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[Continued on next page]

(54) Title: REGENERATION METHOD FOR CERAMIC HONEYCOMB STRUCTURES

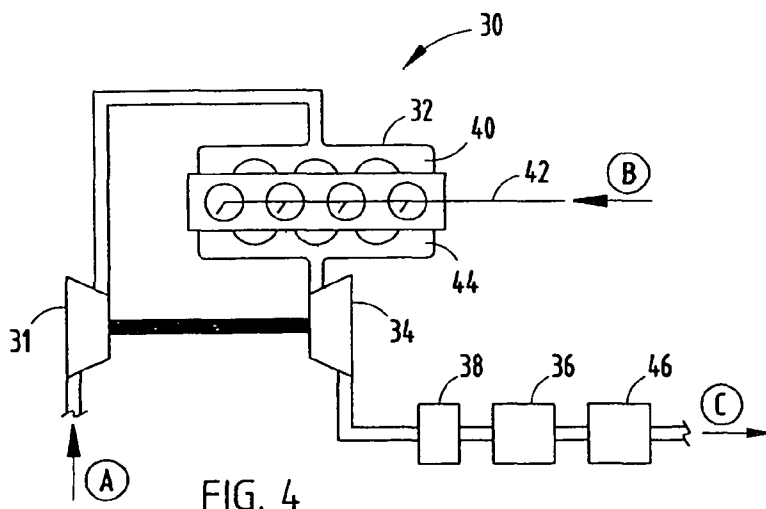


FIG. 4

(57) Abstract: A method for regenerating a diesel particulate filter includes elevating a temperature of a gas stream flowing into an inlet of the diesel particulate filter to greater than or equal to 450° of the inlet of the diesel particulate filter, wherein the gas stream at the inlet of the diesel particulate filter contains an amount of NOx of equal to or greater than 300 ppm, and an amount of O₂ of equal to or greater than 5 % volume, thereby burning the soot within the diesel particulate filter. The method also includes elevating a temperature of the gas stream flowing into the inlet of the diesel particulate filter to less than or equal to 550 °C at the inlet of the diesel particulate filter, wherein a burn rate of soot from porous walls of the diesel particulate filter is greater than or equal to 3.8 grams/liter/hour.

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A. CLASSIFICATION OF SUBJECT MATTER

INV. F01N3/021 F01N3/035 F01N3/20 F02D41/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F01N F02D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|------------------------------|
| X | WO 2006/044764 A (CATALYTIC SOLUTIONS INC [US]; ALIVE KESHAVARAJA [US]; BAUDOUX ANNE-LAU) 27 April 2006 (2006-04-27) page 16, lines 1-15; figure 1 page 9, line 25 - page 10, line 14 | 1-8, 10-22, 25, 27, 28 |
| X | US 2003/226352 A1 (CHANDLER GUY RICHARD [GB] ET AL) 11 December 2003 (2003-12-11) paragraph [0046]; figure 3 | 1-8, 10-22, 25, 27, 28 |
| A | EP 0 341 832 A (JOHNSON MATTHEY INC [US]) 15 November 1989 (1989-11-15) the whole document | 1-28 |

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/008402

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/US2008 /008402

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-16

Method for at least partially regenerating a diesel particulate filter ... comprising heating the gas stream flowing into the inlet of the filter to greater than or equal to 450 deg. C, wherein the gas stream contains an amount of NOx equal to or greater than 300 ppm, and an amount of O2 of equal to or greater than 5% vol.

2. claims: 17-28

A method for at least partially regenerating a diesel particulate filter ... comprising elevating a temperature of the gas stream flowing into the inlet of the diesel particulate filter to less than or equal to 550 deg. C, wherein the gas stream contains an amount of O2 of equal to or greater than 5% vol., and wherein a burn rate of the soot from the porous walls is greater than or equal to 3.8 grams/l/h.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/008402

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
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