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**Datasheet for the decision  
of 23 March 2015**

**Case Number:** T 2319/12 - 3.3.05

**Application Number:** 04016022.8

**Publication Number:** 1498388

**IPC:** C01B3/38, C01B3/32

**Language of the proceedings:** EN

**Title of invention:**

Reformer

**Applicant:**

K.E.M. Corporation

**Headword:**

Reformer/K.E.M. Corp.

**Relevant legal provisions:**

EPC Art. 123(2)

**Keyword:**

Amendments: deletion of an essential term (not allowed) -  
basis (missing)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern  
Boards of Appeal  
Chambres de recours**

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Case Number: T 2319/12 - 3.3.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.05**  
**of 23 March 2015**

**Appellant:** K.E.M. Corporation  
(Applicant) 21-25, Daikyocho  
Shinjuku-ku,  
Tokyo (JP)

**Representative:** Hering, Hartmut  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 4 April 2012  
refusing European patent application No.  
04016022.8 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** G. Raths  
**Members:** H. Engl  
P. Guntz

## Summary of Facts and Submissions

- I. European patent application EP 04016022.8.9 is concerned with a reformer for obtaining a hydrogen-containing gas from a raw gas, such as a natural gas.
- II. The application was refused by a decision of the examining division posted with letter dated 4 April 2012, on grounds of lack of inventive step having regard to document D1: EP-A-1 245 532.
- III. The appellant's notice of appeal was received by letter dated 1 June 2012. The statement of grounds of appeal, dated 6 August 2012, was accompanied by new claims 1 to 3 as the sole request.
- IV. Claim 1 is worded as follows:

"1. A reformer for reacting a raw material gas to be reformed, with an oxidizing agent and a reforming gas in the presence of an oxidation catalyst and a reforming catalyst to obtain a hydrogen-containing gas, comprising:

a reactor vessel;

a set of catalyst layers provided in the reactor vessel, said set of catalysts layers consisting of an oxidation catalyst layer and a first reforming catalyst layer, said first reforming catalyst layer being disposed downstream of said oxidation catalyst layer; a second reforming catalyst layer disposed downstream of said first reforming catalyst layer;

a first oxidation gas inlet for feeding the oxidation gas to the oxidation catalyst layer, which inlet is disposed inside the oxidation catalyst layer;

an inlet for feeding the raw material gas into the reactor vessel, disposed inside the oxidation catalyst

layer; and a second oxidation gas inlet for feeding the oxidation gas between said first reforming catalyst layer and said second reforming catalyst layer; wherein each of the oxidation gas inlets for feeding the oxidation gas and the inlet for feeding the raw material gas are separately coupled to the reactor."

- V. The board issued a summons for oral proceedings accompanied by a communication pursuant to Article 15(1) RPBA in which it provisionally raised some of the issues for consideration at the oral proceedings. Particular mention was made that claim 1 appeared to contravene Article 123(2) EPC, and the reasons therefore were indicated.
- VI. In response to the above mentioned communication of the board and to the said summons for oral proceedings, the appellant notified the board that it would not attend the oral hearing.
- VII. Oral proceedings took place on 23 March 2015 in the absence of the appellant.
- VIII. The appellant requested in writing that the decision under appeal be set aside and a patent be granted with the following application documents:
- Claims 1 to 3, filed with letter dated 6 August 2012;
  - Description, pages 1 to 18, as originally filed;
  - Figures 1 to 10, as originally filed.

## Reasons for the Decision

### 1. Amendments

Claim 1 contravenes the requirement of Article 123(2) EPC, for the following reasons:

- 1.1 In line 2 of amended claim 1, the essential expression "gas" has been dropped after the expression "agent". The original application documents, in particular original claim 1 and the description (e.g. page 4, second and third paragraphs; page 7, third paragraph) only refer to the oxidizing agent as being a gas. In Figure 1, the oxidizing agent feeding pipe 32 is a feed pipe for a gas (see page 8, last paragraph). Since there is no clear and unambiguous disclosure of the oxidizing agent other than in the gaseous state, the amendment extends beyond the content of the application as originally filed.
- 1.2 In the penultimate line of claim 1, the feature "each of the oxidation gas inlets ... and the inlet for feeding the raw material gas are separately coupled" does not have a clear and unambiguous basis in the originally filed documents. Figure 3b, on which amended claim 1 seems to be based, does not disclose inlets for "each of the oxidation gas inlets... and the inlet for feeding the raw material gas" which are "separately coupled to the reactor". On the contrary, Figure 3b discloses combined raw material gas inlet and oxidizing gas inlets.
- 1.3 The claim is therefore not allowable (Article 123(2) EPC).

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



C. Vodz

G. Rath

Decision electronically authenticated