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**Datasheet for the decision
of 12 July 2019**

Case Number: T 0316/17 - 3.3.05
Application Number: 12716037.2
Publication Number: 2702010
IPC: C02F1/42, B01J39/04, B01J47/02,
C02F1/00
Language of the proceedings: EN

Title of invention:
SYSTEM FOR CONDITIONING A LIQUID SUCH AS WATER

Applicant:
Brita GmbH

Headword:
System for conditioning a liquid/BRITA

Relevant legal provisions:
EPC Art. 54(1), 54(2), 56, 84, 123(2)

Keyword:
Amendments - allowable (yes)
Claims - clarity (yes) - support in the description (yes)
Novelty - (yes)
Inventive step - (yes)

Decisions cited:

Catchword:



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Case Number: T 0316/17 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 12 July 2019

Appellant: Brita GmbH
(Applicant) Heinrich-Hertz-Strasse 4
65232 Taunusstein (DE)

Representative: Meissner Bolte Partnerschaft mbB
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 30 September
2016 refusing European patent application No.
12716037.2 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman E. Bendl
Members: A. Haderlein
P. Guntz

Summary of Facts and Submissions

I. The appeal was filed by the appellant (applicant) against the decision of the examining division to refuse the patent application in suit (hereinafter "the application").

II. In its decision, the examining division held in particular that the subject-matter of claim 1 of auxiliary request 3b, on which the impugned decision was based, did not meet the requirement of inventive step set forth in Article 56 EPC. It differed from the system disclosed in

D7: JP 2989150 B2, or

D7': English translation thereof

on account of a bypass and on account of the ion exchange material being a weakly acidic cation exchange polymer. It was however common to include a bypass and subsequently mix the non-treated water with a treated water stream. The skilled person would implement such a solution with a view to ensuring the same effect of providing greater flexibility in adjusting the composition of the treated water as presented in the application. Moreover, selecting a weakly acidic cation exchange material for the system disclosed in D7' was one of several straightforward possibilities from which the skilled person would choose when carrying out the teaching of this document.

III. In the course of the proceedings before the examining division, the following documents were also cited:

D1: US 2010/288700 A1

D2: US 2 287 284 A

D3: US 2 226 743 A
D4: US 2 807 582 A
D5: GB 698 190 A and
D6: DE 10 2004 049 876 A1.

IV. With the statement of grounds of appeal, the appellant filed a number of requests including auxiliary requests 4, 5 to 5C, 6 to 6C and 7 to 7C, auxiliary request 4 essentially corresponding to auxiliary request 3b on which the impugned decision was based. It also filed inter alia the following documents:

A1: Data Sheet Ionac[®] C 266
A2: Data Sheet Ionac[®] C 249
A3: Wolf, F.J., Separation Methods in Organic Chemistry and Biochemistry, pp. 213-218, Academic Press, 1969

V. In a communication pursuant to Article 15(1) RPBA, the board informed the appellant that, apart from a minor clarity objection in the characterising portion of claim 1, auxiliary request 4 appeared to be allowable.

VI. By letter dated 17 June 2019, the appellant filed a new main request essentially corresponding to previous auxiliary request 4.

VII. Claim 1 of the main request reads as follows:

"1. System for conditioning a liquid such as water, including:
a first holder (5;25;35) of a medium for treating liquid, the medium in the first holder (5;25;35) including an ion exchange material loaded with at least a first counter ion species; and
a second holder (6;26;36) of a medium for treating

liquid, the medium in the second holder including an ion exchange material loaded with at least a second counter ion species of the same polarity as the first, wherein the media in the first and second holders (5,6;25,26;35,36) are configured to exchange at least one of the first and second counter ion species for ions in the liquid to a different extent, wherein at least one of the medium in the first holder (5;25;35) and the medium in the second holder (6;26;36) includes an amount of cation exchange material in the hydrogen form, wherein the system is arranged to lead a first fraction of the liquid to be treated through only the first of the first and second holders (5,6;25,26;35,36) and a second fraction of the liquid to be treated through at least the second of the first and second holders (5,6;25,26;35,36), and wherein the system comprises a replaceable cartridge having a housing in which the first and second holders (5,6;25,26) are arranged or comprises at least two replaceable cartridges (35,36), each including a respective housing, in which the first and second holders are respectively arranged, characterised in that the ion exchange material included in the media in the first and second holders (5,6;25,26;35,36) is a weakly acidic cation exchange polymer, and in that the system is arranged to lead at least a third fraction of the liquid to be treated through neither of the first and second holders (5,6), but through a bypass conduit containing no ion exchange material or an ion exchange material for ion species of opposite polarity to the first and second counter ion species."

Dependent claims 2 to 7 relate to specific embodiments of the system according to claim 1 while claim 8

relates to a cartridge including such a system.

VIII. The appellant essentially argued as follows:

The documents making up the main request met the requirement of inventive step. In particular, D6 represented the closest prior art and it was not obvious to arrive at the claimed system starting from that document.

IX. As its main request, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the following documents:

- claims 1 to 8 as filed with the letter dated 17 June 2019;
- description pages 1, 2, 6, 8 to 10 as filed with the letter dated 17 June 2019 and pages 3 to 5, 7 and 11 to 24 as originally filed; and
- drawings sheets 1/4 to 4/4 as originally filed.

In the alternative it requested the grant of a patent based on one of auxiliary requests 4, 5 to 5C, 6 to 6C and 7 to 7C filed with the grounds of appeal.

Reasons for the Decision

Main request

1. Amendments

1.1 The amendments' respective bases in the application as originally filed are as follows:

claim 1: claims 1, 3 and 8 to 10; page 9, lines 8 to 25; page 3, lines 25 to 29;
claims 2 to 4: claims 2, 4 and 5;
claim 5: page 7, lines 23 to 27;
claim 6: claim 6;
claim 7: page 8, lines 5 to 8; and
claim 9: claim 12.

1.2 The amendments to the description include the reference to D7, which the examining division considered to represent the closest prior art, and the deletion of passages which no longer fall under the scope of the claims.

1.3 The provisions of Article 123(2) are thus fulfilled.

2. Clarity and support

By specifying the ion exchange material included in the media in the first and second holder, the clarity objection raised in the communication pursuant to Article 15(1) RPBA (see V and VI above) is overcome. The description has been adapted to the claims. Thus the requirements set forth in Article 84 EPC are met.

3. Novelty

The sole independent claim 1 of the present request essentially corresponds to claim 1 of auxiliary request 3b, on which the impugned decision was based (see II above) and to which the impugned decision did not object for lack of novelty. The board takes the same stance. The provisions of Article 54(1) and (2) EPC are thus fulfilled.

4. Inventive step
 - 4.1 The application concerns a system for conditioning a liquid such as water (see page 1, lines 1 to 2).
 - 4.2 In the decision under appeal, the examining division started from D7' as the closest prior art whereas the appellant considers D6 as the closest prior art. In the present case the board considers it appropriate to assess inventive step starting from both documents, i.e. D7' and D6.
 - 4.2.1 The subject-matter of claim 1 differs from the system according to D7', which the examining division took as the closest prior art, in particular on account of the presence of a bypass.
 - 4.2.2 With respect to D6, the subject-matter of claim 1 differs on account of a second holder of a medium for treating liquid, the medium in the second holder including an ion exchange material loaded with at least a second counter ion species of the same polarity as the first, and the system being arranged to lead a first fraction of the liquid to be treated through only the first holder and a second fraction through the second holder.
 - 4.3 The problem addressed by the application in suit vis-à-vis both prior-art documents is providing a system allowing for control over the composition of the treated liquid in terms of at least the relative amounts of different ion species present (page 2, lines 21 to 25).
 - 4.4 The solution proposed is the system according to claim 1, which in particular comprises a first and a

second holder comprising ion exchange material loaded with different counter ion species of the same polarity, configured to exchange ions to a different extent, and a bypass conduit containing no ion exchange material.

- 4.5 The board has no reason to doubt that this combination of features permits control over the composition of the treated liquid, i.e. that the stated problem has been solved.
- 4.6 It needs to be assessed whether the system according to claim 1 was obvious to the skilled person starting from D6 or D7'.
- 4.6.1 It was not obvious to include a bypass in the configurations disclosed in D7' (see in particular Figure 3 or 4) because the document aims at avoiding the presence of chlorine in the treated water (see paragraph [0004]). Providing a bypass, however, would lead to the treated water containing chlorine.
- 4.6.2 When trying to solve the above problem starting from D6, the claimed subject-matter was not obvious, even in view of D7', D1 or the other documents cited in the proceedings before the examining division.

In Figure 3 of D7', or D7, the second resin layer 5B' only serves to indicate saturation of the exchange capacity and its quantity is negligible with respect to the first resin layer 5A' (see paragraphs [0027] and [0028] of D7'). In Figure 4, the splitting of the water to be treated aims at "tighten[ing] the skin" and "allow[ing] lubric[i]ous feel of the skin" (see paragraph [0034]) and thus teaches away from using this configuration in a device for producing potable water

such as the one known from D6. Moreover, even if the teachings of D6 and D7' were combined, the skilled person would not arrive at a system containing "weakly acidic cation exchange polymer" because retaining the (unspecified) cation exchange material of D6 would not result in the cation exchange material being a polymer and choosing the cation exchange material used in D7' would result in a strongly acidic cation exchange polymer as evidenced by the documents provided by the appellant (for Ionac C-266 see A1; for Ionac C-249, see A2 and A3, page 214, Table a; and for Ionac C1-295, see A3, page 214, Table a).

When starting from D6, the skilled person would not have turned to D1 either because D6 deals with potable water (see paragraph [0013]) whereas D1 deals with calcite dissolution using sulfuric acid (see paragraph [0018]).

The remaining prior-art documents, D2 to D5, each disclose the use of zeolites as opposed to polymer-based ion exchange materials (D2, page 1, right-hand column, lines 18 to 41; D3, page 1, right-hand-column, lines 16, 17 and 33; D4, column 2, lines 48 to 52; D5, page 1, right-hand column, line 44).

4.7 Thus, the requirement of inventive step set forth in Article 56 EPC is met.

4.8 The same holds true for dependent claims 2 to 8.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to grant a patent based on the following documents:
 - claims 1 to 8 as filed with the letter dated 17 June 2019;
 - description pages 1, 2, 6, 8 to 10 as filed with the letter dated 17 June 2019 and pages 3 to 5, 7 and 11 to 24 as originally filed; and
 - drawings sheets 1/4 to 4/4 as originally filed.

The Registrar:

The Chairman:



C. Vodz

E. Bendl

Decision electronically authenticated