BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Publication in the Official Journal ~~Yes~~ / No

File Number: T 621/89 - 3.2.1

Application No.: 82 901 215.2

Publication No.: 0 075 582

Title of invention: Plastic closure member with flowed-in liner

Classification: B65D 53/00

D E C I S I O N
of 8 April 1991

Proprietor of the patent: Continental White Cap, Inc.

Opponent: Alcoa Deutschland GmbH

Headword:

EPC Article 56

Keyword: "Inventive step (no)"

Headnote

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number : T 621/89 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 8 April 1991

Appellant : (Proprietor of the patent)	Continental White Cap, Inc. 2215 Sanders Road Northbrook Illinois 60062 (US)
Representative :	Madgwick, Paul Roland et al Ladas & Parry Isartorplatz 5 D-8000 Munich (DE)
Respondent : (Opponent)	Alcoa Deutschland GmbH Verpackungswerke Mainzer Straße 185 D-6520 Worms/Thein (DE)
Representative :	Gleiss, Alf-Olav, Dipl.-Ing. Silberburg Straße 187 D-7000 Stuttgart 1 (DE)
Decision under appeal :	Decision of the Opposition Division of the European Patent Office dated 15 June 1989 and posted on 20 July 1989 revoking European patent No. 075 582 pursuant to Article 102(1) EPC.

Composition of the Board :

Chairman : F. Gumbel
Members : S. Crane
F. Benussi

Summary of Facts and Submissions

I. European patent No. 0 075 582 was granted with effect from 4 March 1987 on the basis of European patent application No. 82 901 215.2 filed on 8 March 1982, priority being claimed from United States application No. 242 196 dated 10 March 1981.

II. The only claim of the patent reads as follows:

"A closure assembly (20) comprising a plastics closure member (22) and a liner (24) seated in said closure member, said closure member having an internal annular channel (36), said liner (24) being seated in said channel, and having a mechanical interlock with the base (38) of said channel (36), said mechanical interlock consisting of a plurality of individual depressions (58) in the base (38) arranged in a plurality of circumferentially spaced radiating rows with a complementary formation on the liner (24), characterized in that the depressions are circularly cross-sectioned holes (58) presenting a cross-sectional area which is a minority of the surface area of said channel (36).

III. The patent was opposed by the Respondents on the ground that its subject-matter lacked inventive step. In the course of the opposition proceedings the following state of the art documents were, inter alia, referred to by the Respondents:

(D5) AU-B-47374/68
(D6) BE-A-753 094.

IV. By its decision taken at the oral proceedings on 15 June 1989 and issued in written form on 20 July 1989, the Opposition Division revoked the patent on the ground that its subject-matter lacked inventive step having regard to the documents D5 and D6.

V. The Appellants (Proprietors of the patent) appealed against this decision on 12 September 1989 and paid the appeal fee on the same day. The Statement of Grounds of Appeal was received on 16 November 1989.

VI. The Appellants request that the decision of the Opposition Division be set aside and that the patent be maintained in the granted form.

The arguments presented by the Appellants in support of their request can be summarised as follows:

The technical problem to be solved in relation to the closest state of the art as shown in document D6 is to minimise the amount of flow-in liner material necessary to form the liner while at the same time preserving the mechanical interlock between the liner and the closure member. Nothing in the state of the art could suggest to the skilled man to replace the array of arcuate grooves in the base of the channel of the closure member as shown in document D6 with circumferentially spaced radiating rows of circularly cross-sectioned holes as proposed by the patent. That such holes would provide an improved mechanical interlock in relation to the amount of material used was unpredictable.

VII. The Respondents contest the arguments presented by the Appellants and request that the appeal be dismissed. As an auxiliary measure they also request oral proceedings.

VIII. In a communication dated 29 August 1990 pursuant to Article 110(2) EPC the Board expressed its provisional opinion, in essential agreement with the reasoning of the impugned decision, that the subject-matter of the claim did not involve an inventive step. In particular, in the view of the Board, it had not been demonstrated that the choice of circularly cross-sectioned holes to provide the interlocking means for the flow-in liner had any technical effect.

A time limit of two months was set for reply to this communication. In response to a request of the Appellants dated 29 October 1990 a two month extension of this time limit was granted. Thereafter, no further reply of the Appellants was received.

Reasons for the Decision

1. The appeal complies with the requirements of Articles 106 to 108 and Rules 1(1) and 64 EPC; it is, therefore, admissible.

2. **State of the art**

2.1 The closest state of the art is shown in document D6, which is already referred to in the introductory description of the patent.

This document relates to the problem of providing a mechanical interlock between a flowed-in annular liner 3 and a closure member, the liner being seated in an annular channel 2 formed in the closure member. As shown in Figure 3, the interlock is provided by a plurality of annular grooves 6 formed in the base of the channel, these grooves being interrupted at regular intervals by radial

bars 7 to give a plurality of individual short arc-shaped depressions arranged in a plurality of circumferentially spaced radiating rows. It can be seen from this Figure 3, which is an arcuate representation of the base of the channel, that the depressions occupy somewhat less than half, in other words a minority, of the surface area of the channel.

2.2 Document D5 also relates to the problem of providing a mechanical interlock between a flowed-in liner and the annular channel of a closure member. In the preferred embodiment described the interlock is provided by a combination of undercuts at the edges of the channel and upstanding radial bars on the base of the channel. These bars effectively define a plurality of short arc-shaped depressions each of which extends over the full width of the channel. It is stated in paragraph 4, page 6 that instead of bars any other form of roughening such as hatching, dimples or some raised design could be provided in the channel.

3. **Novelty**

None of the state of the art documents cited in the proceedings disclose the provision in an annular channel of a closure member of a plurality of circumferentially spaced radiating rows of circularly cross-sectioned holes in order to provide a mechanical interlock between a flow-in liner and the closure member. Since the novelty of the subject-matter of Claim 1 is not in dispute, further explanations on this point are superfluous.

4. **Inventive step**

4.1 As indicated in point 2.1 above, the feature in the characterising clause of the granted claim that the

depressions in the base of the channel present a cross-sectional area which is a minority of the surface area of the channel is also known from document D6. The subject-matter of the claim is, therefore, distinguished from the state of the art disclosed in document D6 solely by the fact that the depressions are circularly cross-sectioned holes. In this respect it is to be noted that there is no suggestion in the patent specification that the term "hole" is intended to convey the meaning of deeper depressions than those found in the state of the art. In the context of the patent the expressions "hole" and "depression" are co-terminous.

The problem to be solved as stated in the patent specification is to simplify the manufacture of a closure such as shown in document D6. In this respect, the Board agrees with the finding of the Opposition Division in point 13 of the impugned decision that no reasons can be seen for the manufacture of closures according to the patent being simpler than that of closures according to document D6. This view has not been contested by the Appellants in their Statement of Grounds of Appeal. Instead the problem is now to be seen in minimising the amount of flowed-in liner while, at the same time, preserving the mechanical interlock between the liner and the closure member.

As indicated above, however, it is apparent that in a closure assembly according to the claim of the contested patent the amount of flow-in liner is not actually less than in that disclosed in document D6 since the requirement that the depressions or holes make up only a minority of the surface area of the channel also obtains there. In other words, the Board is not satisfied that this newly formulated problem has actually been solved. Certainly the Appellants have offered no evidence that the

interlocking forces per unit area of circularly cross-sectioned holes are greater than those provided by the short arc-shaped depressions of document D6. Moreover, the specification of the patent is wholly silent with regard to any special properties associated with such circularly cross-sectioned holes in this respect.

Accordingly, since the replacement of the arc-shaped depressions by circularly cross-sectioned holes has not been demonstrated to have any technical effect, the only problem to be solved is to be seen in the finding of an alternative shape for the depressions of document D6.

In document D5 it is stated that in the alternative to providing the short arc-shaped depressions in the base of the channel as shown in the particular embodiment disclosed there, "dimples" can be provided instead.

In normal technical terminology the term "dimple" conveys the meaning of a generally circularly cross-sectioned depression or hole. Document D5, therefore, teaches that circularly cross-sectioned depressions or holes are a suitable alternative for short arc-shaped depressions. It must accordingly be seen as obvious for the skilled man to replace the arc-shaped depressions of document D6 by the circularly cross-sectioned holes proposed in document D5 to arrive at a closure assembly as defined in the granted claim.

The Board, therefore, comes to the conclusion that the subject-matter of the single claim of the contested patent does not involve an inventive step and accordingly does not constitute a patentable invention (Articles 52(1) and 56 EPC).

5. Oral proceedings according to the auxiliary request of the Respondents were not necessary as their main request has been fully met.

Order

For the above reasons, it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

S. Fabiani F. Gumbel