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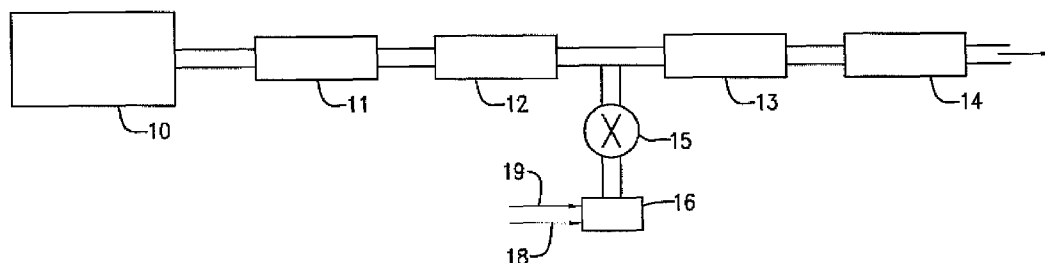


FIG. 1

(57) Abstract: An emission treatment system and method for remediating the nitrogen oxides (NO_x), particulate matter, and gaseous hydrocarbons present in diesel engine exhaust streams are described. The emission treatment system has an oxidation catalyst upstream of a soot filter upstream from a NO_x reducing catalyst.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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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)
B01D F01N

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.
Y	WO 2005/016497 A (ENGELHARD CORP [US]) 24 February 2005 (2005-02-24) cited in the application page 9, line 15 - page 10, line 19; figures 1A,1B	1,8,11
Y	JP 2005 009407 A (TOYOTA MOTOR CORP) 13 January 2005 (2005-01-13) the whole document	1,8,11

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☒ See patent family annex.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
W0 2005016497 A	24-02-2005	AT 420712 T	15-01-2009
		CN 1832794 A	13-09-2006
		EP 1663458 A1	07-06-2006
		EP 2042227 A2	01-04-2009
		JP 2007501353 T	25-01-2007
		KR 20060054423 A	22-05-2006
		US 2005031514 A1	10-02-2005
		US 2007137184 A1	21-06-2007
JP 2005009407 A	13-01-2005	NONE	