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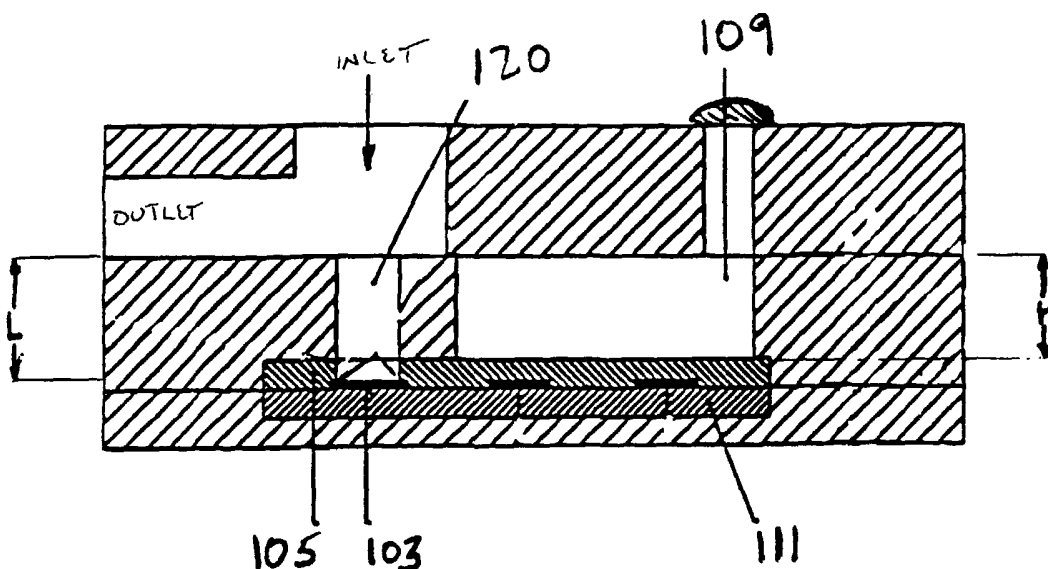
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(54) Title: METHOD AND APPARATUS FOR ENHANCED DETECTION OF A SPECIE USING A GAS CHROMATOGRAPH



(57) Abstract: The invention includes a method and apparatus for a chromatography system having a chromatographic column for separating gases in a mixture from one another and an electrochemical gas sensor coupled to the chromatographic column for detecting a gas being emitted from the column. The electrochemical gas sensor further includes a substrate having a surface for depositing electrodes thereon, an ionomer membrane in contact with the surface, an electrode in contact with the surface, and an opening in the ionomer membrane in a location proximate to the electrode for permitting a gas to diffuse through the opening to simultaneously contact the electrode and the ionomer membrane within the opening.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/01204

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 27/407, 30/62

US CL : 73/23.4, 23.41; 204/421; 424, 426

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. : 73/23.35, 23.4, 23.41; 204/421; 424, 426

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

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

EAST

search terms: Electrochemical gas sensor, gas chromatography, column, ionomer membrane, wick, foil

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,888,295 A (ZAROMB et al) 19 December 1989 (19.12.1989), column 3, lines 1-15; column 4, lines 49-52; column 5, line 58 - column 6, line 14; col. 12, line 67 - column 13, line 55; Figures 12 and 13.	1-18, 20, 23-38
Y	US 4,900,405 A (OTAGAWA et al) 13 February 1990 (13.02.1990), see entire document.	1-16, 23-38
Y,P	US 6,682,638 B1 (PROHASKA et al) 27 January 2004 (27.01.2004), see entire document, specifically Figure 1.	1-18, 20, 23-38
Y	US 6,080,294 A (SHEN et al) 27 June 2000 (27.06.2000), Figure 3.	8-15, 31, 36, 37
Y	US 5,830,337 A (XU) 03 November 1998 (03.11.1998), Figure 1.	15
Y	US 3,724,175 A (VAN DER GRINTEN) 03 April 1973 (03.04.1973), column 4, lines 5-8.	16
Y	US 5,527,446 A (KOSEK et al) 18 June 1996 (18.06.1996), abstract; Figure 1.	17, 18, 20, 29
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A		19, 21, 22



Further documents are listed in the continuation of Box C.



See patent family annex.

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