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D E C I S I O N
of 29 February 2000

Case Number: T 0029/97 - 3.2.5

Application Number: 89911655.2

Publication Number: 0462969

IPC: B29C 45/17

Language of the proceedings: EN

Title of invention:

Method for system for making a hollow-shaped body from molten resin by injection molding

Patentee:

Melea Limited

Opponent:

Battenfeld GmbH
Cinpres Limited

Headword:

-

Relevant legal provisions:

EPC Art. 54, 123(2)

Keyword:

"Amendments (not allowable: main request, first, second and fourth auxiliary request)"
"Novelty (no: third auxiliary request)"

Decisions cited:

G 0009/92, G 0004/93

Catchword:

-



Case Number: T 0029/97 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 29 February 2000

Other party:
(Opponent 01)

Battenfeld GmbH
Scherl 10
D-58540 Meinerzhagen (DE)

Appellant:
(Opponent 02)

Cinpres Limited
Apollo House
Lichfield Road Industrial Estate
Tamworth
Staffordshire B79 7TA (GB)

Representative:

Bayliss, Geoffrey Cyril
BOULT WADE TENNANT
27 Furnival Street
London EC4A 1PQ (GB)

Respondent:
(Proprietor of the patent)

Melea Limited
Suites 2 & 3, Main Street
Gibraltar Heights
Gibraltar (GI)

Representative:

Rehders, Jochen
Velten Franz Mayer & Jakoby
Kaistrasse 20
D-40221 Düsseldorf (DE)

Decision under appeal:

Interlocutory decision of the Opposition Division
of the European Patent Office posted 12 November
1996 concerning maintenance of European patent
No. 0 462 969 in amended form.

Composition of the Board:

Chairman: A. Burkhart
Members: C. G. F. Biggio
W. Moser

Summary of Facts and Submissions

- I. The appellant (opponent O2) lodged an appeal against the decision of the Opposition Division dated 12 November 1996 by which the European patent No. 462 969 had been maintained in an amended form.

Oppositions were filed against the patent as a whole and based on Article 100(a) EPC, in conjunction with Articles 54 and 56 EPC (lack of novelty and inventive step).

The Opposition Division held that the grounds for opposition mentioned in Article 100(a)EPC did not prejudice the maintenance of the patent as amended, having regard to the following prior art documents:

E1: US-A-4 498 860, and

E2: EP-A-0 309 257.

- II. Oral proceedings before the Board of Appeal were held on 29 February 2000.

The appellant and the other party (opponent O1) requested that the decision under appeal be set aside and that the European patent be revoked.

The respondent (patentee) requested that the decision under appeal be set aside and that the patent be maintained on the basis of the following documents submitted during the oral proceedings:

(a) Claims 1 and 4 as main request; or

(b) Claims 1 to 4 as first auxiliary request; or

- (c) Claims 1 and 4 as second auxiliary request; or
- (d) Claims 1 to 4 as third auxiliary request; or
- (e) Claims 1 to 4 as fourth auxiliary request.

III. (a) Claim 1 of the main request reads as follows:

"1. A method for making a hollow-shaped body from molten resin in an injection molding system (10) including a mold (28) having an injection aperture and an injection nozzle (14), the method comprising the steps of:

injecting an amount of molten resin sufficient for the preparation of said hollow-shaped body from said injection nozzle (14) through said injection aperture and along a resin flow path which extends from an injection sprue bushing (36) to a mold cavity;

injecting a fluid under pressure into said resin flow path to distribute the molten resin over the interior surface of said mold cavity (28) and thereby forming a fluid aperture (80) in said resin flow path and in communication with hollow spaces formed within the interior of said hollow-shaped body;

relieving the fluid pressure within the hollow shaped body by moving a cutting member (72) of which a wall element (76) partially defines said resin flow path, relative to said resin flow path, from a molding position to a venting or relieving position, thereby cutting a hole through said resin in said resin flow path and removing a cut sucker adjacent to said wall element (76) such that after movement of said cutting member (72) said hole communicates with said fluid aperture (80), aligning a fluid pressure relieving conduit (86) at least partially defined by said cutting member with said hole such that said fluid pressure relieving conduit (86) communicates with said fluid aperture (80) through said resin flow path and a vent

hole (88) allowing said fluid within said hollow spaces to be exhausted through said fluid pressure relieving conduit (86) and said vent hole (88); and opening the mold to remove the hollow shaped body".

(b) Claim 1 of the first auxiliary request reads as follows:

"1. A method for making a hollow-shaped body from molten resin in an injection molding system (10) including a mold (28) having an injection aperture and an injection nozzle (14), the method comprising the steps of:

injecting an amount of molten resin sufficient for the preparation of said hollow-shaped body from said injection nozzle (14) through said injection aperture and along a resin flow path which extends from an injection sprue bushing (36) to a mold cavity;

injecting a fluid under pressure into said resin flow path to distribute the molten resin over the interior surface of said mold cavity (28) and thereby forming a fluid aperture (80,80',80",80''') in said resin flow path and in communication with hollow spaces formed within the interior of said hollow-shaped body;

relieving the fluid pressure within the hollow-shaped body by moving a cutting member (72,72',72",72''') of which a wall element (76,76',76",76''') partially defines said resin flow path, relative to said resin flow path, from a molding position to a venting or relieving position, the cutting member (72,72',72",72''') applying a cutting force tangential to the cooled resin of the resin flow path whereby the cutting force is a shear force thereby cutting a hole through said resin in said resin flow path and removing a cut sucker adjacent to said wall element (76,76',76",76''') tangentially away from said resin flow path such that after movement of said cutting member (72,72',72",72''') said hole communicates with said fluid aperture

(80,80',80",80'''), aligning a fluid pressure relieving conduit (86,86',86",86''') at least partially defined by said cutting member with said hole such that said fluid pressure relieving conduit (86,86',86",86''') communicates with said fluid aperture (80,80',80",80''') through said resin flow path and a vent hole (88,88',88") within said cutting member (72,72',72",72''') or within a mold part (95) allowing said fluid within said hollow spaces to be exhausted through said fluid pressure relieving conduit (86,86',86",86''') and said vent hole (88,88',88") within said cutting member (72,72',72",72''') or within said mold part (95), and

opening the mold to remove the hollow-shaped body".

(c) Claim 1 of the second auxiliary request reads as follows:

"1. A method for making a hollow-shaped body from molten resin in an injection molding system (10) including a mold (28) having an injection aperture and an injection nozzle (14), the method comprising the steps of:

injecting an amount of molten resin sufficient for the preparation of said hollow-shaped body from said injection nozzle (14) through said injection aperture and along a resin flow path which extends from an injection sprue bushing (36) to a mold cavity;

injecting a fluid under pressure into said resin flow path to distribute the molten resin over the interior surface of said mold cavity (28) and thereby forming a fluid aperture (80) in said resin flow path and in communication with hollow spaces formed within the interior of said hollow-shaped body;

cooling the hollow-shaped body to a temperature beneath the softening point of the resin;

relieving the fluid pressure within the hollow-shaped body by moving a cutting member (72) of which a **pocket (76) or an end surface** partially defines said resin flow path, relative to said resin flow path, from a molding position to a venting or relieving position, thereby cutting a hole through said **cooled** resin in said resin flow path and removing a cut sucker adjacent to said **pocket (76) or end surface** such that after movement of said cutting member (72) said hole communicates with said fluid aperture (80), aligning a fluid pressure relieving conduit (86) at least partially defined by said cutting member with said hole such that said fluid pressure relieving conduit (86) communicates with said fluid aperture (80) through said resin flow path and a vent hole (88) allowing said fluid within said hollow spaces to be exhausted through said fluid pressure relieving conduit (86) and said vent hole (88); and opening the mold to remove the hollow-shaped body." (emphasis added)

(d) Claim 1 of the third auxiliary request reads as follows:

"1. A method for making a hollow-shaped body from molten resin in an injection molding system (10) including a mold (28) having an injection aperture and an injection nozzle (14), the method comprising the steps of:

injecting an amount of molten resin sufficient for the preparation of said hollow-shaped body from said injection nozzle (14) through said injection aperture and along a resin flow path which extends from an injection sprue bushing (36) to a mold cavity;

injecting a fluid under pressure into said resin flow path to distribute the molten resin over the interior surface of said mold cavity (28) and thereby forming a fluid aperture (80,80',80",80''') in said resin flow path and in communication with hollow spaces formed within the interior of said hollow-shaped body;

cooling the hollow-shaped body to a temperature beneath the softening point of the resin,

relieving the fluid pressure within the hollow-shaped body by moving a cutting member (72,72',72",72''') of which a **surface** (76,76',76",76''') partially defines said resin flow path, relative to said resin flow path, from a molding position to a venting or relieving position, the cutting member (72,72',72",72''') applying a cutting force to the cooled resin of the resin flow path whereby the cutting force is a shear force thereby cutting a hole through said resin in said resin flow path and removing a cut sucker (97) adjacent to said **surface** (76,76',76",76''') such that after movement of said cutting member (72,72',72",72''') said hole communicates with said fluid aperture (80,80',80",80'''), aligning a fluid pressure relieving conduit (86,86',86",86''') at least partially defined by said cutting member with said hole such that said fluid pressure relieving conduit (86,86',86",86''') communicates with said fluid aperture (80,80',80",80''') through said resin flow path and a vent hole (88,88',88") allowing said fluid within said hollow spaces to be exhausted through said fluid pressure relieving conduit (86,86',86",86''') and said vent hole (88,88',88"), and

opening the mold to remove the hollow-shaped body." (emphasis added)

(e) Claim 1 of the fourth auxiliary request reads as follows:

"1. A method for making a hollow-shaped body from molten resin in an injection molding system (10) including a mold (28) having an injection aperture and an injection nozzle (14), the method comprising the steps of:

injecting an amount of molten resin sufficient for the preparation of said hollow-shaped body from said injection nozzle (14) through said injection aperture and along a resin flow path which extends from an injection sprue bushing (36) to a mold cavity;

injecting a fluid under pressure into said resin flow path to distribute the molten resin over the interior surface of said mold cavity (28) and thereby forming a fluid aperture (80,80',80",80''') in said resin flow path and in communication with hollow spaces formed within the interior of said hollow-shaped body;

cooling the hollow-shaped body to a temperature beneath the softening point of the resin,

relieving the fluid pressure within the hollow-shaped body by moving a cutting member (72,72',72",72''') which partially defines said resin flow path, relative to said resin flow path, from a molding position to a venting or relieving position, the cutting member (72,72',72",72''') applying a cutting force to the cooled resin of the resin flow path whereby the cutting force is a shear force thereby cutting a hole through said resin in said resin flow path and removing a cut sucker (97) such that after movement of said cutting member (72,72',72",72''') said hole communicates with said fluid aperture (80,80',80",80'''), aligning a fluid pressure relieving conduit (86,86',86",86''') at least partially defined by said cutting member with said hole such that said fluid pressure relieving conduit (86,86',86",86''') communicates with said fluid aperture (80,80',80",80''')

through said resin flow path and a vent hole (88,88',88") allowing said fluid within said hollow spaces to be exhausted through said fluid pressure relieving conduit (86,86',86",86") and said vent hole (88,88',88"), and

opening the mold to remove the hollow-shaped body". (emphasis added)

IV. The appellant and the other party substantially made the following submissions:

As to the formal requirements, it was submitted that the claims of both the main and the first auxiliary requests offended against Article 123(2) EPC, because they did not mention the "cooling step"; said step being mentioned as an essential one in the claims as originally filed.

It was further submitted

- that, in the independent Claims 1 and 4 as maintained by the Opposition Division, the location of the vent hole (88) was specified by the expression: "within said cutting member (72) or a bushing (105)" which defined two alternatives for said location,
- that such limitative specifications for the location of said hole (88) were no longer mentioned in any of the claims according to the various requests, and
- that all these claims had been broadened by the deletion of these limitative specifications.

It was, accordingly, submitted that such broadening was not admissible according to the case law established by decisions G 9/92 and G 4/93 of the Enlarged Board of Appeal, since one of the opponents was the sole appellant in the present case and that, in the event that any of the claims according to the various requests were held to be allowable, this would result in a "reformatio in peius" to the disadvantage of the appellant.

The appellant and the other party further objected to the following expressions pursuant to Article 123(2) EPC:

- "of which a wall element (76)" and "adjacent to said wall element (76)" (Claim 1 of the main and first auxiliary requests);
- "of which a pocket (76) or and end surface" and "removing a cut sucker adjacent to said end surface" (Claim 1 of the second auxiliary request);
- "of which a surface" and "adjacent to said surface" (Claim 1 of the third auxiliary request);
and
- "removing a cut sucker" (Claim 1 of the fourth auxiliary request), where the location of the cut sucker was totally unspecified.

It was moreover submitted that the subject-matter of Claims 1 and 2 of the third auxiliary request was not novel and did not involve an inventive step.

By making reference to Figures 1 and 5 of document E2 and to the corresponding respective description thereof, it was submitted that the subject-matter of said claims lacked novelty, since all steps of the method claimed by said claims were disclosed in said document. Even if some minor differences could be identified between the embodiment according to Figures 7 and 8 of the patent in suit and the embodiment according to Figure 5 of document E2, such minor differences would not involve an inventive step.

V. The respondent substantially made the following submissions:

As to the formal requirements of the claims according to the various requests, it was submitted that the case law established by decisions G 9/92 and G 4/93 of the Enlarged Board of Appeal was not applicable in the present case, since the amendments proposed, and in particular the deletion of the limitative specifications: "within said cutting member (72) or a bushing (105)" for the location of the hole (88), were useful and necessary to meet the objections raised by the appellant during the appeal proceedings. The resulting broadening of the claims could, accordingly, not be considered to constitute a "reformatio in peius" to the disadvantage of the appellant.

Moreover, independent Claims 1 and 4 as granted did not mention any such limitative specifications for the location of the hole (88), so that the claims according to the various requests were also not open to objection under Article 123(3) EPC.

When disclosing the present invention, in particular the various embodiments thereof, the patent in suit and the PCT application (WO 90/13408), from which the former derives, specified that elements of said various

embodiments, carrying the same reference number, had analogous, if not identical, functions. The objections under Article 123(2) EPC, raised by the appellant and the other party in respect of the various definitions of said functions, as mentioned in the claims according to the various requests, were, accordingly, not founded, since the person skilled in the art, when reading the whole disclosure of the patent in suit, would have immediately recognised that all said various definitions were encompassed by the very essence of said disclosure.

More particularly, the expressions: "of which a surface" and "adjacent to said surface", mentioned in Claim 1 of the third auxiliary request, were fully supported by Claim 3 of the originally filed PCT application, which reads: "... wherein a cutting member ... has a surface at least partially defining the resin flow path...".

As to the issues of novelty and inventiveness of the subject-matter of Claims 1 to 4 of the third auxiliary request, it was submitted that novelty over document E2 was given by the feature that the cutting member was moved to a venting or relieving position, whereby the cut sucker was moved away from the moulded body and from the fluid pressure relieving conduits, and that an inventive step could be seen in the fact that, due to this novel feature, the problem was solved to prevent clogging of the pressure relieving conduit by plastic material removed from the walls of the hollow-shaped body, which solution was not rendered obvious by the disclosures of documents E2 or E1.

Reasons for the Decision

1. Main and first auxiliary requests

Claim 1 of the originally filed PCT-application (WO 90/13408) expressis verbis mentions the process step of "cooling the hollow-shaped body to a temperature beneath the softening point of the resin".

Likewise, throughout the whole description of the originally filed PCT-application, the "cooling step" was considered an essential step of the method according to the patent in suit. By deleting this "cooling step" from the independent method Claim 1, both according to the main and first auxiliary requests, these claims contain subject-matter which extends beyond the content of the application as filed.

The finding of the Opposition Division (see point 3.1.4 of its decision) that, since the PCT-application (WO 90/13408) was published with an amended Claim 1, which no longer contained the "cooling step", the granted independent Claim 1, which did not contain said "cooling step" either, did not contravene Article 123(2) EPC, cannot be accepted by the Board.

Article 123(2) states

"A European patent application or a European patent may not be amended in such a way that it contains subject-matter which extends beyond **the content of the application as filed.**" (emphasis added)

In the present case, the "cooling feature" was disclosed as an essential feature of the invention as disclosed in the original application filed on 10 May 1989.

Therefore, Claim 1 of both the main and the first auxiliary requests do not meet the requirements of Article 123(2) EPC, so that the respondent's main and first auxiliary requests are not allowable.

2. Second auxiliary request

In order to decide whether or not Claim 1 according to the request is formally allowable, the crucial question to be answered is whether or not the feature "removing a cut sucker adjacent to said end surface" is disclosed in the application documents as originally filed.

The Board finds that, in the patent in suit and in the originally filed PCT application, the term "removing" is expressis verbis disclosed only and exclusively in connection with the grooved surface 76 of the embodiment according to Figures 3 and 4 of the patent in suit (see page 9, lines 9 and 10 of WO 90/13408 and column 5, lines 48 to 59 of the patent in suit). There is, however, no disclosure of any "removing", in connection with the end surface 76" of the punching pin 72" of the embodiment according to Figures 7 and 8 of the patent in suit.

The mere fact that the grooved surface 76 and the end surface 76" carry the same reference number does not constitute a sufficient evidence for asserting that the person skilled in the art would have construed the "removing" function, disclosed in connection with the grooved surface 76, as being extended by analogy to the end surface 76". In fact, the "removing" action as disclosed in connection with the grooved surface 76 consists in that, after the cutting member 72 has been moved from the molding position to the venting or relieving position, the cut sucker 97 is removed from the groove 76 into a scrap chute (see column 5, lines 48 to 50 of the patent in suit). However, in

connection with the embodiment according to Figures 7 and 8 of the patent in suit, where the cut sucker is adjacent the end portion of the cutting member (punching pin 72"), no such removing action of the cut sucker away from the punching pin is disclosed.

Therefore, the subject-matter of claim 1 of the second auxiliary request contravenes Article 123(2) EPC, so that the respondent's second auxiliary request has to be refused.

3. Third auxiliary request

3.1 The appellant and the other party submitted that the features of claim 1 of the third auxiliary request (a) "of which a surface (76, ...) partially defines said resin flow path" and (b) "removing a cut sucker adjacent to said surface (76, ...)" offend against Article 123(2) EPC.

The Board cannot follow this submission for the following reasons:

A basis for the feature (a) can be found in Claim 3 of the originally filed PCT application, which reads: "... wherein a cutting member ... has a surface at least partially defining the resin flow path...".

A basis for the feature (b) can be found at page 8, lines 19 to 27 and page 9, lines 9 and 10 of WO 90/13408, wherein it is disclosed that the cut sucker adjacent the (grooved) surface 76 is removed.

Said two features (a) and (b) do not offend against Article 123(3) EPC either, since the granted independent Claim 1 merely contained the feature: "a cutting member (72), which partially defines said resin flow path", but no feature specifying the location of

the cut sucker to be removed with respect to the cutting member.

Therefore, Claim 1 according to the respondent's third auxiliary request is not objectionable with respect to Article 123(2) and (3) EPC.

3.2 Document E2 (see: Claim 1, column 6, lines 40 to 51, column 7, lines 20 to 52 and Figures 1 and 5), discloses a method for making a hollow-shaped body from molten resin 18 in an injection molding system including a mold 10 having an injection aperture and an injection nozzle 19, comprising the steps of:

injecting an amount of molten resin 18 sufficient for the preparation of said hollow-shaped body from said injection nozzle 19 through said injection aperture and along a resin flow path which extends from an injection sprue bushing 20 to a mold cavity 13;

injecting a fluid under pressure into said resin flow path to distribute the molten resin over the interior surface of said mold cavity 13 and thereby forming a fluid aperture in said resin flow path and in communication with hollow spaces formed within the interior of said hollow-shaped body;

cooling the hollow-shaped body to a temperature beneath the softening point of the resin,

relieving the fluid pressure within the hollow-shaped body by moving a cutting member (retractable pin 31) of which a surface 45 partially defines said resin flow path, relative to said resin flow path, from a molding position to a venting or relieving position, the cutting member 31 applying a cutting force to the cooled resin of the resin flow path whereby the cutting force is a shear force thereby cutting a hole through said resin in said resin flow path and removing a section of the wall of said hollow shaped body adjacent to said surface 45 such that after movement of said cutting member said hole communicates with said fluid

aperture 25, aligning a fluid pressure relieving conduit 30 at least partially defined by said cutting member 31 with said hole such that said fluid pressure relieving conduit 30 communicates with said fluid aperture 25 through said resin flow path and a vent hole (see column 6, line 51 of E2: "vent passage to atmosphere") allowing said fluid within said hollow spaces to be exhausted through said fluid pressure relieving conduit 30 and said vent hole, and

opening the mold to remove the hollow-shaped body.

Since, therefore, the method according to document E2 comprises all the features mentioned in Claim 1 of the third auxiliary request the method of Claim 1 of the third auxiliary request lacks novelty.

3.3 The respondent's third auxiliary request is, consequently not allowable with respect to Article 54 EPC.

4. Fourth auxiliary request

If an opponent is the sole appellant against an interlocutory decision maintaining a patent in amended form, the patent proprietor is primarily restricted during the appeal proceedings to defending the patent in the form it was maintained by the Opposition Division in its interlocutory decision (cf. decision G 9/92 (OJ EPO 1994, 875); point 16 of the Reasons). Amendments proposed by the patent proprietor as a party to the proceedings as of right under Article 107 EPC, second sentence, may be rejected as inadmissible by the Board of Appeal if they are neither appropriate nor necessary (decision G 9/92; point 16 of the Reasons).

The features "moving a cutting member (...) of which a wall element (76) partially defines" and "removing a cut sucker adjacent to said wall element (76)" of claim 1 as maintained in the decision under appeal have been replaced in claim 1 according to the fourth auxiliary request by the features "moving a cutting member (...) which partially defines" and "removing a cut sucker". These features of claim 1 according to the fourth auxiliary request are broader than the above-mentioned features of claim 1 as maintained in the decision under appeal and would thus give rise to a reformatio in peius to the disadvantage of the appellant. In the Board's judgement, these amendments are therefore neither appropriate nor necessary and have to be rejected as inadmissible.

Since claim 1 is not allowable, the fourth auxiliary request has to be refused.

Order

For these reasons it is decided that:

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

The Registrar:



A. Townend

The Chairman:



A. Burkhart

The following information was obtained from the records of the Department of Health, Education and Welfare, Office of the Assistant Secretary for Health, regarding the activities of the National Health Council, Inc. (NHC) during the period from 1968 to 1972.

The NHC is a non-profit organization which was established in 1957. Its primary purpose is to coordinate and support the efforts of various health-related organizations and individuals in the United States. The NHC has a broad membership base and is active in a wide range of health-related activities, including public education, research, and advocacy.

During the period from 1968 to 1972, the NHC has been active in a number of areas, including the following:

- Public education and information campaigns.
- Research and development projects.
- Advocacy and lobbying efforts.
- Coordination and support of other health-related organizations.

The NHC has received significant financial support from various sources, including the federal government, state governments, and private individuals. The following table provides a summary of the NHC's financial activities during the period from 1968 to 1972.

Year	Total Income	Total Expenses	Net Income
1968	\$1,200,000	\$1,000,000	\$200,000
1969	\$1,500,000	\$1,200,000	\$300,000
1970	\$1,800,000	\$1,500,000	\$300,000
1971	\$2,000,000	\$1,700,000	\$300,000
1972	\$2,200,000	\$1,900,000	\$300,000

The NHC's financial activities are subject to the same requirements as those of other non-profit organizations. The NHC has been audited by independent accountants and has been found to be in compliance with the applicable laws and regulations.

The NHC's financial records are maintained in accordance with the requirements of the Internal Revenue Code and the regulations of the Department of Health, Education and Welfare. The NHC's financial statements are available to the public upon request.

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Very truly yours,
 [Signature]