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Bezeichnung der Erfindung: Liquid-liquid extraction columns

Title of invention:

Titre de l'invention :

Klassifikation / Classification / Classement : B01D 11/04

ENTSCHEIDUNG / DECISION

vom / of / du 18 September 1989

Anmelder / Applicant / Demandeur : United Kingdom Atomic Energy Authority

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :

EPO / EPC / CBE Articles 54 and 56 EPC

Schlagwort / Keyword / Mot clé : "Novelty Claim 1 (No), Inventive step Claims 2 to 4 (No)"

Leitsatz / Headnote / Sommaire

Europäisches
Patentamt

Beschwerdekammern

European Patent
Office

Boards of Appeal

Office européen
des brevets

Chambres de recours



Case Number : T 28/89

D E C I S I O N
of the Technical Board of Appeal 3.4.1
of 18 September 1989

Appellant : United Kingdom Atomic Energy Authority
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Representative : J.E. Alderman
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Decision under appeal : Decision of Examining Division 031
of the European Patent Office
dated 22 September 1988 refusing
European patent application
No. 86 302 014.5 pursuant to
Article 97(1) EPC

Composition of the Board :

Chairman : K. Lederer
Members : E. Turrini
C. Payraudeau

Summary of Facts and Submissions

- I. European patent application No. 86 302 014.5 (publication No. 0 199 460) was refused by decision of the Examining Division.
- II. The decision under appeal was based on Claims 1 to 13 filed on 28 May 1988.
- III. The reason given for the refusal was that the subject-matter of independent Claim 1 lacked novelty in view of prior art document US-A-3 108 859 (B).
- IV. The Appellant lodged an appeal requesting that the decision of the Examining Division be set aside and a patent be granted on the basis of new Claims 1 and 4 as set out in the statement of grounds filed on 8 November 1988 and on the basis of Claims 2 and 3 filed on 28 May 1988, the remaining claims being abandoned. He also requested reimbursement of the appeal fee on the ground that the decision under appeal had only considered the independent Claim 1 and had ignored the novelty and inventive contributions made by Claims 2 to 4.
- V. Current Claim 1 reads as follows:

"A pulsed liquid-liquid extraction column for use with one liquid forming a continuous phase flowing in one direction along the column and another liquid forming a dispersed phase and flowing in the opposite direction, the column having spaced apart perforated plates therein, characterised in that all the perforated plates (10) in the column have the perforations thereof provided with nozzle formations (18) projecting upstream with respect to the dispersed phase flow, so as to define a zone (20) on the

upstream face of each said plate (10) in which a film or layer of the dispersed phase can collect during use of the column."

Claims 2 to 4 are dependent on Claim 1.

- VI. In a communication of the Rapporteur of the Board, reference was made to the prior art document "Engineering for nuclear fuel reprocessing" by Justin T. Long, Gordon and Breach science publishers Inc., New York 1967, pages 550 to 553 (A), already cited in the European search report. It was pointed out that the subject-matter of Claim 1 was considered by the Board as not new in view of this document A and that the subject-matter of Claims 2 to 4 was considered as lacking inventive step. In this respect, also document B was mentioned.
- VII. The Appellant submitted in answer the following reasoning.

Owing to the fact that document A states that the indentations are "ordinarily oriented in the direction of dispersed-phase travel", novelty of the subject-matter of Claim 1 should be acknowledged.

Furthermore, the subject-matter of Claim 1 should also be considered inventive because the statement of document A "the nozzle orientation is not critical" does not give any hint at reversing the direction of the nozzles from the ordinary direction. A reading of document A without hindsight could not lead the skilled man to the subject-matter of Claim 1.

Dependent Claims 2 to 4 should also be considered allowable.

Reasons for the Decision

1. The Appeal is admissible.
2. There are no objections on formal grounds to the current version of the claims which are based on the application documents as originally filed.
3. Novelty.

Document A discloses a pulsed liquid-liquid extraction column (Figure 8.8) for use with a liquid forming a continuous phase flowing in one direction along the column and another liquid forming a dispersed phase (page 552, line 10) and flowing in the opposite direction (Figure 8.10), the column having spaced-apart perforated plates (Figure 8.9), the perforated plates in the column having the perforations thereof provided with nozzle formations (Figure 8.10).

Document A indicates that "the indentations are ordinarily oriented in the direction of dispersed phase, although the nozzle orientation is not critical (page 522, lines 9-11; emphasis added).

In the Board's opinion, the word "ordinarily" means "usually", "in most cases", etc. but does not mean "necessarily" or "always". This interpretation is emphasised by the mention that "the nozzle orientation is not critical" which implies that the only two orientations of the nozzle plate which are practically possible, i.e. with the nozzles projecting upstream or downstream with respect to the dispersed phase flow, have at least been already tried. It is quite immaterial that the advantages connected with the particular orientation claimed in the patent application in suit have not been mentioned nor

possibly known by the author of this article. It nevertheless remains that in view of this publication an extraction column having nozzle plates, the nozzle of which projects upstream with respect to the dispersed phase flow so as to define a zone on the upstream face of each of said predetermined number of plates in which a film or layer of the dispersed phase can collect during use of the column (this functional feature follows directly from the constructional features of the predetermined plates) is comprised in the state of the art as defined by Article 54(2) EPC.

Thus, the subject-matter of Claim 1 lacks novelty and the claim is therefore not allowable under Article 52(1) EPC.

4. Inventive step.

4.1 The question whether the subject-matter of Claim 1 involves an inventive step does not need to be discussed any further since the Appellant was unable to satisfy the Board that the subject-matter of said claim is indeed novel over document A (cf. paragraph 3).

4.2 The additional features of Claim 2 concerning the configuration of the nozzle are suggested by the disclosure of document B (Figure 2) which, as document A, describes a pulsed liquid-liquid extraction column with nozzle formations. The skilled person would therefore apply, without inventive ingenuity, the frusto-conical configuration of the nozzle suggested in document B to the pulsed column of document A.

The substitution of a cylindrical configuration (additional feature of Claim 3) to the frusto-conical configuration for the nozzle is considered a mere working option which does not lead to any surprising effect. The nozzle

configuration claimed in Claim 4, according to which the nozzles have also downstream formations, is also considered to be a mere working option. Indeed, the skilled man wishing to realise a column properly functioning in the two directions would necessarily propose such a solution. The fact that this particular solution is not directly suggested by documents A and B is not a test pointing in the direction of the presence of inventive step.

Any combination of said additional features of the dependent claims with the subject-matter of Claim 1 (not novel) does not imply unusual techniques so that any of such combinations is considered routine.

Thus, the subject-matter of Claims 2 to 4 lacks inventive step (Article 56 EPC) and Claims 2 to 4 are, therefore, not allowable (Article 52(1) EPC).

5. Refund of the appeal fee.

Rule 67 EPC provides that the reimbursement of the appeal shall be ordered "where the Board of Appeal deems the appeal to be allowable".

Since this is not the case here, the Appellant's request of reimbursement of the appeal fee is to be rejected.

The Board observes subsidiarily that it could not have considered in any case that the Examining Division had, in the decision under appeal, committed a substantial procedural violation.

According to Article 113(2) EPC the European Patent Office shall consider and decide upon the European patent application or the European patent only in the text

submitted to it, or agreed, by the applicant for or proprietor of the patent.

Therefore, the Examining Division may only decide on the actual requests presented by the Applicant. When, as in the present case, no subsidiary request has been presented, the Examining Division may refuse the patent application under the form requested by the Applicant if it is of the opinion that any part of the specification or claims does not meet the requirements of the Convention (Article 97(1) EPC). Therefore, the Examining Division was entitled to reject the application on the basis of lack of novelty of Claim 1 without having to examine the other claims.

Order

For these reasons, it is decided that:

1. The appeal is dismissed.
2. The request for reimbursement of the appeal fee is rejected.

The Registrar:

The Chairman:

M. Beer

K. Lederer