

Internal distribution code:

- (A) Publication in OJ
(B) To Chairmen and Members
(C) To Chairmen
(D) No distribution

**Datasheet for the decision
of 19 May 2011**

Case Number: T 2230/08 - 3.3.07

Application Number: 95939101.2

Publication Number: 0802825

IPC: B01J 38/04

Language of the proceedings: EN

Title of invention:

Regeneration of catalyst/ABSORBER

Patent Proprietors:

EMERACHEM LLC

Opponents:

Daimler AG

Headword:

-

Relevant legal provisions:

EPC Art. 123(2), 123(3)

EPC R. 139

Relevant legal provisions (EPC 1973):

-

Keyword:

"Correction of error (no) - extension of scope of protection
(yes) (main request) - extension of the content of the
application as filed (yes) (auxiliary request)"

Decisions cited:

G 0003/89, G 0001/93, T 0553/99, T 0384/91

Catchword:

-



Case Number: T 2230/08 - 3.3.07

DECISION
of the Technical Board of Appeal 3.3.07
of 19 May 2011

Appellants:
(Patent Proprietors)

EMERACHEM LLC
1729 Louisville Drive
Knoxville
TN 37921 (US)

Representative:

Berngruber, Otto
von Puttkamer - Berngruber
Patentanwälte
Türkenstrasse 9
D-80333 München (DE)

Respondent:
(Opponents)

Daimler AG
Intellectual Property and Technology
Management
GR/VI, H512
D-70546 Stuttgart (DE)

Representative:

-

Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 4 November 2008
revoking European patent No. 0802825 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman:

J. Riolo

Members:

F. Rousseau

M.-B. Tardo-Dino

Summary of Facts and Submissions

- I. The appeal by the Patent Proprietors (Appellants) lies from the decision of the opposition division posted on 4 November 2008 revoking European patent No. EP-B-0 802 825 in respect of European patent application No. 95 939 101.2, which is based on the International application PCT/US1995/014548 filed on 25 October 1995 and published under WO 96/20044.
- II. The Opponents (Respondents) had requested in the notice of opposition the revocation of the patent in its entirety *inter alia* on the ground that its subject-matter extended beyond the content of the application as filed (Article 100(c) EPC). The impugned decision was based on claims 1 to 5 submitted during the oral proceedings before the opposition division on 23 October 2008 as the Patent Proprietors' sole request. According to the decision, the subject-matter of claim 1 of that request extended beyond the content of the application as filed, as the latter did not disclose a method of regenerating a devitalized catalyst/absorber that comprised the step of providing a stream of regenerating gas with a temperature in the range of 121°C to 399°C.
- III. With the statement setting out the grounds of appeal dated 3 March 2009, the Appellants submitted one set of claims as their sole request. The Respondents in a letter dated 3 July 2009 submitted that claim 1 of that request extended beyond the content of the patent as granted.

IV. The Appellants with a written submission dated 11 October 2010 no longer maintained the former request, but submitted two sets of claims forming the basis for a main request and an auxiliary request. Claim 1 according to the main request reads as follows (the deletions made in the claims as granted being indicated in strikethrough and the additions made, in bold and underlined):

"1. A method of regenerating a devitalized catalyst/absorber comprising a platinum catalyst and an absorber material, said catalyst/absorber having a coating of an alkali or alkaline earth carbonate or bicarbonate thereon and having nitrogen oxides and sulfur oxides absorbed therein or thereon, said method comprising the steps of:

providing a stream of regenerating gas comprising a reducing gas ~~within a temperature range of 121°C to 399°C (250°F-750°F)~~, said reducing gas comprising hydrogen ~~and/or~~ a mixture of carbon monoxide and hydrogen and an inert carrier gas comprising steam and/or nitrogen; and

passing said stream of regenerating gas over said devitalized catalyst/absorber at a temperature in the range of 121°C to 399°C (250°F-750°F) to convert said nitrogen oxides to nitrogen and water and to displace the sulfur oxides to regenerate said catalyst/absorber."

V. Compared to claim 1 of the main request, claim 1 of the auxiliary request defines as in claim 1 as granted also

that the temperature of the stream of regenerating gas is within the range of 121°C to 399°C (250°F-750°F).

VI. Oral proceedings before the Board took place on 19 May 2011.

VII. The Appellants' arguments can be summarised as follows:

(a) The modification in claim 1 of the main request that the temperature range of 121°C to 399°C (250°F-750°F) defined the regeneration temperature rather than the temperature of the incoming stream of reducing gas was a mere correction under Rule 139 EPC of claim 1 as granted. This correction was supported by opinion G 3/89 of the Enlarged Board of Appeal (OJ, 1993, 117), because it was within the limits of what a skilled person would derive directly and unambiguously using common general knowledge from the European patent application as filed. It was obvious that the feature in granted claim 1 of providing a stream of regenerating gas within a temperature of 121°C to 399°C and passing said gas over the catalyst/absorber was incorrect, because it comprised the possibility that the stream of gas had said temperature distant from the catalyst/absorber, but not when the reaction took place. This situation, however, was not conceivable for a skilled person for whom in the field of catalysts the only temperature that mattered was the temperature at which regeneration took place, i.e. the temperature of the catalyst/absorber. The temperature of the regenerating gas was of no significance for the

regeneration of catalysts in turbine power plants, even nor was it measured. The regeneration temperature was not imposed by the regenerating gas, but by the huge mass of ceramic supporting the catalyst/absorber. Moreover, the correction proposed was supported by the application as filed. Hence, the Appellants' request for a correction under Rule 139 EPC of claim 1 as granted was allowable.

- (b) It was not disputed that claim 1 of the main request would not fulfil the requirements of Article 123(3) EPC, should the request for correction under Rule 139 EPC not be allowed.

- (c) Concerning the auxiliary request, the range of temperature of 121°C to 399°C for the regeneration reaction that had been inserted in claim 1 was properly disclosed in the application as filed and deprived the undisclosed feature defining the temperature range for the regenerating gas of all technical contribution to the subject-matter of the claimed invention. The skilled person would in particular consider the temperature of the stream of regenerating gas as completely inessential, since the temperature that mattered was that of the absorber. Thus, in line with decision T 553/99 of 21 February 2001 (not published in the OJ), the limiting undisclosed range of values defining the temperature of the regenerating gas could be maintained in claim 1 without violating Article 123(2) EPC.

VIII. The arguments of the Respondents can be summarised as follows:

- (a) A correction under Rule 139 EPC of claim 1 as requested by the Appellants was not allowable as it was not immediately evident that nothing else would have been intended than what was offered as the correction. The claims were not restricted to a method of regenerating a catalyst/absorber in a turbine power plant. For catalytic systems used for the cleaning of vehicle engine exhaust gases, there existed situations where the reducing or regenerating gas was heated and had a different temperature than the catalyst/absorber. This situation was different from the stationary installations using isothermal conditions. It followed that claim 1 as granted should be taken at face value and, consequently, that claim 1 of the main request extended the scope of protection of the patent in suit, contrary to the requirements of Article 123(3) EPC.

- (b) As to the auxiliary request, the definition in claim 1 of the range of temperature used for the regenerating gas provided a technical contribution to the subject-matter of the claimed invention, as it gave the skilled person a teaching on how to conduct the claimed method. The step of providing the stream of regenerating gas with a specific temperature interacted with the other features of the method and contributed therefore to the solution of the technical problem indicated in the application as originally filed. Following T 384/91 (OJ, 1995, 745), the undisclosed feature

of providing a stream of regenerating gas with a temperature in the range of 121°C to 399° could not therefore remain in claim 1 without infringing Article 123(2) EPC. The auxiliary request was therefore not allowable.

- IX. The Appellants requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request or, in the alternative, on the basis of the auxiliary request, both submitted with their letter dated 11 October 2010.
- X. The Respondents requested that the appeal be dismissed.
- XI. At the end of the oral proceedings, the decision of the Board was announced.

Reasons for the Decision

- 1. The appeal is admissible.
- 2. Claim 1 as granted defines the distinct steps of (i) providing a stream of a specific regenerating gas with a temperature within the range of 121°C to 399°C (250°F-750°F) and (ii) passing said stream of gas over a devitalized catalyst/absorber. It is not in dispute between the parties that the temperature range defined in the first step of claim 1 as granted is not disclosed in the application as originally filed for defining the temperature of the incoming stream of regenerating gas, but only for specifying the temperature at which regeneration of the catalyst can

take place in the second step of the present method (page 5, lines 4-6 and claim 2).

Main Request

3. Claim 1 according to the main request comprises in comparison to claim 1 as granted several amendments, in particular that the temperature range of 121°C to 399°C (250°F-750°F) defines the temperature at which regeneration takes place, in line with the application as originally filed, and not the temperature of the incoming stream of reducing gas. This amendment is considered by the Appellants to represent a mere correction under Rule 139 EPC of the wording of claim 1 as granted.

4. Rule 139 EPC (former Rule 88 EPC 1973) provides in its second sentence that a correction of errors in documents filed with the European Patent Office that concerns the description, claims or drawings can only be allowed if the correction is obvious in the sense that it is immediately evident that nothing else would have been intended than what is offered as correction. In point 5 of the reasons of decision G 3/89, the Enlarged Board of Appeal considered that, for a correction under Rule 88, second sentence EPC 1973, that concerns the disclosure of a European application or a European patent to be allowed, the respective parts of the disclosure for which a correction is requested must, either on the date of filing or following an amendment under Article 123 EPC, contain such an obvious error that a skilled person would be in no doubt that the information concerned could not be meant to read as such. According to point 2 of the

reasons of that decision, the skilled person must be in a position objectively and unambiguously to recognise the incorrect information using common general knowledge. If, on the other hand, it is doubtful whether that information is incorrectly defined, then a correction is ruled out. The same applies if incorrect information only becomes apparent in the light of the proposed correction (see point 5 of the reasons).

5. In the present case, the range of 121°C to 399°C (250°F-750°F) is clearly defined in claim 1 as granted as the temperature of the incoming stream of regenerating gas. The step of providing a gas at a specific temperature is technically sensible for the skilled person, as it could be used for example as a means to provide or adjust the temperature at which regeneration takes place. The Appellants argued that the only temperature that matters was not that of the incoming stream of regenerating gas, but the temperature at which regeneration is carried out, which is the temperature of the catalyst/absorber. They argued that the temperature of the regenerating gas was of no significance for the regeneration of catalysts in turbine power plants -it was not even measured- because the regeneration temperature in that case was imposed by the temperature of the huge mass of ceramic supporting the catalyst/absorber. Claim 1 as granted, however, does not contain any limitation in respect of turbine power plants, the method of the invention being also for example applicable to the regeneration of vehicle exhaust catalysts as indicated by the Appellants. In the latter field, it is not uncommon as was argued by the Respondents to pre-heat the regenerating gas before regeneration takes place. That

point was not disputed by the Appellants. Therefore, the Appellants' argument that the only temperature that matters in the method according to claim 1 of the patent in suit is the reaction temperature fails to convince. Thus, the skilled person would not have any reason in the absence of any limitation to turbine power plants to doubt the information provided in claim 1 as granted when taken at face value.

6. Moreover, the description of the patent in suit does not provide any indication that another meaning could have been intended for the range of temperatures defined in claim 1. There is no disclosure in the patent as granted that the only temperature that matters is the reaction temperature and not that of the gas. On the contrary, the temperature of the regenerating gas is defined in paragraph [0014] of the specification in the same manner as in claim 1 as granted and the temperature of the regeneration reaction is stated in paragraph [0019] to be preferably in the range of 121°C to 399°C, i.e. possibly in the same range but not necessarily in that range, in line with the absence of any definition of the reaction temperature in claim 1 of the granted version. The information presented in claim 1 as granted is therefore for the skilled reader coherent with that provided in the description. Thus, the definition of the range of temperature for the incoming stream of regenerating gas in claim 1 does not appear to the skilled person as an error, even less as an obvious one.
7. The Appellants argued that a correction under Rule 139 EPC should be allowed as the skilled reader comparing the wording of claim 1 as granted and of

claim 1 as originally filed would immediately realise that the range of temperature as defined in claim 1 as granted was meant to be that of the regeneration reaction as in claim 1 as originally filed. A correction under Rule 139 EPC in a document filed with the EPO is an instrument available to rectify an error of transcription against the true intention of the person filing the document or on whose behalf it was filed. There is however no evidence that such an error of transcription occurred in the present case. On the contrary, the fact that the same amendment was carried out while adapting the description to amended claim 1 and that the temperature of the regeneration reaction was not amended in the description, i.e. remained preferably, but not necessarily, in the range of 121°C to 399°C, rather indicates that the intention of the applicants was to attribute this temperature range to the stream of incoming gas, but not to the reaction temperature.

8. Consequently, the request for correction under Rule 139 EPC is rejected and the range of temperature from 121°C to 399°C (250°F-750°F) in claim 1 as granted is read by the skilled person as to define the temperature of the incoming stream of regenerating gas, but not that of the regeneration reaction.

9. Compared to claim 1 as granted, claim 1 according to the main request has been broadened in scope in violation of Article 123(3) EPC as it no longer requires that the stream of regenerating gas has a temperature in the range of 121°C to 399°C (250°F-750°F), i.e. claim 1 according to the main request allows a method using a stream of gas which is cooler

or hotter than the one defined in granted claim 1. This was not disputed by the Appellants. Hence, the claims according to the main request are not allowable in view of Article 123(3) EPC.

Auxiliary request

10. The question to be answered is whether in view of decision of the Enlarged Board of Appeal G 1/93 (OJ, 1994, 541), the undisclosed added feature defining the temperature of the incoming stream of regenerating gas can remain in claim 1 of the auxiliary request. According to point 16 of the Reasons in decision G 1/93, if an undisclosed added feature, although limiting the scope of protection conferred by the patent, has to be considered as providing a technical contribution to the subject-matter of the claimed invention, it would give an unwarranted advantage to the patentee contrary to the purpose of Article 123(2) EPC. Whether or not a limiting feature is to be considered as added subject-matter within the meaning of Article 123(2) EPC, can, of course, only be decided on the basis of the facts of each individual case (see G 1/93, point 17 of the Reasons).

11. According to paragraph 5 of the Reasons of T 384/91 (supra), an undisclosed added feature at least should not be considered as merely limiting the protection conferred by the granted patent without providing a technical contribution to the invention as claimed, if it interacts with the remaining features of the claim in such terms that it influences the solution of the technical problem which can be understood from the application as originally filed. The Appellants citing

decision T 553/99 of 21 February 2001 (not published in the OJ) argued that the addition of the disclosed feature of the temperature range for the regeneration reaction deprived the undisclosed feature of the temperature range for the regenerating gas of all technical contribution to the subject-matter of the claimed invention.

12. According to paragraphs [0009] and [0010] of the patent in suit (corresponding to page 3, lines 20-31 of the application as originally filed), the technical problem underlying the present invention is the provision of "*a system for regenerating the absorber, rather than removing it, which is easier, simpler, faster, less labour intensive and less expensive than those systems known in the prior art*". The present invention is indicated to be advantageous, because the regeneration of the catalyst/absorber may be carried out in situ, without liquid reagents and also because the by-products of the regeneration can be easily disposed of and the gases used in the regeneration are low-cost and readily available. According to paragraph [0011] of the patent in suit (page 3, lines 33-37 of the application as originally filed) "*a devitalized catalyst/absorber is regenerated, that is, treated to restore the initial activity or to otherwise substantially improve the activity, by passing a regeneration gas over it*".

13. The fact that the essential temperature is that at which regeneration takes place, as was argued by the Appellants, does not automatically deprive the temperature of the stream of regenerating gas of all technical contribution to the invention as claimed. In the context of the present claimed regeneration method,

the pre-heating of the regenerating gas could represent depending on the type of device containing the catalytic system a sensible feature that interacts with the other means used for providing the reaction conditions required for regeneration. The undisclosed modification contained in claim 1 as granted and still present in claim 1 of the auxiliary request would therefore be prejudicial to third parties relying on the invention as described in the application as originally filed, as that undisclosed modification which is technically sensible, might possibly be the basis for a valuable invention.

14. Claim 1 of the auxiliary request is not restricted to any specific method which would deprive the definition of the temperature of the regenerating gas of all technical contribution within the context of that claim. In the absence of any additional disclosed restricting feature to that effect, the temperature of the incoming regenerating gas is therefore considered to interact with the remaining features of the claim in such terms that it influences the solution of the technical problem which can be understood from the application as originally filed.

15. It follows that the condition of a missing technical contribution set out in decision G 1/93 on whose basis added matter can be considered as not extending beyond the application as filed are not met in the present case. Consequently, the subject-matter of claim 1 according to the auxiliary request extends beyond the content of the application as originally filed in violation of Article 123(2) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

S. Fabiani

J. Riolo