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Datasheet for the decision of 21 June 2021

Case Number: T 1836/18 - 3.3.06

Application Number: 14187618.5

Publication Number: 2857491

IPC: C11D11/00, D06F39/02, A47L15/44, C11D3/39

Language of the proceedings: EN

Title of invention:
Device for on-site preparation and application of a bleach and/or disinfectant, corresponding method and use of a flowmeter

Patent Proprietor:
Christeyns N.V.

Opponent:
ECOLAB USA INC.

Headword:
On-site bleach/CHRISTEYNS

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (no)

Decisions cited:

Catchword:

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Beschwerdekammern

Boards of Appeal

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Case Number: T 1836/18 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 21 June 2021

Appellant: (Opponent)	ECOLAB USA INC. 370 Wabasha Street N St. Paul, MN 55102-1390 (US)
Representative:	Godemeyer Blum Lenze Patentanwälte Partnerschaft mbB - werkpatent An den Gärten 7 51491 Overath (DE)
Respondent: (Patent Proprietor)	Christeyns N.V. Afrikalaan 182 9000 Gent (BE)
Representative:	Patentwerk B.V. P.O. Box 1514 5200 BN 's-Hertogenbosch (NL)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 7 June 2018 concerning maintenance of the European Patent No. 2857491 in amended form.**

Composition of the Board:

Chairman	J.-M. Schwaller
Members:	S. Arrojo
	C. Heath

Summary of Facts and Submissions

I. The appeal filed by the opponent is directed against the decision of the opposition division to maintain European patent No. 2 857 491 on the basis of the main request filed with letter dated 27 September 2017, claim 1 of which reads as follows:

"1. Device (1) for on-site preparation and application of a bleach and/or disinfectant, comprising:
- at least one chemical reactor (5) for forming a bleach and/or disinfectant;
- at least one feed device (4) connected to the reactor (5) for feeding reactants required for the purpose of forming the bleach and/or disinfectant;
- at least one discharge device (10) connected to the reactor (5) for discharging the bleach and/or disinfectant formed in the reactor (5), said at least one discharge device (10) is configured for coupling to a treatment device (2) for objects, in particular textile or food product, for supplying at least a part of the formed bleach and/or disinfectant to the treatment device (2); and
- at least one controllable flowmeter (11) coupled to the at least one discharge device (10) for measuring the quantity of the formed bleach and/or disinfectant, ***characterized in that*** *the at least one chemical reactor (5) comprises at least one detection element for detecting the chemical activity and the device (1) further comprises a processing unit (6) configured to control the at least one flowmeter (11) on the basis of the chemical activity detected by the at least one detection element, wherein the processing unit (6) is configured to control the at least one flowmeter (11) to measure the quantity of the formed bleach and/or*

disinfectant in the case a predefined minimum chemical activity is detected by the at least one detection element."

II. In the statement of grounds of appeal, the appellant requested to set aside the above decision and to revoke the patent in its entirety for non-compliance with the requirements of Articles 84, 123(2) and 56 EPC in view of i.a. documents D1 (WO 2012/128734 A1) and D2 (US 2011/0293472 A1).

III. In its reply, the patentee (also respondent) requested to dismiss the appeal or, in case the patent could not be maintained in the version upheld by the opposition division (main request), to remit the case to the first instance for further prosecution on the basis of the auxiliary requests filed during opposition proceedings.

IV. Following the board's preliminary opinion that process claim 9 of the main request was considered to lack an inventive step in view of document D1 combined with common general knowledge, the respondent submitted a new auxiliary request with a letter dated 20 November 2020, with claim 1 thereof being identical to that of the main request.

V. With a letter dated 19 April 2021, the opponent requested not to admit the auxiliary request into the proceedings.

VI. At the oral proceedings before the board, the debate focused on the inventiveness of claim 1 of both requests on file. Before the debate was closed, the parties' requests were established to be as follows:

The appellant requested that the decision of the opposition division be set aside and that the patent be revoked in its entirety.

The respondent requested that the appeal be dismissed, or, as an auxiliary measure, that the patent be maintained on the basis of the auxiliary request filed with its letter dated 20 November 2020, or that the case be remitted to the first instance for further prosecution.

Reasons for the Decision

1. Main request - Inventive step

The board came to the conclusion that the requirements of Article 56 EPC are not met for the following reasons:

1.1 Closest prior art

1.1.1 There is agreement between the parties and the board that document D1 represents the closest prior art, as it relates to a device for on-site bleach/disinfectant preparation and application which is structurally and conceptually similar to the one described in the patent in suit.

More specifically, D1 discloses (see figure 1) a continuous reactor with several chambers in-series to produce a bleach/disinfectant at the point of use. In a specific embodiment (par. [0104]), the measuring of the chemical activity is performed manually (i.e. extracting samples and analysing them) in order to identify the port providing the highest concentration

of peracetic acid, from which the bleach/disinfectant will then be delivered to the point of use.

Document D1 fails to disclose a controllable flowmeter coupled to a discharge device, and while the pH sensor shown in figure 1 (ref. 115) could be seen as a detection element for detecting the chemical activity, there is no disclosure of a system for controlling a flowmeter to measure the quantity of formed bleach on the basis of the signal from this sensor.

1.1.2 The patentee argued that document D1 also failed to disclose that the device was configured to be coupled to a treatment device.

1.1.3 The board disagrees with the patentee, because the feature *"at least one discharge device (10) is configured for coupling to a treatment device"* in claim 1 encompasses any device including an outlet which is suitable for being coupled to another device. In practice, this suitability requirement is fulfilled by virtually any outlet port, since there is no reason to conclude that such ports could not be coupled to an adjacent device. In the specific case of D1, it is apparent that any of the reactor outlets used for sampling and for discharging the bleach/disinfectant would be suitable for being connected or coupled to a treatment device.

1.1.4 The subject-matter of claim 1 therefore differs from D1 in that

i) a controllable flowmeter is coupled to the discharge device, and in that
ii) a control system is provided which is configured for measuring the quantity of the formed bleach/

disinfectant with this flowmeter when a predefined minimum chemical activity is detected by a detection element.

1.2 Problem solved by the invention

1.2.1 According to the patent (par. [0007]), the object of the invention is to provide an improved, more efficient method of preparing and applying bleaches and/or disinfectants, while ensuring that the produced bleach/disinfectant fulfills certain quality criteria.

1.2.2 The patentee argued that the key idea of the invention was to measure the amount of end product only when the bleach/disinfectant fulfilled the quality criteria. The advantage of this system was that the end user would not have to pay for a low quality product. The objective technical problem in view of D1 was therefore to provide a device with which the end user was only charged for bleach/disinfectant of a certain quality.

1.2.3 The board considers that the problem formulated by the patentee unduly relies on a specific use of a method for controlling the device. Apart from the fact that some of the required use and method features are not defined in claim 1, the problem solved by a device claim should not be based on method and/or use features but on features defining the device as such. The board can therefore not agree that the device of claim 1 solves the problem formulated by the patentee.

Concerning the technical contribution of the invention, the board notes that while the device in document D1 is also configured to ensure that only bleach/disinfectant fulfilling certain quality standards is dispensed to the point of use, the invention performs this quality

check automatically while also measuring the amount of produced bleach/disinfectant. Consequently, the actual technical effect of the device of claim 1 is the provision of a device which can automatically monitor the quality and the quantity of formed bleach/ disinfectant.

The board therefore concludes that the problem solved by the invention is to provide a device which automatises the monitoring of the quality and quantity of formed bleach/disinfectant.

1.3 Obviousness

1.3.1 According to the patentee, starting from document D1 there would be no incentive to consider alternative means to monitor the quality or the amount of the outflowing end product, because this document was focused on optimising the residence time to obtain the desired chemical conversion. There was also no particular reason to consider the solutions proposed in D2, as this document also related to an optimisation of the reaction conditions and did not provide any hint that the controlling systems proposed therein could be used for the purpose of solving the underlying technical problem of ensuring that the end user was only charged for a product of a certain quality.

Finally, even if the disclosure of D2 were taken into account, the skilled person would still not arrive at the subject-matter of claim 1, because this document did not disclose controlling the flowmeter when a minimum chemical activity was detected by the detection element in the reactor.

1.3.2 The board disagrees with the above argumentation and considers that there are clear incentives for the skilled person to combine the teachings of documents D1 and D2 when looking for solutions to the underlying technical problem. It is first noted that the manual quality check proposed in D1 is a simple yet a suboptimal solution, so there would be good reasons for a skilled person to look for improved alternatives. In this respect, document D2 does not only deal with solutions to optimise the reaction conditions (as the patentee argued), but also proposes methods for automatically controlling the quality and the quantity of formed bleach/disinfectant.

In particular, document D2 discloses an embodiment (figure 15) in which the flows of bleach/disinfectant are controlled on the basis of data from several sensors measuring the concentration of peroxycarboxylic acid (ref. 180 in figure 15). One of the ideas for controlling the system (see par. [0159]) is that (emphasis added by the board) "[the] *controller 48 may compute the amount of peroxycarboxylic acid concentrate or diluent to be added to the use composition, for example, based on the known concentration of peroxycarboxylic acid in the use composition and the known or expected concentration of peroxycarboxylic acid in the concentrate holding tank 38*."

This passage in fact corresponds to the storage monitoring and re-plenishing system initially described in par. [0079], a configuration conceived to regulate the quality and quantity of bleach/disinfectant which needs to be delivered to the final use composition vessel 166. This system is said to include (see end of par. [0079]) "flowmeters and a sensor that detects the concentration of peroxycarboxylic acid". Thus, a

flowmeter is arranged between tank 38 and the use composition vessel in order to ensure that the required amount of peroxycarboxylic acid is added to the final product. The controller 48 computes and determines the amount of bleach/disinfectant crossing the flowmeter (i.e. the flowmeter is thus "controllable") on the basis of the "known or expected" concentration of peroxycarboxylic acid in the tank 38 (see ref. 180 in figure 15), an input which includes measurements from a sensor monitoring the concentration of peroxycarboxylic at the outlet of the reactor (see par. [0080] or [0181]). This configuration therefore falls within the solution proposed in claim 1, because it includes a controllable flowmeter coupled to the discharge device arranged to measure an amount of formed bleach/ disinfectant, wherein a processing unit or controller is provided which controls the flowmeter on the basis of i.a. the input from a sensor arranged at the outlet of the reactor.

Since the above configuration in D2 arguably constitutes a way of automatising the monitoring of the quality and the quantity of bleach/disinfectant being added to the final user composition, the board concludes that it would be obvious for a skilled person to integrate this solution into the device of document D1 for solving the underlying technical problem of the invention.

The subject-matter of claim 1 is thus considered to be obvious in view of document D1 combined with the teachings of document D2.

2. Auxiliary request - Inventive step

2.1 Since claim 1 of this request is identical to that of the main request, the reasons and conclusions presented for the main request also apply. Consequently, the subject-matter of claim 1 of this request does not meet the requirements of Article 56 EPC in view of the combination of document D1 as closest prior art and the teachings of D2.

3. In view of the fact that none of the sets of claims on file meets the requirements of the EPC, the respondent's request to remit the case to the first instance for further prosecution would serve no purpose and can therefore not be granted.

4. Since none of the requests presented by the patentee are allowable, the patent must be revoked, and there is thus no need to decide on the question of admittance of the auxiliary request or on the additional objections under Articles 123(2), 84 and 56 EPC presented by the opponent.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

A. Pinna J.-M. Schwaller

Decision electronically authenticated