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Case Number: T 1696/11 - 3.2.06

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Title of invention:
COMPRESSION IGNITION ENGINE AND EXHAUST SYSTEM THEREFOR

Patent Proprietor:
JOHNSON MATTHEY PUBLIC LIMITED COMPANY

Opponent:
Umicore AG & Co. KG

Headword:

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
Amendments - added subject-matter (yes)

Decisions cited:
T 0667/08, T 0860/00

Catchword:

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Case Number: T 1696/11 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 3 February 2015

Appellant: (Patent Proprietor)	JOHNSON MATTHEY PUBLIC LIMITED COMPANY 5th Floor 25 Farringdon Street London EC4A 4AB (GB)
Representative:	Schön, Christoph Dr. Schön, Neymeyr & Partner mbB Bavariaring 26 80336 München (DE)
Respondent: (Opponent)	Umicore AG & Co. KG Rodenbacher Chaussee 4 63457 Hanau-Wolfgang (DE)
Representative:	Vossius & Partner Siebertstrasse 3 81675 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 14 June 2011 revoking European patent No. 1537304 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	M. Harrison
Members:	M. Hannam
	W. Ungler

Summary of Facts and Submissions

I. An appeal was filed by the proprietor against the decision of the opposition division revoking European patent no. 1 537 304 in which it found that the subject-matter of claim 1 according to each of a main request, a first and a second auxiliary request failed to meet the requirement of Article 123(2) EPC.

II. With its grounds of appeal the appellant (proprietor) requested maintenance of the patent in amended form according to a main request, auxiliarily according to one of auxiliary requests 1 to 7.

III. The Board issued a summons to oral proceedings including a communication containing its provisional opinion, in which it indicated *inter alia* that the requirement of Article 123(2) EPC appeared not to be fulfilled by any of the requests on file.

IV. Oral proceedings were held before the Board on 3 February 2015, during which the appellant requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the main request, or on the basis of one of auxiliary requests 1 to 7 filed with letter dated 11 July 2013, or that the case be remitted to the opposition division for further prosecution in case any one of the requests were found to meet the requirement of Article 123(2) EPC.

The respondent requested that the appeal be dismissed.

V. Claim 1 of the main request and auxiliary request 1 read as follows:
"An apparatus comprising a compression ignition engine operable in a first, normal running mode and a second

mode producing exhaust gas comprising an increased level of carbon monoxide (CO) relative to the first mode, means, when in use, to switch engine operation between the two modes and an exhaust system, wherein the only catalysed component present in the exhaust system is selected from the group consisting of:
(i) an oxidation catalyst;
(ii) a catalysed soot filter; and
(iii) a NO_x-trap;
wherein the catalysed component comprises a flow through substrate monolith comprising a palladium (Pd) catalyst supported on a first support material associated with at least one base metal promoter and a platinum (Pt) catalyst associated with the supported Pd catalyst, wherein CO is oxidized by the supported Pd catalyst during second mode operation."

Claim 1 of auxiliary requests 2 and 3 read as for claim 1 of the main request and auxiliary request 1 except for the deletion of the feature:
'(i) an oxidation catalyst'.

Claim 1 of auxiliary requests 4 and 5 read as for claim 1 of auxiliary requests 2 and 3 except for further deletion of the feature:
'(ii) a catalysed soot filter'.

Claim 1 of auxiliary request 6 reads:
"A process for operating an apparatus comprising a compression ignition engine operable in a first, normal running mode and a second mode producing exhaust gas comprising an increased level of carbon monoxide (CO) relative to the first mode, wherein CO is oxidized by the supported Pd catalyst during second mode operation, means when in use to switch engine operation between the two modes and an exhaust system wherein the only

catalysed component present in the exhaust system is selected from the group consisting of:
(i) a NO_x-trap;
wherein the catalysed component comprises a flow through substrate monolith comprising a palladium (Pd) catalyst supported on a first support material associated with at least one base metal promoter and a platinum (Pt) catalyst associated with the supported Pd catalyst, which process comprising running the engine in the first, normal running mode and switching the engine to the second running mode when a value of at least one measurable parameter indicative of a condition of the engine is outside a pre-determined range."

Claim 1 of auxiliary request 7 reads as per claim 1 of auxiliary request 6 except for the expression '(i) a NO_x-trap' being replaced with the expression '(i) a catalysed soot filter'.

VI. The appellant's arguments may be summarised as follows:

Regarding the objection under Article 123(2) EPC to the expression 'wherein the only catalysed component present in the exhaust system...', it was necessary to understand what the skilled person at the filing date would have implicitly derived from the application documents. As found in T667/08, an implicit disclosure of features sufficed.

The combination of Pt and Pd as the catalyst improved catalyst performance without the need for further catalysed components (see page 1, lines 7 to 15 and page 5, lines 7 to 16). Example 7 should not be read in isolation, rather in combination particularly with page 7, lines 18 to 20, from which an oxidation catalyst coated on a honeycomb monolith without a further

catalysed component was to be understood as implicitly disclosed. It was thus clear to the skilled person that the oxidation catalyst could be used in isolation and was not dependent on a combination of catalyst components to function in a compression ignition engine.

As regards the catalysed soot filter embodiment, page 7, lines 19 to 23 and page 8, lines 8 to 12 provided the disclosure for this to be the sole catalysed component. Disclosure of a NO_x-trap as the only catalysed component was given on page 9, lines 12 to 16.

VII. The respondent's arguments may be summarised as follows:

A disclosure of one catalysed component did not imply that this one component was the only one catalysed component present in the system. Even the preferred embodiments in the original disclosure comprised multiple catalytic components such that the original intention of the invention, as disclosed to a skilled person, clearly did not provide a direct and unambiguous disclosure for only one catalysed component in the claimed apparatus. An implicit disclosure referred to something which resulted directly from the explicit disclosure; this was not the case for the feature regarding the 'only catalysed component'.

Reasons for the Decision

1. Main request

1.1 Article 123(2) EPC

The subject-matter of claim 1 does not meet the requirement of Article 123(2) EPC.

1.2 The feature of claim 1

'..wherein the only catalysed component present in the exhaust system is selected from the group consisting of:
(i) an oxidation catalyst;
(ii) a catalysed soot filter; and
(iii) a NO_x-trap'

is not derivable directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the application documents as filed.

An explicit disclosure of the above feature is not to be found in the originally filed documents; nor did the appellant argue otherwise. The Board however, whilst concurring with the appellant that an implicit disclosure of the feature in the application documents suffices, finds that the above feature is also not implicitly disclosed therein. A disclosure implicit in an application, is held to be that which a skilled person would consider a direct consequence of that which is explicitly disclosed (see also e.g. T860/00, Reasons 1.1). In the present case, no such implicit disclosure is present. For example, none of the embodiments discloses a catalysed component clearly indicated, or otherwise unambiguously derivable as being the only one present in the exhaust system.

The lack of any such intention is also supported in that the disclosure of preferred embodiments of the invention

also do not meet the single catalysed component limitation. For example, page 8, lines 8 to 12 discloses an embodiment in which a flow through monolith comprises the claimed Pt and Pd catalyst and yet a further Pt catalyst is located on a catalysed soot filter downstream of the monolith. Thus, even an originally filed embodiment of the invention clearly fails to support the appellant's view that the skilled person would implicitly see the claimed catalyst in the exhaust system (in the above example, that supported on the flow through monolith) as the only catalysed component present and that this was the intention.

1.3 The appellant's argument that the entire teaching of the patent concerned improvement in catalyst performance through combining a Pt catalyst with a Pd catalyst and that such an oxidation catalyst alone was thus clearly intended, is not convincing. Whilst it can be accepted that the teaching of the patent is directed to the combination of Pt and Pd in a catalyst in order to improve compression ignition engine emissions (see page 1, lines 7 to 15 and page 5, lines 7 to 16), this does not imply that such a catalyst, as the only catalysed element in the system, is disclosed in the originally filed documents. The explicit disclosure of one catalysed component (comprising Pt and Pd) in the exhaust system does not directly and unambiguously imply that this one catalysed component is the only catalysed component present in the exhaust system.

1.4 Specifically regarding the alleged disclosure of 'an oxidation catalyst' as being the only catalysed component, the appellant's reference to example 7 in combination with page 7, lines 18 to 20 in this respect is not persuasive. Example 7 discloses a very specific oxidation catalyst L of a particular loading, a specific

support size and in relation to a very specific diesel engine. The reference to page 7 suggests a flow through 'honeycomb' as the substrate. These portions of the description thus disclose an arrangement very much more specific than the apparatus of claim 1 which, for purposes of comparison, is directed simply to an oxidation catalyst supported on a flow through monolith in a compression ignition engine.
The appellant was thus unable to convincingly show that, even for the case of an oxidation catalyst in the exhaust system, no further catalysed component was present. Also, even when using example 7 as the basis, it is not specified anywhere whether or not further catalysed elements are within the system.

1.5 Regarding the catalysed soot filter (CSF) being considered as the only catalysed component, the appellant's reliance for disclosure on page 7, lines 19 to 23 and page 8, lines 8 to 12 is also not convincing. With respect to the CSF option in claim 1, page 8 discloses only an embodiment in which the Pd and Pt catalysts are supported on the catalysed soot filter, but provides no indication that this is the only catalysed component present in the exhaust system. The reference on page 7 addresses simply the substrate optionally being a particulate filter and thus also fails to provide any unambiguous suggestion or intention that no further catalysed component is present in the exhaust system.

1.6 As regards the NO_x-trap being considered as the only catalysed component, page 9, lines 12 to 16 also fails to provide a disclosure of this. This passage discusses the use of a combined Pt and Pd catalyst in order to oxidise NO to NO_2. No indication of this being the only catalysed component is evident; contrarily in fact, a

rhodium catalyst for catalysing NO_x reduction to N_2 is indicated as optionally being disposed downstream of the NO_x absorber on lines 18 to 20 of page 9. Thus, also for the case of a NO_x-trap in the exhaust system, this is not disclosed as being the only catalysed component present therein.

1.7 It thus follows from the above that the application as originally filed fails to clearly and unambiguously disclose that the only catalysed component present in the exhaust system is selected from the group consisting of an oxidation catalyst, a catalysed soot filter and a NO_x-trap.

The subject-matter of claim 1 thus fails to meet the requirement of Article 123(2) EPC and the main request is therefore not allowable.

2. Auxiliary requests 1 to 7

2.1 The subject-matter of claim 1 of each of the auxiliary requests 1 to 7 includes the feature that at least one of the oxidation catalyst, a catalysed soot filter or a NO_x-trap is the only catalysed component in the exhaust system. As shown above in points 1.2 to 1.6 relating to the main request, the inclusion of this feature does not meet the requirement of Article 123(2) EPC. The appellant presented no arguments in support of a view that the situation should be any different in the auxiliary requests to this finding with respect to the subject-matter of claim 1 of the main request.

2.2 The subject-matter of claim 1 of each of the auxiliary requests 1 to 7 thus fails to meet the requirement of Article 123(2) EPC. Auxiliary requests 1 to 7 are therefore not allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

N. Schneider M. Harrison

Decision electronically authenticated