations of the claim result in a lack of clarity that has been compounded by the amendment.

(ii) The amendments that were made to claim 1 during the examination proceedings result in an objection Article 100(c) EPC.

The first amendment is to define the body to be "suitable for non-carbonated drinks". This is an intermediate generalisation since the expression "suitable for" is not limiting, i.e. even when suitable for non-carbonated drinks the body could additionally be suitable for carbonated drinks. Moreover, the bottle was originally only directed to use with milk and fruit juices. The reference on page 1, lines 13 to 14, in the application as originally filed to the invention not addressing the problems of packaging carbonated drinks cannot therefore provide a basis for this amendment because of its non-limiting nature.

The second amendment is the introduction of the feature that there is a foil interposed between the body and the neck and cap assembly to allow fusion thereof, which is also an intermediate generalisation. The

feature of the foil is consistently disclosed in combination with the annular flange, the frangible region and the set of depending teeth, as for example in claim 2. There is no disclosure in the application as originally filed of the foil without these additional features of the closure assembly.

(iii) The subject-matter of claim 2 lacks novelty over D1.

The embodiment of figures 1 to 3 of D1 discloses the features of claim 2. A frangible region is indicated by reference numeral 24 in figure 4 and this teaching would also apply to the embodiment of figures 1 to 3.

(iv) The subject-matter of claim 1 does not involve an inventive step.

The nearest prior art document is D8. The fact that the document does not explicitly state that the body is made by extrusion blow moulding is not a reason to exclude starting from the document. Also, it is not necessary that the document should refer to milk or drinks since these are not mentioned in the claim.

The distinguishing features of the claim over the disclosure of this document are that the neck and cap assembly is injection moulded and that the bottle body is extrusion blow moulded. This was also the opinion of the opposition division. The opposition division then went on to require that there should be an indication in the prior art that would "unambiguously lead" the skilled person to the selection of these two features to solve the problem of minimizing material and

transport costs, so as to result in a lack of inventive step.

The opposition division has set the wrong standard for inventive step in requiring not just "would" but "would unambiguously". There is nothing in the case law of the Boards of Appeal to support this higher requirement. In fact, the problem to be solved by the distinguishing features is to choose methods of manufacturing the neck and cap assembly and the body, since D8 does not disclose how these parts are made.

Injection moulding is the normal way of manufacturing a closure, as is acknowledged in the patent in suit (see column 1, lines 35 to 36).

Extrusion blow moulding is a conventional way of manufacturing thin-walled container bodies, as is acknowledged in the patent in suit (see column 1, lines 33 to 34 and column 2, lines 42 to 44).

Therefore, the distinguishing features are in fact the standard way of manufacturing the respective parts of the closure and container. Any alleged reduction in weight would be no more than a bonus effect achieved when employing obvious manufacturing measures.

(v) The subject-matter of claim 2 does not involve an inventive step.

The nearest prior art document is D8, in particular the embodiment of figures 1 to 4. The closure according to this claim is distinguished over the closure disclosed in this document by the provision of a plurality of

depending teeth each having a saw tooth profile inclined inwardly to a centre of the base of the closure and formed in that base adjacent the frangible region. The problem to be solved by the distinguishing feature is to facilitate tearing the foil.

The solution would be found by the skilled person in the embodiment of figures 1 to 4 of D1. A set of saw tooth profile depending teeth 17 are disclosed therein for facilitating tearing of the foil 1. The teeth are inclined inwardly as is visible in figure 2. The skilled person would employ the teaching of D1 to solve the problem of facilitating tearing which arises in the closure disclosed in the embodiment of figures 1 to 3 of D8 wherein no aid for this tearing is provided.

VII. The relevant arguments of the respondent may be summarised as follows:

(i) Claim 2 does not lack clarity.

The amendment merely restored a feature to the claim which had been earlier deleted during the examination proceedings. The claim had been considered by many attorneys involved in parallel proceedings relating to other national patent applications relating to the same invention, without there being any problems.

(ii) The amendments made to claim 1 do not fall under the objection made in accordance with Article 100(c) EPC.

It is clear from page 1, lines 10 to 14, of the application as originally filed that the invention

relates to non-carbonated drinks since it mentions explicitly that it does not address problems of carbonated drinks. With respect to the feature of the foil claims 2, 6 and 8 of the application as originally filed contained the same wording.

(iii) The subject-matter of claim 2 is novel over D1.

Lack of novelty of claim 2 was not argued before the opposition division and did not form part of its decision. In any case there is no frangible region disclosed in D1 that is separating a removable flange from the base.

(iv) The subject-matter of claim 1 involves an inventive step.

In the view of the respondent D8 is not a suitable starting point since it does not concern extrusion blow moulded containers. This was also the view of the opposition division. The container disclosed in the document is mainly for use with dry products whereas the invention is mainly concerned with milk and juices. The container disclosed in D8 must be strong whereas extrusion blow moulded containers are structurally weak.

(v) The subject-matter of claim 2 involves an inventive step.

The appellant has started from D8. As already explained with respect to claim 1 this is not considered to be a suitable starting point.

Also, in the device known from D8 the foil is welded to the body and the neck and cap assembly simultaneously, whereas according the patent in suit the foil is pre-welded to the neck and cap assembly.

Experiments have been carried out following the instructions of D8 but did not result in the foil being welded to the tear-off disc.

D1 does not belong to the same technical field as the invention since it relates to a foil bag so that there is no motivation to combine its teaching with that of D8.

The teeth disclosed in D1 are different to those according to the patent in suit. In D1 the teeth are circumferential and formed in the neck of the closure, not the base. They do not have a saw tooth profile and are not inclined inwardly towards a centre of the base. According to the embodiments of the invention the teeth are independent and have a tetrahedral shape.

Even if the skilled person considered applying the teaching of D1 to the closure known from D8 there would be practical problems with the co-location of the teeth and the frangible region which the skilled person could not solve in an obvious way.

Reasons for the Decision

1. *Clarity (Article 84 EPC)*

- 1.1 The appellant argued that the amendment made to claim 2 during the opposition proceedings offended Article 84 EPC.

The amendment introduced the wording "wherein a foil is interposed between the body and neck and cap assembly" into the claim. This wording had been present in the claim as originally filed, but was then deleted during the examination proceedings.

- 1.2 The claim is directed to a closure "for use with a thin-walled plastics bottle as claimed in claim 1 or another type of container having a body".

- 1.3 The respondent had considered during the opposition proceedings that this claim was directed to the closure *per se* and not to the combination of closure, i.e. the neck and cap assembly, and body (see point 1.2, first paragraph of the decision grounds).

The opposition division did not agree with the interpretation of the respondent and considered that the claim was directed to the combination of the body and closure.

The appellant has pointed out (see second full paragraph of page 3 of its submission dated 27 August 2010) that the issue of lack of clarity does not arise if the interpretation of the opposition division is adopted.

Also, the Board agrees that in this interpretation no new lack of clarity would be introduced by the amendment.

1.4 The basic argument of the appellant, however, is based on the interpretation by the respondent. The appellant argues that this feature is not clear because the limitation of the claim to the closure *per se* means that a feature cannot be defined in terms of the closure and the body, i.e. that the foil is interposed therebetween.

In claim 2 as granted it is already specified that the neck and cap assembly "comprises a base fitted to the body". This wording could be considered to be unclear since the claim in this interpretation is considered to be limited to the closure *per se*. The amendment further defines this existing link, i.e. by the interposition of the foil therebetween.

The amendment would not therefore introduce a new lack of clarity in this interpretation, since the basic alleged lack of clarity would have been contained in the claim as granted.

1.5 The Board would note that in reaching its conclusions it does not need to decide which interpretation of the claim is correct since the ground does not succeed in either interpretation.

1.6 The Board was not influenced by the argument of the respondent that the claim had been looked at by many attorneys without any problem being seen. The number of attorneys looking at a claim without noticing a problem is not considered to be a measure of its clarity.

2. *Added subject-matter (Article 100(c) EPC)*

- 2.1 This ground is directed against two amendments made to claim 1 during the examination proceedings.
- 2.2 The first amendment was to introduce the wording "suitable for non-carbonated drinks". In the opinion of the appellant this wording does not exclude suitability also for carbonated drinks, the bottle as originally discussed was only suitable for milk and fruit juice, therefore it is an unallowable intermediate generalisation of the wording of the application as originally filed.
 - 2.2.1 The respondent referred to page 1, lines 10 to 14, of the application as originally filed as providing a basis for the amendment.
 - 2.2.2 In that passage it is first indicated that problems of pouring milk or other pourable fluids such as juice are addressed. It is next indicated that the invention is "only concerned with fluids that are not required to be packed in a pressurised manner". Already this wording has the same effect as "suitable for non-carbonated drinks". The next sentence then indicates that "the problems of packaging carbonated drinks are not addressed". This last wording provides a further support for the reference to "non-carbonated drinks".
 - 2.2.3 The Board concludes therefore that this amendment did not add subject-matter.
- 2.3 The second amendment questioned by the appellant is the introduction of the wording "wherein a foil (70) is interposed between the body (2) and the neck (16) and

cap (50) assembly to allow said fusion". In the view of the appellant the foil has always been disclosed in combination with features of the annular flange, the frangible region as well as the depending teeth. The appellant thus considered the amendment to constitute an intermediate generalisation.

2.3.1 The amendment to claim 1 to which the appellant objects was also made to claim 7 during the examination proceedings and then this part of claim 7 was amended again during the opposition proceedings. The amendment to claim 7 during the examination proceedings was based on, but not identical to, claim 8 as originally filed, which was dependent upon claim 7. The amendment during the opposition proceedings brought the wording into line with the exact wording of claim 8 as originally filed.

In claim 8 of the application as originally filed the foil is mentioned without any reference to a flange, frangible region or depending teeth. Also, claim 7 as originally filed did not have any such references. Thus claim 8 as originally filed provides a basis for the amendment to claim 1 (during the examination proceedings) as well as to claim 7 (during the opposition proceedings).

The respondent made a reference to claim 8 in this context in its response to the appeal (see point 5 of the submission dated 23 June 2008).

2.3.2 There is thus an individual basis for the amendment in the application as originally filed.

2.4 The Board concludes that the ground of Article 100(c) EPC does not succeed against said amendments.

3. *Novelty*

3.1 The Board indicated both in the annex accompanying the summons to oral proceedings and during the oral proceedings that in view of the dispute regarding the admissibility of the declarations of Mr. Hill and the request for a remittal if the declarations were to be admitted it would treat the question of novelty (and inventive step) first of all without any reference to the declarations. The appellant indicated that without referring to the declaration it could not contest the novelty of the subject-matter of claim 1 since its attack was based on D8 as interpreted by Mr. Hill in his declaration.

3.2 With regard to claim 2 the appellant argued that D1 took away the novelty of its subject-matter.

3.3 The respondent argued that this ground should not be admitted into the appeal proceedings against this claim since in the opposition proceedings it had only been argued against claim 1.

The Board notes that the ground of lack of novelty was part of the opposition proceedings. Also, the document on which it is based is one which was included in the discussion of inventive step with respect to claim 2. Furthermore, the argument of lack of novelty of the subject-matter of claim 2 with respect to D1 was already presented with the appeal grounds.

The ground was thus in the proceedings as was the document, and the argumentation was presented at the start of the appeal proceedings so that the Board sees no reason not to admit the argumentation.

3.4 The ground is based on the disclosure of the embodiment of figures 1 to 3 of D1 which disclose teeth which are a feature of claim 2. With respect to the feature of a frangible region the appellant referred to pre-set break lines 24. These break lines, however, are a feature only of the embodiment of figures 4 to 7. The appellant argued that the feature would also apply to the embodiment of figures 1 to 3, however, without explaining why this should be so. The Board therefore cannot accept this argument. Furthermore as argued by the respondent the break lines are not separating the flange from the base as required by the claim, but rather are attaching the pull ring.

3.5 Therefore, the subject-matter of claim 2 is novel in the sense of Article 54 EPC.

4. *Inventive step - Claim 1*

4.1 For claim 1 the appellant argued starting from D8.

The respondent argued that D8 was not a suitable starting document as it was not concerned with an extrusion blow moulded container.

The respondent overlooks, however, that claim 1 concerns a container as such, not a method of manufacturing the container so that D8, which also relates to containers, cannot be considered to be in a

different technical field to that of the invention. The skilled person would also, as explained below, consider extrusion blow moulding of the container known from this document so that it can be considered a suitable starting point.

The appellant argued that the undisputed distinguishing features of claim 1 over the disclosure of D8 are that the body is extrusion blow moulded and that the neck and cap assembly is injection moulded. This was also the view of the opposition division (see point 3.1.1 of the decision grounds). The Board agrees with this view.

4.2 The opposition division considered that the problem to be solved is to propose a container which minimizes material and transport costs. The appellant argued that the problem to be solved was to choose a method of manufacturing the container disclosed in D8. D8 does not give any information on the manner of manufacturing the body of the container and its closure so that the skilled person wishing to manufacture this container and closure would indeed have first to decide how to manufacture them.

According to the respondent the problem to be solved is to reduce the weight. The Board has doubts that this is the problem since it has not been shown that the distinguishing features solve that problem and the lack of information in the claim (or in the description) regarding the manufacturing method means that there is not an identifiable weight that is to be reduced.

The Board considers that the problem to be solved in the first line is to choose an appropriate

manufacturing method for the body of the container and for the closure assembly, since that problem arises as soon as the skilled person wishes to use the teaching of D8. The Board can accept that in choosing an appropriate manufacturing method the skilled person would take account of the need to keep the weight to a minimum.

4.3 According to the patent in suit resealable caps are normally injection moulded, see paragraph [0006]. The provision of this feature accordingly cannot provide a basis for an inventive step.

4.4 It is also indicated in paragraphs [0006] to [0015] that thin-walled extrusion blow moulding of containers is conventional. The provision of this feature accordingly cannot provide a basis for an inventive step.

4.5 The opposition division acknowledged that the two distinguishing features were *per se* conventional but saw an inventive step in the simultaneous provision of these features to solve a weight problem. No proof has been provided that there is any synergistic effect in the simultaneous provision of these features. Already in paragraph [0006] of the patent it is indicated that blow moulded bottles with injection moulded closures are known. Further in paragraph [0011] it is indicated that in the relevant context blow moulding means extrusion blow moulding.

The opposition division in its decision set an unreasonable requirement with regard to inventive step since it required that despite the methods of

manufacture being conventional there should be an indication that "would unambiguously lead the skilled person". This requirement led the division to see an inventive step in the provision of two conventional features for which in fact no synergy had been shown.

The Board notes that not only are the claimed methods of manufacture conventional, they are also selected from a very limited number of feasible methods, all being available to the skilled person.

The Board concludes that the selection of each of the methods is conventional and hence is obvious for the skilled person and that even if there were an effect from the combination - which has not in fact been proven - it would still only be a bonus effect resulting from the application of obvious measures.

4.6 Therefore, the subject-matter of claim 1 does not involve an inventive step in the sense of Article 56 EPC.

5. *Inventive step - Claim 2*

5.1 For claim 2 the appellant argued also starting from D8. The respondent disagreed with D8 as a starting point for the same reasons as explained above (see point 4.1) with respect to claim 1. The Board considers D8 to be a suitable starting point for the same reasons it explained there.

The appellant argued that the distinguishing features of claim 1 over the disclosure of the embodiment of figures 1 to 4 of D8 are that there are a plurality of

depending teeth each having a saw tooth profile inclined inwardly to a centre of the base, formed in the base in or adjacent to the frangible region, such that on removal of the pull ring the foil is torn by the teeth. This was also the view of the opposition division (see point 3.2.1 of the decision grounds). The Board agrees with this view.

5.2 The problem to be solved according to the appellant is to facilitate tearing. This is similar to the problem defined by the opposition division, i.e. to ensure that the foil is torn cleanly. In the view of the Board both problems would be solved by the distinguishing features.

5.3 The appellant argued that the skilled person would find the solution to the problem in D1, in particular in the embodiment of figures 1 to 3.

The Board considers that in this embodiment the base 15 of the neck has a tearing edge 16 having a plurality of depending teeth 17 which have a saw tooth shape (visible in figure 2) and are inclined inwardly as is mentioned in column 5, lines 43 to 44 and is also visible in figure 2. In the device according to D1 the cap 6 is in contact with the base 15 via sealing surface 18 (see column 5, lines 55 to 58) which can be considered to have the same retaining function as the frangible contact according to the patent in suit.

It is clear from D1 that the function of the teeth 17 is to facilitate the tearing of the foil 1 as the cap 6 is opened.

The skilled person therefore would realise that the provision of teeth can facilitate the tearing of a foil which provides an initial seal for a closure assembly.

The Board further notes that it has long been generally known to provide saw tooth shaped teeth to facilitate the tearing of foil and this is indeed normally provided on the packages for aluminium and plastics foil rolls for household use.

The Board agrees that the skilled person would find in D1 the solution to the problem and in applying it would arrive at the subject-matter of claim 2 in an obvious manner.

- 5.4 The respondent argued (see letter dated 19 August 2010 page 5) that in the device known from D8 the welding of the foil to disc 62, section 32 and the lip of neck 14 takes place in a single operation. This appears to be correct.

Before the welding the foil is held in place between inner bead 60 and surface 58 (see column 3, lines 8 to 11), but according to the claim the foil is pre-welded to the neck and cap assembly and thus only a second weld to the bottle is needed. However, the claim makes no reference to any (pre-)welding. It only makes reference to an interposition of the foil between the body and the neck and cap assembly. A form of retention in the manner set out in D8 is therefore clearly within the scope of the claim.

The respondent further suggested that it has carried out experiments following the instructions of D8 and

that this did not result in welding of the foil to the disc (see letter dated 19 August 2010 pages 5 to 6). No test results were filed so that this must remain an unsubstantiated allegation.

The respondent argued that D1 relates to a package comprising only a foil so that it belongs to a different technical field and hence there is no motivation for the skilled person to combine its teaching with that of D8. The argument of the respondent regarding the type of package and differing technical field may be correct. However, the skilled person can be expected to consider neighbouring technical fields where a solution to the problem could be found. A solution to a problem with tearing a foil in a bottle closure could reasonably be expected to be found in the field of foil packages which clearly have to be torn open.

The respondent also argued that the teeth disclosed in D1 are different, suggesting that according to the embodiment of the invention discrete teeth are used (see letter dated 19 August 2010 page 6) and that these are tetrahedral shaped (in the oral proceedings before the Board). The Board notes, however, that neither of these alleged differences is set out in claim 2 so that they are not relevant.

As pointed out by the respondent (see letter dated 19 August 2010 page 7) it may be necessary to make adjustments to the teaching of D1 when applying it to the device known from D8. Such adjustments, however, would belong to the ordinary skill of the skilled

person. It has not been shown that there are any special difficulties to make such an adjustment.

5.5 Therefore, also the subject-matter of claim 2 does not involve an inventive step in the sense of Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders