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**D E C I S I O N**  
of 11 July 2000

**Case Number:** T 0321/98 - 3.2.1

**Application Number:** 90311091.4

**Publication Number:** 0425124

**IPC:** B65D 1/40

**Language of the proceedings:** EN

**Title of invention:**  
Containers

**Patentee:**  
CarnaudMetalbox plc

**Opponent:**  
OI: Thomassen & Drijver-Verblifa N.V.  
OII: American National Can Company

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 54(2)

**Keyword:**  
"Lack of novelty (yes)"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 0321/98 - 3.2.1

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.1  
of 11 July 2000

**Appellant:** Thomassen & Drijver-Verblifa N.V.  
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**Respondent:** CarnaudMetalbox plc  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 27 January 1998  
rejecting the opposition filed against European  
patent No. 0 425 124 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** F. Gumbel

**Members:** S. Crane  
J. Willems

## Summary of Facts and Submissions

- I. European patent No. 0 425 124 was granted on 3 August 1994 on the basis of European patent application No. 90 311 091.4.

Claim 1 of the granted patent reads as follows:

"A metal can body (1,23,41,51) for use as a sealed food or beverage container formed of sheet metal and comprising an end wall (2,22) and a tubular side wall (3,23) upstanding from the periphery of the end wall wherein the tubular side wall includes a plurality of adjacent outwardly concave longitudinal panels (6;26;63) each of which extends parallel to the central axis of the side wall, subtends at the central axis an angle between 8° and 30° and is joined to adjacent panels at a convex rib (12;27;64), the panels at opposite ends thereof blending into respective cylindrical portions (5,7;25,30;55,57) each of axial length less than 25% of the height of the side wall characterised in that the perimeter length in the region of the can which contains the ribs (5,7;25,30;55,57) and recessed panels (6;26;63) is approximately equal to the perimeter length of the cylindrical portions (5,7;25,30;55,57) of the can body into which the panels blend, the region containing the panels being able to flex inwardly or outwardly in response to a pressure differential across the side wall, such that substantial internal volume changes can be accommodated."

Dependent claims 2 to 12 relate to preferred embodiments of the can body according to claim 1.

II. The granted patent was opposed by the present appellants (opponents 0I and 0II) on the grounds that its subject-matter lacked novelty and/or inventive step (Article 100(a) EPC).

Opponents 0II relied in particular on the prior public use of a fluted metal can body produced and sold by them to the brewing company Anheuser-Busch in 1983 and thereafter produced by Anheuser-Busch themselves in 1984 to 1986. The can bodies involved were commercially filled with beer and sold on the open market. This can body will henceforth be designated the "Michelob container". Amongst the evidence filed in support of their allegation that the Michelob container fully anticipated the subject-matter of claim 1 were an analysis of the Michelob container (Exhibit A), an affidavit of Mr Neil Chernikoff Exhibit B and the document US-A-4 578 976 (D12) mentioned therein, and two affidavits of Mr Brian Fogg dated 3 June 1996 and 4 September 1997 respectively.

In the opposition proceedings the present respondents (proprietors of the patent) relied in particular on an affidavit of the inventor Mr Christopher Ramsey in support of their contention that the Michelob container, the public prior use of which they concede, did not exhibit all of the features of granted claim 1.

III. With its decision posted on 27 January 1998 the Opposition Division rejected the oppositions and maintained the patent in unamended form.

IV. Appeals against that decision were filed by opponents 0I and 0II on 27 March 1998 and 3 April 1998 respectively. Their respective statements of grounds

were both filed on 5 June 1998. The appellants requested that the decision under appeal be set aside and the patent revoked in its entirety.

The counterstatement of the respondents was received on 15 October 1998. They requested that the appeal be dismissed.

V. On 9 June 2000 opponents 0II submitted *inter alia* an affidavit of Mr Fred Masek and a third affidavit of Mr Brian Fogg. On the same day the respondents filed further submissions, including an annotated copy of part of Exhibit A8 to Mr Ramsey's affidavit.

VI. Oral proceedings before the Board were held on 11 July 2000.

Opponents 0I, who had been duly summoned, did not attend. In accordance with Rule 71(2) EPC the oral proceedings were continued without them.

VII. The arguments of opponents 0II in support of their allegation of lack of novelty can be summarised as follows:

Given that there could be no genuine doubt that the prior used Michelob container fulfilled the conditions set out in the characterising clause of claim 1, the question of novelty resolved to whether the panels of this container exhibited two features specified in the preamble of the claim, namely that they are outwardly concave and that they blend at opposite ends into respective cylindrical portions each of axial length less than 25% of the container side wall. The measurements performed by Mr Fogg, as reported in his

affidavits, clearly confirmed that this was the case. Moreover, his findings were fully consistent both with the contents of Exhibits A and B and the method used for making the Michelob container, as disclosed in document D12.

It had to be noted that claim 1 did not require all of the panels to be concave, only some adjacent ones of them. Nor did it impose a lower limit on either the degree of concavity of the panels, or on the length of the cylindrical portions at the top and bottom of the side wall of the can body. The length of the cylindrical portion at the bottom of the side wall of the Michelob container as measured by Mr Fogg was admittedly relatively short, but this did not prevent it performing the function ascribed to it in the patent specification, namely enabling accurate location in subsequent processing machines.

VIII. In reply the respondents argued substantially as follows:

Having regard to the physical state of the Michelob container which had been the subject of the measurements performed by Mr Fogg there was no guarantee that what he reported in his affidavits actually corresponded to the form of the container when it was first manufactured. Furthermore, even on the assumption that the prior used container was indeed as measured by Mr Fogg and that his measurements were correct, then the degree of concavity of the panels established by him was so minimal that it would not have been ascertainable by the users of the container. Accordingly the prior used Michelob container did not make the feature of outwardly concave panels available

to the public in the sense of Article 54(2) EPC. The same applied to cylindrical portion of side wall allegedly found by Mr Fogg at the bottom end of the container and measured by him as being all of 0.4 mm in length.

In any case, Mr Fogg's evidence to the effect that each of the panels was concave was contradicted both by the evidence of Mr Ramsey that the panels were a mixture of concave, flat and convex and by the original container specification attached to Exhibit B, in which the panels are referred to as "flats". Furthermore, according to Exhibit B the Michelob container was produced on apparatus as disclosed in document D12 where there was no suggestion that the panels formed in the container side wall are concave; instead, they are described in column 5, lines 56 to 63, as being "generally chordal".

Granted claim 1 was intended to be understood as requiring that all of the panels in the side wall were concave. If necessary this could be specifically stated in the claim.

### **Reasons for the Decision**

1. The appeals comply with the formal requirements of Articles 106 to 108 and Rules 1(1) and 64 EPC. They are therefore admissible.
  
2. It is not in dispute that the Michelob container which is the subject of Exhibit A and the affidavits of Messrs Fogg and Ramsey is a representative example of the fluted container made available to the public by

use in the years 1984 to 1986, before the priority date of the patent (24 October 1989). The same container was presented to the Board for visual inspection at the oral proceedings, it has been cut radially into two halves which have been filled with a setting resin to support the side wall, the latter exhibiting several smaller and a few larger dents.

It is further not in dispute that the prior used Michelob container comprises a metal can body formed of sheet metal and comprising an end wall and a tubular side wall upstanding from the periphery of the end wall. The side wall is divided into 24 adjacent longitudinal panels joined by convex ribs. Each panel accordingly subtends an angle of 15° at the central axis of the container.

In order to determine whether the Michelob container corresponds to the preamble of granted claim 1 it is therefore necessary to investigate whether the panels are outwardly concave and blend at opposite ends into respective cylindrical portions each of axial length less than 25% of the height of the side wall. Here the Board is confronted with two conflicting sets of evidence. Mr Fogg, the technical expert engaged by opponents OII, comes to the conclusion that all of the panels of the representative Michelob container are outwardly concave and that there is a short cylindrical portion of side wall at both ends of the panels. Mr Ramsey, the inventor, is however of the opinion that the panels of the same container are a mixture of outwardly concave, flat and outwardly convex and that they extend fully into the regions of reducing diameter at the top and bottom of the container, there being thus no cylindrical portions of the side wall

remaining.

In this situation the Board must decide, taking into account all of the relevant circumstances, which of the sets of evidence is more persuasive. In points 6, 7 and 10 to 12 of his first affidavit (3 June 1996) Mr Fogg describes the apparatus and methodology used to determine the contour profiles of the panels. Exhibits A3 to A6 show profile traces at X and Z magnifications of x20 and x100 respectively (the X direction is across the width of the panel, the Z direction perpendicular thereto). 23 of the 24 profile traces show that the panels are outwardly concave. The one trace showing convexity (for panel 10) is stated to be due to a nearly dent in the adjacent panel 9. When remeasured at another position panel 10 also was concave. The degree of concavity varied from 0.04 mm to 0.11 mm, with an average of 0.075 mm. Tests carried out with different equipment on randomly chosen panels produced similar results (Exhibits A9 to A11). According to point 17 of his affidavit Mr Ramsey also made contour traces for each of the panels, which are recorded in Exhibits A7 and A8. These traces are reproduced at 20x magnification both in the X and the Y direction. According to point 18 of the affidavit Mr Ramsey states that he observed the panels to be approximately flat with some panels slightly concave and others slightly convex.

In the opinion of the Board the apparatus and methodology reported in the first Fogg affidavit, especially in view of the differential magnification in the X and Z directions, is inherently more capable of leading to safe conclusions about the form of the panels than that adopted by Mr Ramsey. Certainly, as

pointed out by the respondent in their letter of 9 June 2000, some of the profile traces recorded in Exhibits A7 and A8 of the Ramsey affidavit leave no room for concluding otherwise than that the panel involved was convex at the point measured. An explanation for this can however lie in the possibility that Mr Ramsey did not avoid measuring the panels in regions adequately spaced from dents in adjacent panels, see above.

The conclusion that each of the panels is outwardly concave is also the one which is most consistent with the apparatus described in document D12 for forming the panels in the sidewall of the can body, there being no dispute that it was this apparatus which was used for producing the Michelob container. As described there a rotatable mandrel having a plurality of longitudinal projections equidistantly spaced around its circumference is inserted into the can body; a rotatable resilient forming member is pressed against the outside of the can body and the member and mandrel are driven at the same circumferential speed to produce a plurality of longitudinally extending outwardly convex ribs in the can body with generally chordal panels extending therebetween.

In the view of the Board this apparatus must inevitably, as argued by opponents OII, result in an outwardly concave shape of the panels as they are being formed; the panels may recover somewhat after the deforming force is removed, but not to such an extent that they will become convex. The reference to the panels being "generally chordal" certainly does not exclude the possibility of them exhibiting a degree of concavity.

The Board cannot accept the argument of the respondents that the reference in Exhibit B to "flats" in the context of the panels should be understood as meaning that the panels of the Michelob container as produced were necessarily strictly planar, since the general engineering term "flats" can readily be extended to surfaces having a small degree of concavity or convexity. The use of the term "flats" is in any case more than balanced by the use of the term "flutes" in the same technical drawing; according to the Shorter Oxford English Dictionary the relevant meaning of "flute" is "A channel or furrow in a pillar, resembling the half of a flute split lengthwise, with the concave side outwards. Hence any similar groove or channel".

Another argument of the respondents which the Board finds itself unable to accept is that there is no guarantee that the form of the panels of the representative Michelob container as established by Mr Fogg reliably corresponds to the form the panels had at the time the relevant containers were produced and prior used. It cannot be denied that the representative Michelob container is no longer in pristine condition; nevertheless it seems wholly implausible that the essentially random distribution of dents in its surface could lead to a situation where 23 panels out of 24 measured on one circumferential line were concave, if as produced they had started off convex or flat.

The determination of the longitudinal profiles of the panels of the Michelob container, particularly with respect to their end regions where they blend into the remainder of the side wall, is described in points 14 and 15 of the first Fogg affidavit and amplified in his third affidavit. The relevant profile traces are to be

found in Exhibits A12 and A13 for the top and bottom sections of the side wall respectively. On the basis of these Mr Fogg concludes that there are respective cylindrical portions of length between 1.25 and 1.75 mm at the top end of the side wall and 0.4 mm at the bottom end. Mr Ramsey states in points 11 and 12 of his affidavit that there are no cylindrical portions to be seen as either end of the can body. This statement is based evidently solely on visual examination. Again, the Board finds the evidence of Mr Fogg to be more persuasive. It is clear from the traces he has reproduced that there are indeed longitudinally extending portions of the sidewall, albeit short, at both its top and bottom ends which lie between the respective ends of the panels and the neck and bottom of the container and are of constant diameter, i.e. cylindrical. The length of these portions is such that they could readily be overlooked on purely visual examination, there is no doubt however that they exist.

The preamble of claim 1 imposes no numerical lower limit on the length of the cylindrical portions. To the extent that the purpose stated in the patent specification for having the cylindrical portions, i.e. to allow accurate can location in subsequent processing machines, can be seen as requiring that the cylindrical portions must at least have a length to enable this effect to be achieved, then the Board can see no reason why this should not be the case with the cylindrical portions as identified by Mr Fogg in the Michelob container.

Accordingly, the Board comes to the conclusion that the publicly prior used Michelob container exhibited all the features of the preamble of granted claim 1. The

argument of the respondents that the small degree of concavity of the panels and the short lengths of the cylindrical portions would not have made these features visible to the normal end user of the container and thus that these features were not made available to the public is in no way convincing since it starts from the wrong premises. The features involved were readily established by Mr Fogg using standard equipment and procedures. There has been no suggestion that equivalent equipment had not been available before the priority date of the patent. Furthermore, the calculations included in the statement of grounds of appeal of opponents OII, based on information contained in the patent specification, clearly show that the claimed invention embraces degrees of concavity corresponding to those established by Mr Fogg for the Michelob container.

The respondents have not sought to justify novelty with respect to the Michelob container with the features specified in the characterising clause of granted claim 1. Exhibit A gives the perimeter length of the side wall region with ribs and panels as 8.160 inches and that of the circumferential portions as 8.080 inches, a difference of 1%. In point 16 of the first Fogg affidavit, the difference is given as 0.5%. Clearly the two perimeter lengths are thus approximately equal as required by the first feature of the characterising clause. As for the second feature of the characterising clause there can be no doubt, having regard to the thickness of the panelled region of the side wall of the can body, i.e. 0.0052 inches, that this region will be able to flex inwardly or outwardly in response to a pressure differential across the side wall, such that substantial internal volume changes can

be accommodated.

Having regard to the above considerations the Board therefore comes to the conclusion that the subject-matter of granted claim 1 lacks novelty with respect to the state of the art represented by the prior used Michelob container (Article 54(2) EPC). In this context it should be noted that the Board has interpreted claim 1 in the limited sense urged by the respondents, namely that all of the panels in the side wall are concave. It would therefore have been superfluous to have required the respondents to submit a formal auxiliary request explicitly restricted in this respect.

## **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:

S. Fabiani

F. Gumbel