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**Datasheet for the decision
of 11 April 2018**

Case Number: T 2502/16 - 3.3.05

Application Number: 06003619.1

Publication Number: 1721658

IPC: B01F3/08, B01F5/04, B01F13/00,
B01J13/04, B01J19/00

Language of the proceedings: EN

Title of invention:
Process and apparatus for producing microcapsules

Patent Proprietor:
Japan Science and Technology Agency

Opponent:
BASF SE

Headword:
Microcapsules/JAPAN TECHNOLOGY AGENCY

Relevant legal provisions:
EPC Art. 111(1), 123(2), 123(3)

Keyword:
Amendments - allowable (yes)

Decisions cited:

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2502/16 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 11 April 2018

Appellant: Japan Science and Technology Agency
(Patent Proprietor) 1-8, Honcho 4-chome
Kawaguchi-shi,
Saitama 332-0012 (JP)

Representative: dompatent von Kreisler Selting Werner -
Partnerschaft von Patent- und Rechtsanwälten mbB
Deichmannhaus am Dom
Bahnhofsvorplatz 1
50667 Köln (DE)

Respondent: BASF SE
(Opponent) 67056 Ludwigshafen (DE)

Representative: BASF IP Association
BASF SE
G-FLP-C006
67056 Ludwigshafen (DE)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 12 September
2016 revoking European patent No. 1721658
pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman A. Haderlein
Members: J.-M. Schwaller
P. Guntz

Summary of Facts and Submissions

- I. The present appeal lies from the decision of the opposition division to revoke European patent No. 1 721 658, with claim 1 reading:
"1. A process for producing microcapsules comprising the steps of:
feeding a continuous phase (17) into a first microchannel (12);
feeding a shell-forming phase (18) into a second microchannel (13), the second microchannel (13) joining the first microchannel (12); and
feeding a content-forming phase (19) into a third microchannel (14), the third microchannel (13) (sic) joining the first microchannel (12) at a position downstream of and in the vicinity of the second microchannel (13),
to thereby form microcapsules (20) in the continuous phase (17), the microcapsules (20) being formed of the shell-forming phase (18) encapsulating the content-forming phase (19)."
- II. With the grounds of appeal, the proprietor ("appellant") contested the decision and requested that the patent be maintained as granted. It also filed eight auxiliary requests.
- III. With its response to the grounds of appeal, the opponent ("respondent") *inter alia* contested under Article 123(2) EPC the presence in claim 1 as granted of the feature "*in the vicinity of*" and the omission from said claim of the expression "forming a thin layer".
- IV. In response to the board's preliminary opinion that none of the requests appeared to meet the requirements

of Article 123 EPC, with its letter dated 9 March 2018 the appellant filed nine amended sets of claims as auxiliary requests 1, 2, 3A, 3B, and 4 to 8.

V. At the oral proceedings, the appellant withdrew the main request as well as auxiliary requests 1, 2, 3A and 3B, and filed a new set of claims as auxiliary request 4A, with independent claims 1 and 2 reading (amendments with respect to the claims as granted in bold) as follows:

"1. A process for producing microcapsules comprising the steps of:

feeding a continuous phase (17) into a first microchannel (12);

feeding a shell-forming phase (18) into a second microchannel (13), the second microchannel (13) joining the first microchannel (12); and

*feeding a content-forming phase (19) into a third microchannel (14), the third microchannel (14) joining the first microchannel (12) at a position downstream of **the second microchannel (13)** and in the vicinity of the second microchannel (13) **such that the shell-forming phase (18) forms a thin layer,***

to thereby form microcapsules (20) in the continuous phase (17), the microcapsules (20) being formed of the shell-forming phase (18) encapsulating the content-forming phase (19)."

"2. An apparatus for producing microcapsules comprising:

a first microchannel (12);

a second microchannel (13) formed so as to join the first microchannel (12); and

*a third microchannel (14) formed so as to join the first microchannel (12) at a position downstream of **the second microchannel (13)** and in the vicinity of the*

*second microchannel (13) **such that the shell-forming phase (18) forms a thin layer,***

and a feed arrangement to feed a continuous phase (17) into the first microchannel (12), a feed arrangement to feed a shell-forming phase (18) into the second microchannel (13), and a feed arrangement to feed a content-forming phase (19) into the third channel (14), such that, in use, the microcapsules (20) being formed of the shell-forming phase (18) encapsulating the content-forming phase (19)."

The appellant did not contest the admissibility of this new request but did contest its allowability under Article 123(2) EPC.

VI. Before closing the debate, the chairman established the parties' requests to be as follows:

The appellant requested that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of the main request, filed as "auxiliary request 4A" during the oral proceedings before the board, or, in the alternative, on the basis of one of auxiliary requests 5 to 8, as filed with the letter of 9 March 2018.

The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. Main request - Allowability of the amendments

1.1 The subject-matter of claim 1 at issue (see point V above) has a basis in claim 1, Figures 3 and 4 and the description at page 14, line 6 to page 15, line 10 of the application as filed.

1.1.1 Claim 1 as filed, which defines the basic principle underlying the invention as filed, reads as follows:

"1. A process for producing microcapsules, comprising a step of feeding a shell-forming phase and a content-forming phase to a continuous phase flowing in a microchannel, in such a manner that flows of the shell-forming phase and the content-forming phase join the flow of the continuous phase, to obtain microcapsules, wherein the shell-forming phase is fed from positions upstream to positions for feeding the content-forming phase in such a manner that the shell-forming phase forms a thin layer."

1.1.2 Figures 3 and 4, reproduced below, schematically

FIG. 3

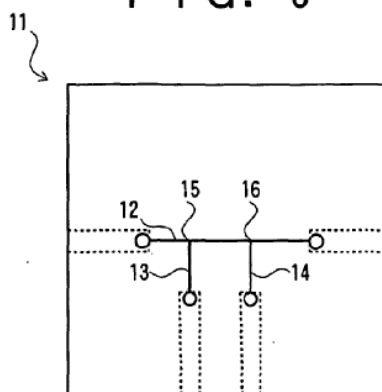
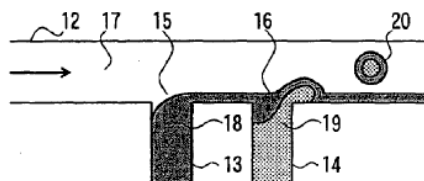


FIG. 4



illustrate the specific embodiment disclosed at page 14, line 6 to page 15, line 10 as follows: "In these figures, reference numeral 11 represents a main body of the microcapsule-producing apparatus, reference numeral 12 represents a microchannel in which a continuous

phase flows and which is disposed in the main body 11, reference numeral 13 represents a shell-forming phase-feeding channel placed such that the shell-forming phase-feeding channel 13 and the microchannel 12 cross, reference numeral 14 represents a content-forming phase-feeding channel placed such that the content-forming phase-feeding channel 14 and the microchannel 12 cross, reference numeral 15 represents a shell-forming phase-feeding port, reference numeral 16 represents a content-forming phase-feeding port, reference numeral 17 represents the continuous phase (for example, water), reference numeral 18 represents a shell-forming phase, reference numeral 19 represents a content-forming phase, and reference numeral 20 represents a microcapsule. In the above configuration, the shell-forming phase 18 and the content-forming phase 19 are fed to the continuous phase 17 flowing in the microchannel 12 in such a manner that flows of the shell-forming phase 18 and the content-forming phase 19 join the flow of the continuous phase 17, as shown in FIG. 4. The shell-forming phase 18 is fed from positions upstream to positions for feeding the content-forming phase 19 in such a manner that shell-forming phase 18 forms a thin layer."

The board observes that the above excerpt describes the basic principles of the invention adapted to the specific embodiment illustrated in above Figures 3 and 4, namely that flows of the shell-forming phase and the content-forming phase join the flow of the continuous phase and that the shell-forming phase is fed from positions upstream to positions for feeding the content-forming phase in such a manner that the shell-forming phase forms a thin layer.

1.1.3 The board cannot accept in this respect the respondent's argument that the claimed subject-matter infringed Article 123(2) EPC due to the presence in claim 1 at issue of the expression "in the vicinity of", which according to the respondent had no basis in the application as filed.

It is true that there is no literal counterpart for this expression in the application documents as filed. However, bearing in mind that the term "in the vicinity of" has no precise meaning, the presence of this term in the claims does not extend the scope of protection of the claimed subject-matter beyond the content of the application as filed, because it is manifest from Figures 3 or 4 that the third microchannel (14) does not join the first microchannel (12) far away from the second microchannel (13), but rather "in the vicinity of" the second microchannel (13), and because the contentious term is now more precisely defined by the functional feature "such that the shell-forming phase forms a thin layer", which, according to the above cited passage on page 14, line 6 to page 15, line 10 of the description, is an implicit result of the arrangement of the three relevant microchannels. The latter feature is uncontestedly disclosed in the application as filed (see above excerpt, last sentence, and claim 1 as filed). Thus the subject-matter of claim 1 is directly and unambiguously derivable from the above figures and the corresponding description, and therefore does not infringe Article 123(2) EPC.

1.2 The same conclusions apply to independent claim 2, which thus does not infringe Article 123(2) EPC either.

1.3 Dependent claims 3 and 4 have their basis in claims 3 and 4 as filed and so meet the requirements of Article

123(2) EPC.

- 1.4 As the independent claims include all features of their granted counterparts, the requirement of Article 123(3) EPC is also fulfilled.
2. Since the reasons that led to the revocation of the patent no longer apply, the board exercises its discretion under Article 111(1) EPC and remits the case to the opposition division for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division for further prosecution on the basis of the claims of the main request, filed as "Auxiliary Request 4A" during the oral proceedings before the board.

The Registrar:

The Chairman:



C. Vodz

A. Haderlein

Decision electronically authenticated