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**Datasheet for the decision
of 28 November 2018**

Case Number: T 1013/16 - 3.3.05

Application Number: 09764176.5

Publication Number: 2504090

IPC: B01J2/04, B01J2/16, F26B3/12,
G01N21/85

Language of the proceedings: EN

Title of invention:

A METHOD OF MONITORING A SPRAY DRYER AND A SPRAY DRYER
COMPRISING ONE OR MORE INFRARED CAMERAS

Patent Proprietor:

GEA Process Engineering A/S

Opponent:

Tetra Laval Holdings & Finance SA

Headword:

Method for monitoring parts of a spray dryer/GEA

Relevant legal provisions:

EPC Art. 83, 56
RPBA Art. 12(4)

Keyword:

Sufficiency of disclosure - (yes)
Inventive step - non-obvious alternative

Decisions cited:

G 0007/93, T 0177/08

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 1013/16 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 28 November 2018

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Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted on
11 February 2016 concerning the maintenance of
European Patent No. 2504090 in amended form.

Composition of the Board:

Chairman E. Bendl
Members: T. Burkhardt
R. Winkelhofer

Summary of Facts and Submissions

- I. Both the opponent and the proprietor lodged an appeal against the opposition division's interlocutory decision that amended European patent EP 2 504 090 B met the requirements of the EPC.
- II. The opposition division held that the ground for opposition under Article 100(a) in combination with Article 54 EPC, but not the grounds under Articles 100(b) and (c) EPC, prevented the patent from being maintained in the form of the main request, i.e. as granted, but that the amended patent in the form of the then fourth auxiliary request met the requirements of the EPC.

In the proceedings before the opposition division the following documents were among those discussed:

D1	CA 2 292 712 A1
D12	US 2009/0224065 A1
D14	US 2004/0225452 A1

The opposition division did not admit D14 into the proceedings.

- III. With its grounds of appeal, the opponent/appellant, hereafter referred to as the opponent, filed an additional document:

D18	"Handbook of Industrial Drying", A S Mujumdar, Second edition, Marcel Dekker Inc., Volume 1, 290, 301-304, 1995
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- IV. With its submission dated 26 October 2018, the proprietor/appellant, hereafter referred to as the proprietor, submitted a main request (patent as granted) and six auxiliary requests. These included auxiliary request 1, which was identical to the set of claims upheld by the opposition division.
- V. At the end of the oral proceedings before the board, the proprietor made auxiliary request 1 its main (sole) request and withdrew all other requests.
- VI. Independent claim 1 of this main request reads as follows:

"1. A method of monitoring parts of a spray dryer subjected to the formation of deposits, comprising the steps of:
providing a spray drying chamber, and
associating one or more cameras with the spray drying chamber, said one or more camera having a field of view inside the spray drying chamber,
whereby at least one of said one or more cameras is an infrared camera,
whereby the temperature is measured within a predefined area,
comprising the further steps of providing a control system, and providing a set value for the temperature in said predefined area, wherein the control system is associated to an alarm triggered when the temperature exceeds said set value, and
whereby the monitoring is carried out with respect to deposits of solid material, and the set value for the temperature is the temperature of the deposits."

Claims 2 to 11 are dependent on claim 1 and describe preferred embodiments thereof.

VII. The arguments of the opponent that are relevant to the present decision, may be summarised as follows:

Articles 100(b) / 83 EPC:

The disclosure would not allow the patent in suit to be carried out, because the "set value" was defined in claim 1 as the "temperature of the deposits".

Articles 100(a) / 56 EPC:

The subject-matter of claim 1 was rendered obvious, on the one hand by D1, either alone or in combination with any of D12, D14 or D18, and on the other hand by D18 in combination with D1.

VIII. The arguments of the proprietor that are relevant to the present decision may be summarised as follows:

Articles 100(b) / 83 EPC:

The skilled person knew from the description of the patent in suit how to determine the "set value", namely as a temperature for carrying out the claimed method that was still at an acceptable level. The invention was consequently disclosed in a manner sufficiently clear and complete to be carried out.

Articles 100(a) / 56 EPC:

The focus of D1 was not safety but the obtaining of an efficient process. There was no reason to consider it in combination with D18, but even if such a combination were contemplated one would not arrive at the claimed subject-matter. None of the other available documents dealt with safety issues.

D18 did not prompt the skilled person to consider D1, since the technical problem in D18 was already solved, and D1 had a different purpose.

Consequently, the requirements of Article 56 EPC were met.

IX. Requests

The opponent requests that the decision under appeal be set aside and the patent be revoked.

The proprietor requests that the patent be maintained on the basis of the main (sole) request, filed as first auxiliary request with its submission dated 26 October 2018.

Reasons for the Decision

1. Article 12(4) RPBA

1.1 The opponent contests that D14 was late filed and not *prima facie* relevant, as argued in the decision under appeal.

1.2 According to Article 12(4) RPBA it is at the board's discretion to admit facts, evidence or requests that could have been presented or were not admitted in the first instance proceedings.

1.3 The board notes that D14 was mentioned in the notice of opposition, but the corresponding objection was not substantiated.

No convincing argument/proof was submitted by the opponent that the opposition division did not exercise its discretion in accordance with the right principles, or that it had done so in an unreasonable way and had thus exceeded the proper limits of its discretion (see G 7/93, OJ 1994, 775, Reasons 2.6).

The opponent asserts that D14 had been used in the proceedings at the USPTO. However, as the procedure at the USPTO and that at the EPO operate under different legal frameworks, it cannot be automatically concluded that the admission of a document in proceedings before one office automatically results in admission of the document in the proceedings before the other.

Thus, D14 is not admitted into the proceedings.

- 1.4 The textbook D18, which was submitted by the opponent with its grounds of appeal, discloses the common general knowledge before the filing date of the patent in suit. It is moreover noted that the proprietor has not contested its admission into the proceedings. During the oral proceedings it acknowledged that D18 presented the common general knowledge.

There is hence no reason to deviate from the board's view expressed in the communication under Art. 15(1) RPBA, and D18 was admitted into the proceedings.

2. Articles 100(b) / 83 EPC

- 2.1 Claim 1 of the patent in suit is directed to a method of monitoring parts of a spray dryer.

It requires a "monitoring with respect to deposits" (line 15), the measurement of a temperature

in a "predefined area" (line 10) and the provision of a "set value for the temperature in said predefined area" (line 12), and specifies that the predefined area actually corresponds to the deposits (lines 16/17). In other words, claim 1 requires the temperature of the deposits to be measured.

2.2 The opponent holds that the disclosure does not enable the method to be carried out, since the alarm would never be triggered: indeed, the measured temperature of the deposits would never exceed the set value, as it is itself defined as the temperature of the deposits.

The opponent moreover refers to T 177/08 and states that the skilled person would not know when the patent was infringed if a meaning other than the generally recognised one had to be given to a feature in the claim, i.e. if the set value was not itself the temperature of the deposits, as indicated in the claim, but something different. The skilled person would have no further guidance as to how the set value should be determined, and would rely solely on trial and error.

2.3 If the meaning of the feature "the set value for the temperature is the temperature of the deposits" in claim 1 is taken literally, an alarm would never be triggered, because the set value, i.e. the temperature potentially triggering an alarm, would always be identical to the actual temperature of the deposits. Faced with this apparent contradiction or lack of clarity, the skilled person would turn to the description for clarification. There, it becomes apparent from passages such as the sentence bridging columns 6 and 7, and column 7, lines 15/16 that the "level", i.e. the set value, serves as the reference

for comparison and cannot be the measured temperature of the deposits.

The situation in T 177/08 is different, in so far that there was no "need of interpretation" and no "need to consult the description" (Reasons 3.2 and 3.3), in contrast to the present case with the apparent contradiction between the triggering of an alarm and the definition of the set value mentioned above. Consequently, T 177/08 has no bearing on the present case.

In conclusion, the invention can be carried out without undue burden, over the entire scope of the claims.

3. Article 100(a) in combination with Article 54 EPC

The opponent indicated that there were no objections under Article 54 EPC. The board sees no reason to disagree with this assessment.

4. Article 100(a) in combination with Article 56 EPC

4.1 The patent in suit relates to a method of monitoring parts of a spray dryer (paragraph [1] of the patent in suit).

4.2 Paragraphs [3,8] describe the problem to be solved as the avoidance of the risk of fire and explosion.

4.3 The opponent asserted that either D18 or D1 should be considered as closest prior art.

D18 mentions safety risks related to deposits (p. 301) and provides way of reducing these risks, namely by carrying out proper operation and cleaning of the air

dryer (first paragraph of p. 302). Consequently, D18 has the same purpose as the patent in suit and is to be considered as closest prior art.

- 4.4 Since this technical problem is already solved in D18 the technical problem has to be reformulated as the provision of an *alternative* method of monitoring parts of a spray dryer. The opponent agreed to this formulation of the objective technical problem.
- 4.5 The question to be answered is whether the proposed solution to this problem is obvious to the person skilled in the art, in view of the closest prior art.
- 4.6 As a solution to the above problem, the patent in suit proposes the method according to claim 1, which involves the following characterising features: the monitoring of parts of a spray dryer with respect to deposits of solid material, the use of an infrared camera for this purpose and the triggering of an alarm when the temperature exceeds a set value.

The opponent admitted that D18 fails to disclose an infrared camera.

On the other hand, the opponent holds that D18 would also disclose monitoring of the temperature of deposits. However, this view is not shared by the board. While D18 discloses a "continuous monitoring of the ... temperature at selected locations" and a "deposit detection" (first paragraph of p. 302), this cannot be construed as a measurement of the temperature **of the deposits** as required by claim 1 of the patent in suit (point 2.1). Indeed, the temperatures to be measured in D18 are rather those of the chamber inlet and outlet or that of the exhaust air (p. 301,

paragraph 5). The passage "ignition is possible whenever dry powder deposits are formed" (p. 301, fourth full paragraph) teaches avoiding any deposits at all, rather than merely observing their temperature. This is in line with the next sentence, which states that for detergents "ignition is also possible in the cloud". Thus, in this case the (mere) observation of the temperature of deposits on parts of the spray dryer would not be useful, as ignition may also occur in the cloud of dried particles. Chapter 3.4 on p. 303 clearly teaches that "[t]he outlet air temperature" from the drying chamber is the parameter that "is controlled" and "[t]he inlet air temperature [is] controlled by the second circuit". Thus, these passages teach that it is not the temperature of the deposits which is used as an indicator to avoid explosion.

The opponent also asserts that D18 discloses a set value for the temperature of the deposits, namely in the second column of Table 8. However, the word "Layer" in Table 8 must be read in conjunction with the word "Powder" in the top left corner of the table. Thus, the second and third columns of the table show the safety data for different spray-dried materials in the form of a powder forming either a layer or a cloud, but not the set values for the temperature of deposits in a control algorithm.

- 4.7 In the opponent's view, the skilled person would, when starting from D18, consider the teaching of **D1** and use an infrared camera to avoid the presence of hot spots, thereby measuring the temperature of the deposits and arriving at the claimed subject-matter.

The board does not share this view. While D1 discloses the use of an infrared camera to avoid "hot spots" that

develop "in the middle of the spray tower" (Fig.1 (9), page 1 lines 15-17) and while the measurement by the infrared camera is *inevitably* affected by the heat radiation from deposits (see also paragraph [10] of the patent in suit), D1 does not mention deposits, let alone the measurement of the temperature of these deposits. There is thus no reason for the skilled person to follow the teaching of D1 and to put an infrared camera in the method of D18 when trying to solve the stated problem. The skilled person would do so only with hindsight.

- 4.8 Alternatively, the opponent holds that **D1** could also be considered as closest prior art, and that the skilled person would arrive at the claimed subject-matter from D1, alone or in combination with D12 or D18.

However, it is noted that D1 seeks to improve energy efficiency by avoiding hot spots (p. 1 lines 19/20) rather than to avoid the risks of fire and explosion. This objective is quite different from the object of the patent in suit. For this reason, D1 cannot be considered as being closer to the claimed subject-matter than D18.

- 4.9 Thus, the main request meets the requirements of Article 56 EPC.

5. Conclusion

Having withdrawn all requests other than the present main request, the proprietor ultimately requested that the patent in suit be maintained on the basis of the set of claims upheld by the opposition division. The legal implications of this request are that the

proprietor's appeal must be considered to have been withdrawn.

Consequently, the only request that remained to be decided upon was the opponent's appeal. Given the reasons as stated above, this appeal has to be dismissed, which is equivalent to the opposition division's decision being upheld.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



C. Vodz

E. Bendl

Decision electronically authenticated