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**Datasheet for the decision
of 21 December 2017**

Case Number: T 2244/15 - 3.3.05

Application Number: 11176731.5

Publication Number: 2554238

IPC: B01D46/24, B01D46/00,
B01D53/86, B01D53/88

Language of the proceedings: EN

Title of invention:
Catalytic filter system

Patent Proprietor:
Pall Corporation

Opponent:
ThyssenKrupp Industrial Solutions AG

Headword:
Catalytic filter/PALL

Relevant legal provisions:
EPC Art. 54(1), 54(2), 113(1)
EPC R. 103(1)
RPBA Art. 13(1)

Keyword:

Novelty - main, first and second auxiliary request (no) -
third auxiliary request (yes)
Late-filed auxiliary requests - admitted (no)
Right to be heard - opportunity to comment (yes)
Substantial procedural violation - (no)
Reimbursement of appeal fee - (no)

Decisions cited:

Catchword:



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Case Number: T 2244/15 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 21 December 2017

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 7 October 2015
revoking European patent No. 2554238 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman G. Glod
Members: J.-M. Schwaller
P. Guntz

Summary of Facts and Submissions

- I. The present appeal lies from the decision of the opposition division to revoke European patent No. 2 554 238 on the ground that its claim 1 lacked novelty over the disclosure of document D3 (DE 37 05 793 A1).

Claim 1 as granted (also claim 1 of the main request in the present proceedings) reads as follows:

"1. A catalytic filter system (10; 120) comprising a filtration vessel (12; 122) having a fluid inlet (24; 134) and a fluid outlet (26; 136), a separation wall (14; 124) provided in the interior of said filtration vessel (12; 122) and a plurality of filter candles (22; 132); wherein said separation wall (14; 124) divides said interior into a raw gas chamber (16; 126) and a clean gas chamber (18; 128); wherein said separation wall (14; 124) comprises a plurality of openings (20; 130) designed to sealingly accommodate said plurality of filter candles (22; 132); wherein said fluid inlet (24; 134) is arranged in fluid communication with said raw gas chamber (16; 126) upstream of said plurality of filter candles (22; 132); wherein said fluid outlet (26; 136) is arranged in fluid communication with said clean gas chamber (18; 128) downstream of said plurality of filter candles (22); and wherein said filter system (10; 120) comprises a first catalytic medium (30; 138) which is accommodated in said clean gas chamber (18; 128) downstream of said filter candles (22; 132) and upstream of said fluid outlet (26; 136), characterized in that said system (10; 120) optionally further comprises a second catalytic medium (139) downstream of said first catalytic medium (138) and upstream of said clean gas outlet (136),

and in that said first and/or second catalytic medium (30; 138; 139) comprises a filter element the average pore size of which being about equal to or larger than the average pore size of the filter candles (22; 132)."

- II. With the grounds of appeal, the patentee (the "appellant") filed two amended sets of claims as auxiliary requests 1 and 2. It also requested the reimbursement of the appeal fee.

Claim 1 of auxiliary request 1 differs from claim 1 as granted in that it is further characterised by the feature:

", wherein the first and/or second catalytic medium (30; 138; 139) being provided in the form of a safety fuse.",

and claim 1 of auxiliary request 2 by the features:

", wherein the first and/or second catalytic medium (30; 138; 139) being provided in the form of a safety fuse and having a depth filter structure so as to serve as a safety measure in case a filter candle breaks."

- III. In a communication, the board expressed its preliminary opinion that the subject-matter of claim 1 of each of these requests appeared to lack novelty over D3.
- IV. In response to the board's communication, the respondent submitted a set of observations along with nine further requests: main request V2, main request V3, first auxiliary request V2, first auxiliary request V3, second auxiliary request V2, second auxiliary request V3, third to fifth auxiliary request, all dated 21 November 2017.

Claim 1, version 2 of the main request differs from claim 1 as granted in that its characterising part reads as follows:

"characterized in that said first catalytic medium (30; 138; 139) comprises a filter element the average pore size of which being about equal to or larger than the average pore size of the filter candles (22; 132);

or

characterized in that said system further comprises a second catalytic medium (139) downstream of said first catalytic medium (138) and upstream of said clean gas outlet (136), wherein said first and/or second catalytic medium (30; 138; 139) comprises a filter element the average pore size of which being about equal to or larger than the average pore size of the filter candles (22; 132)."

Main request V3 has the same technical content as main request V2, except that the sole independent claim has been split into two independent claims 1 and 2, the characterising part of which corresponds to both of the above two alternatives.

Versions V2 and V3 of the first and second auxiliary request have the same structure as versions V2 and V3 of the main request, but include in their characterising part the amendments identified in point II. above.

Claim 1 of the third auxiliary request reads as follows:

"A catalytic filter system (10; 120) comprising a filtration vessel (12; 122) having a fluid inlet (24; 134) and a fluid outlet (26; 136), a separation wall

(14; 124) provided in the interior of said filtration vessel (12; 122) and a plurality of filter candles (22; 132); wherein said separation wall (14; 124) divides said interior into a raw gas chamber (16; 126) and a clean gas chamber (18; 128); wherein said separation wall (14; 124) comprises a plurality of openings (20; 130) designed to sealingly accommodate said plurality of filter candles (22; 132); wherein said fluid inlet (24; 134) is arranged in fluid communication with said raw gas chamber (16; 126) upstream of said plurality of filter candles (22; 132); wherein said fluid outlet (26; 136) is arranged in fluid communication with said clean gas chamber (18; 128) downstream of said plurality of filter candles (22); and wherein said filter system (10; 120) comprises a first catalytic medium (30; 138) which is accommodated in said clean gas chamber (18; 128) downstream of said filter candles (22; 132) and upstream of said fluid outlet (26; 136), characterized in that said system (10; 120) **optionally** further comprises a second catalytic medium (139) downstream of said first catalytic medium (138) and upstream of said clean gas outlet (136), **wherein** ~~and in that~~ said first and/or second catalytic medium (30; 138; 139) comprises a filter element the average pore size of which being about equal to or larger than the average pore size of the filter candles (22; 132)."

Claims 2 to 10 refer directly or indirectly to claim 1 and are identical to claims 2 to 10 of the granted patent.

- V. At the oral proceedings, the novelty of the main, first and second auxiliary requests was first discussed. The admissibility of versions V2 and V3 thereof was then discussed and the board decided not to admit them into the proceedings. Finally, the third auxiliary request

was admitted and the discussion focused on the novelty of this request and on the question of whether the appeal fee should be reimbursed.

VI. After closure of the debate, the chairman established that the parties' requests were as follows:

The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted, or in the alternative, in amended form on the basis of one of the sets of claims according to auxiliary requests 1 and 2 as filed on 16 February 2016, or in the further alternative, according to main request V2 or V3, first auxiliary request V2 or V3, second auxiliary request V2 or V3, third auxiliary request, fourth auxiliary request or fifth auxiliary request, all dated 21 November 2017. Furthermore, it requested that the appeal fee be reimbursed.

The respondent requested that the appeal be dismissed.

VII. The arguments of the parties, insofar as they are relevant for the present decision, can be summarised as follows:

The appellant argued that D3 did not address a filtering function of the catalytic element at all.

Safety fuse had a clear meaning that could not be ignored when reading the claims of auxiliary requests 1 and 2.

D4 neither disclosed a plurality of filter candles nor a separation wall comprising a plurality of openings

coarse-pore ceramic foam. The wall on which the filter candles are accommodated separates the raw gas chamber (13) from the clean gas chamber (15).

- 1.2 The board observes that the catalytic elements (16) being made of a ceramic foam having a coarse porosity (D3, lines 51 and 52), any dust particle having a smaller diameter than the "coarse pores" of said ceramic foam can be trapped by the latter, so that said catalytic elements implicitly have a filtering function.

The appellant's argument that the claimed subject-matter was novel over D3 because the catalytic elements (16) had no filtering function is therefore not accepted, meaning that D3 discloses all the features of claim 1 as granted and that the latter therefore lacks novelty under Article 54(1) and (2) EPC.

2. First auxiliary request - novelty

Claim 1 of this request differs from claim 1 as granted by the additional feature that the first and/or second catalytic medium is "provided in the form of a safety fuse".

For the board this feature does not limit the scope of claim 1, as it defines the catalytic medium in terms of a desideratum. If, in favour of the appellant, one would nevertheless interpret said feature as described at paragraph [0023] of the patent, namely that "*the safety fuse catalytic elements typically have a depth filter structure and serve as safety measure in case a filter candle breaks. The safety fuse catalytic element(s) then prohibit(s) the passage of non-filtered*

raw gas into the clean gas chamber", the board is of the opinion that the catalytic elements (16) according to D3 inevitably have the same function, since they are made of a ceramic foam having coarse pores which - as explained above - has a filtering function, and so they would inevitably catch at least some of the dust particles released by a broken filter candle. The catalytic elements (16) according to D3 thus inevitably fulfil the requirements described at paragraph [0012] of the patent, and are therefore also "provided in the form of a safety fuse", so claim 1 of the request at issue lacks novelty under Article 54(1) and (2) EPC.

3. Second auxiliary request - novelty

In comparison to claim 1 of the first auxiliary request, claim 1 at issue further defines the first and/or second catalytic medium as "*having a depth filter structure so as to serve as a safety measure in case a filter candle breaks.*"

For the board, this feature does not further distinguish the claimed subject-matter from the disclosure of D3 because, as explained in point 2. above, the catalytic elements (16) disclosed in D3 are also in the form of and function as a safety fuse. As the catalytic elements (16) are made of a ceramic foam having coarse pores, which implicitly has a certain depth and a certain filtering capacity, in the absence of any clear definition in the claim for the feature "depth filter structure", the coarse-pore ceramic foam thus implicitly has a "depth filter structure" in the sense of claim 1 at issue, which thus lacks novelty over D3 within the meaning of Article 54(1) and (2) EPC.

4. Admissibility of the main, first and second auxiliary request versions V2 and V3 and of the third auxiliary request

These requests were filed one month before the oral proceedings. Accordingly they constitute an amendment in the sense of Article 13(1) RPBA and their admission is at the board's discretion.

In the present case, the respective claim 1 of each proposed V version contains an alternative in which only the first catalytic medium is mandatory. This alternative being de facto not novel over the disclosure of D3 for the reasons indicated above, the newly filed V requests do not *prima facie* overcome the main deficiency underlying the main, first and second auxiliary requests filed with the grounds of appeal. The board therefore decided, in particular for reasons of procedural economy, not to admit them into these proceedings.

On the other hand, the subject-matter of claim 1 of the third auxiliary request now recites the second catalytic medium as an essential feature. Since the amendment leading to the third auxiliary request is very simple, does not lead to new problems and overcomes the previous novelty objection, said request is admitted into the proceedings.

5. Third auxiliary request - novelty

Claim 1 of this request is distinguished from claim 1 of the second auxiliary request in that the filter system further comprises a second catalytic medium downstream of said first catalytic medium and upstream of said clean gas outlet.

5.1 D3 does not disclose a second catalytic medium located downstream of catalytic elements (16), and so this document does not destroy the novelty of the claimed subject-matter.

5.2 D4 (see claim 8) discloses an apparatus for cleaning flue gases comprising:
- a barrier filter module made of a monolithic ceramic filter support structure coated with a thin porous ceramic layer having pores of between 0.04 and 0.5 μm ;
- a catalyst module formed of a support structure coated with catalyst.

In its claim 24, D4 further describes said apparatus as comprising two catalyst modules coated with different catalysts and arranged consecutively in the gas flow.

The respondent argued that D4, as was evident from figures 1 to 3, anticipated claim 1 at issue because the monolithic ceramic filter structure and the plugs closing the channels of said structure corresponded to the "plurality of filter candles" and the "separation wall" as defined in claim 1 at issue, respectively.

The board does not accept this argument because even if - in favour of the respondent - the monolithic filter structure (see claim 1, line 3) according to D4 might be seen as a plurality of filter candles touching one another at their edges, the plugs which alternatively close adjacent channels at each end of the monolithic structure in order to force the flue gas through the porous walls of the structure cannot be equated with the "separation wall comprising a plurality of openings" defined in claim 1 at issue, let alone are these plugs "designed to sealingly accommodate" a plurality of filter candles. The skilled person would

understand that filter candles can individually be removed but this is not the case for the passageways 24 in the filter module of D4 in view of the monolithic structure.

It follows that the subject-matter of claim 1 is also novel over the disclosure of D4.

- 5.3 The other documents cited in the proceedings were no longer considered relevant to the novelty of the claimed subject-matter. The board has no reason to depart from this position. It follows from the above considerations that none of the documents in the proceedings destroys the novelty of independent claim 1 and dependent claims 2 to 10 at issue, which thus meet the requirements of Article 54(1) and (2) EPC.
6. As the contested decision concerned only the novelty issue, the board exercises its discretion under Article 111(1) EPC and remits the case to the department of first instance for further examination of the ground of opposition of inventive step with regard to the third auxiliary request.
7. Reimbursement of the appeal fee

According to Rule 103(1)(a) EPC, the appeal fee shall be reimbursed where the board deems an appeal to be allowable, if such reimbursement is equitable by reason of a substantial procedural violation.

It is evident from the Guidelines for Examination in the European Patent Office (Part E, chapter X-2) that a decision of the opposition division may be based on grounds indicated in a document from one of the parties, provided the document has been sent to the

other party so that he has had an opportunity to comment. This corresponds to the respective case law of the Boards of Appeal. In the present case, the patentee (now appellant) contested the grounds of opposition by submitting eight pages of observations by letter of 18 February 2015. It however did not deem it necessary to file any amended claims, nor did it deem it necessary to request oral proceedings. The opposition division could have issued a decision in line with the said Guidelines at this stage. Although the decision was issued later after the opponent (here respondent) had submitted further observations, these later observations were not really crucial for the decision, since the reasoning of the opposition division was based on the arguments presented in the notice of opposition (page 6, paragraphs 1 and 2). Even if said later observations had been relevant, the appellant would still have had almost two months to indicate that it intended to submit auxiliary requests and/or request oral proceedings.

It follows from the above considerations that the patentee (appellant) had an opportunity to present its comments, and these were duly considered. Hence, its right to be heard according to Article 113 EPC was not infringed. Consequently there was no substantial procedural violation which could justify reimbursement of the appeal fee.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division for further prosecution based on the claims according to auxiliary request 3 submitted with the letter of 21 November 2017.
3. The request for reimbursement of the appeal fee is rejected.

The Registrar:

The Chairman:



C. Vodz

G. Glod

Decision electronically authenticated