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**Datasheet for the decision
of 24 March 2023**

Case Number: T 0296/21 - 3.3.05

Application Number: 15754254.9

Publication Number: 3186197

IPC: C02F1/463, C02F1/465

Language of the proceedings: EN

Title of invention:

SYSTEM AND METHOD FOR WASTE WATER PURIFICATION

Patent Proprietor:

Kemppainen, Risto

Opponent:

Ström & Gulliksson AB

Headword:

WASTE WATER PURIFICATION/Kemppainen

Relevant legal provisions:

EPC Art. 54

Keyword:

Novelty - (no)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0296/21 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 24 March 2023

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 10 February
2021 revoking European patent No. 3186197
pursuant to Article 101(3) (b) EPC.**

Composition of the Board:

Chairman G. Glod
Members: J. Roider
P. Guntz

Summary of Facts and Submissions

I. The patentee's (appellant's) appeal lies from the opposition division's decision to revoke European patent No. 3186197 B1.

II. The following document is of relevance here:

D1 DE 36 41 365 C2

III. Claim 1 of the sole request reads as follows (feature analysis as used by the appellant in the statement of grounds of appeal).

- F1 *"1. A method for removing impurities from an aqueous solution, characterized by comprising:*
- F2 *leading the aqueous solution (8) to be cleaned into a substantially horizontal flow channel (20), through which the aqueous solution to be cleaned flows,*
- F3 *applying electric current to an iron lamella element (1, 2) located at the bottom part of the flow channel and earlier in the flow direction to produce iron hydroxide and hydrogen,*
- F4 *applying electric current to an aluminium lamella element (3, 4) located at the bottom part of the flow channel and later in the flow direction to produce aluminium hydroxide, aluminium sulphate and hydrogen,*
- F5 *separating a precipitate, i.e. a flock (7), containing the impurities and having risen to the surface by means of molecular networks formed by molecules produced in said lamella elements and*

buoyancy caused by the hydrogen, from cleaned water (6),
F6 leading the clean water (6) from the bottom of the
flow channel to its own outlet pipe, and
F7 leading the flock (7) and a small amount of the
cleaned water from the upper part of the flow
channel to its own outlet pipe,
F8 wherein the bottom of the flow channel is
descending, so that at the supply end for water to
be cleaned, the bottom is located higher than at the
outlet end for cleaned water,
F9 and the water to be cleaned flows through the flow
channel by means of gravity."

- IV. The patent proprietor (appellant) argued that the subject-matter of independent claim 1 was novel over D1, whereas the opponent (respondent) contested this view.
- V. Details of the arguments are reflected in the reasons for the decision.
- VI. In the communication under Article 15(1) RPBA of 7 June 2022, the board expressed the opinion that the appeal should be dismissed because the subject-matter of at least claim 1 lacked novelty over D1.
- VII. The requests for oral proceedings were withdrawn by the appellant on 18 October 2022 and by the respondent on 24 June 2022.
- VIII. On 24 October 2022, the board cancelled the oral proceedings and informed the parties that a decision in line with the preliminary opinion was to be expected.

IX. Requests:

- (a) The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the sole request filed on 9 October 2020.
- (b) The respondent requested that the appeal be dismissed.

Reasons for the Decision

- 1. Novelty, Article 100(a) EPC & Article 54(1) and (2) EPC
 - 1.1 The opposition division considered that Document D1 anticipated the novelty of the subject-matter of claim 1.
 - 1.2 The proprietor considered that features F6, F7 and F9 were not disclosed in D1. Moreover, D1 did not disclose that the majority of clean water did exit the substantially horizontal flow channel by way of features F6 and F7. Features F6, F8 and F9 formed a mutually supporting, synergistic group of features.
 - 1.3 Feature F6 specifies that the clean water is led from the bottom of the flow channel to its own outlet pipe, and according to feature F9 the driving force of the flow is gravity.
However, these features do not require the clean water outlet to be at the bottom, as alleged by the appellant. Provided that the claimed function is achieved, e.g. by guiding means, the outlet may be

positioned anywhere.

Moreover, there is no limitation as to what happens in the outlet pipe. Pumping the water from that point (outlet pipe) onwards is included in the subject-matter of claim 1.

It is thus not only purely speculative that D1 requires undisclosed pumps, but also irrelevant.

The opposition division considered that the outlet pipe was somewhere downstream of the process.

D1 discloses feeding the raw water via a pipe above the water level into the reactor 3, and then letting it flow to clarifier 4. Inside the clarifier, inclined plates 5 are arranged in the counter-flow direction (column 2, lines 4-9). The clarifier must have a clean water outlet. It is either implicit, as assumed by the opposition division, or may be represented by the circle close to the liquid surface, between the plates 5 and the foam tank 6, shown in figure 2 of D1. Therefore, feature F6 is disclosed in D1.

1.4 Figure 2 of D1 shows a water inflow well above the surface of the liquid in the tank 3. There is no reason to assume that the particle-laden liquid to be cleaned does not flow through the tank by gravity, as argued by the appellant in view of F9. Consequently, feature F9 is also disclosed in D1.

1.5 Feature F7 specifies that the flock is led from an upper part of the flow channel to its own outlet pipe. The flock is thus to be led to the pipe. However, the subject-matter of claim 1 does not define how the flock is driven after reaching the pipe. Withdrawing the flock by suction from that point onwards is included in

the subject-matter of claim 1.

D1 discloses that the device 7 withdraws the foam by suction or scraping (column 2, lines 9-12). The point of withdrawal of the foam is shown downstream of the plates, where the foam is generated by electroflotation. Thus, feature F7 is also disclosed in D1.

- 1.6 The appellant assumes that figure 2 of D1 does not disclose the necessary means for water to flow from tank 3 to tank 4, and that pumps and piping are required.

D1, column 2, lines 4-9 discloses that the water flows from the reactor to the clarifier. There is no apparent reason why this clear disclosure of D1 should be interpreted as requiring a pump or any other additional means.

- 1.7 It is immediately apparent from figure 2 of D1 that the features not discussed above in detail (F1 to F5 and F8) are also disclosed in D1. This is not contested by the appellant.

Therefore, the reactor 3 shown in D1, figure 2 and described in column 2, lines 4-15 discloses all the features of the subject-matter of claim 1.

- 1.8 The subject-matter of claim 1 thus lacks novelty over D1 (Article 54(1) and (2) EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



C. Vodz

G. Glod

Decision electronically authenticated