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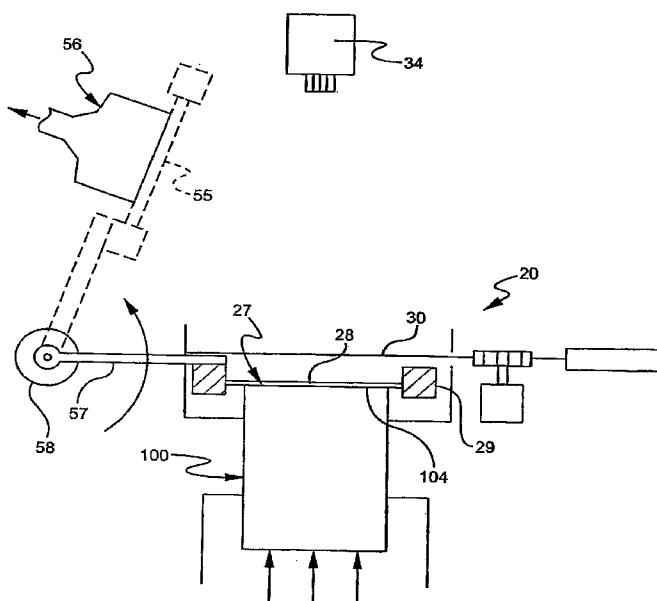
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[Continued on next page]

(54) Title: HONEYCOMB FILTER DEFECT DETECTING METHOD AND APPARTUS



(57) Abstract: An apparatus (20) and method for detecting defects in a honeycomb body (100). In operation, the particulates emerge at an outlet end face (104) of the honeycomb body (100) through defects, if any, in the honeycomb walls and/or plugs and passes through a permeable member (28), such as a screen, where they are illuminated. The permeable member (28) is disposed adjacent to and preferably in contact with the outlet end (104). Use of the permeable member improves the signal-to-noise ratio (SNR) such that defects may be more readily detected. The permeable member (28) preferably includes an anti-reflective surface.

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC: B01D 46/00( 2006.01);F01N 3/022( 2006.01);G01N 21/88( 2006.01)

USPC: 55/385.3,523,DIG.5,DIG.10,DIG.30;60/311;73/40,40.7;264/630,DIG.48;356/237.1,241.1,237.6

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)

U.S. : 55/282.2,282.3,385.3,523,DIG.5,DIG.10,DIG.30; 60/311; 73/40,40.7; 264/630, DIG.48; 356/237.1,241.1,237.6

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 practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                                  | Relevant to claim No. |
|------------|---|-----------------------|
| A          | US 2003/0112437 A1 (ENOMOTO et al) 19 June 2003 (19.06.2003), Figures 1, 2 and 6-8 and paragraphs [0012] to [0049]. | 1-20                  |
| A          | US 5,102,434 A (HIJIKATA et al) 07 April 1992 (07.04.1992), Figures 1-3 and column 2, line 34 to column 4, line 61. | 1-20                  |
| A,E        | US 7,283,224 B1 (SMITHGALL) 16 October 2007 (16.10.2007), Figures 3-5 and column 2, line 50 to column 4, line 33.   | 1-20                  |
| A          | US 5,640,236 A (NAGASHIMA) 17 June 1997 (17.06.1997), Figures 1-7 and column 3, line 66 to column 8, line 54.       | 1-20                  |
| A          | US 6,666,070 B1 (HAGG et al) 23 December 2003 (23.12.2003), Figures 1-3 and column 2, line 66 to column 4, line 27. | 1-20                  |
| A          | US 4,319,840 A (KONDO et al) 16 March 1982 (16.03.1982), Figures 1-5 and column 2, line 24 to column 4, line 64.    | 1-20                  |



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