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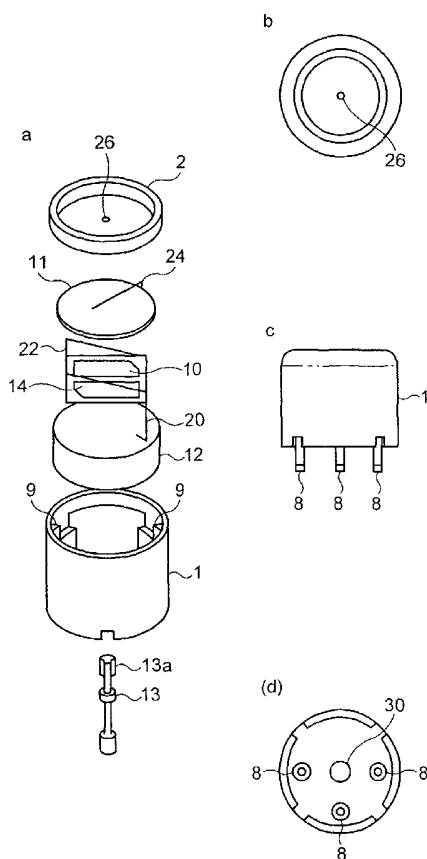
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[Continued on next page]

(54) Title: ELECTROCHEMICAL GAS SENSOR

(57) Abstract: An electrochemical gas sensor comprising: (a) a sensing electrode located on the underside of cap (2); (b) a counter electrode (10); (c) a reference electrode (14); (d) a separator (11) containing an electrolyte which is located between, and in contact with, the sensing electrode, the counter electrode and the reference electrode, which separator is made of a material having a capillary action capable of drawing electrolyte in contact with the separator into the separator; (e) a reservoir comprising an electrolyte and a wicking material (12) having a capillary action that is capable of drawing up electrolyte and passing it from the reservoir to the separator (11). The capillary action of the separator (11) is greater than the capillary action of the wick material so that electrolyte is preferentially absorbed in the separator rather than the wick so that the separator maintains adequate ionic conductivity between electrodes for the sensor to operate.



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INTERNATIONAL SEARCH REPORT

PCT/GB 02/00967

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N27/49 G01N27/403

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)

IPC 7 G01N

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)

WPI Data, PAJ, 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	US 4 406 770 A (CHAN YAT S ET AL) 27 September 1983 (1983-09-27) cited in the application abstract; figure 1 column 3, line 63 -column 5, line 37 column 8, line 64 -column 9, line 55 ---	1-11
Y	DE 197 55 506 A (DRAEGER SICHERHEITSTECH GMBH) 24 June 1999 (1999-06-24) abstract; claims 1-11; figure 1 column 2, line 1 -column 3, line 5 ---	1-11
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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& document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

PCT/GB 02/00967

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 496 527 A (CITY TECH) 29 July 1992 (1992-07-29) abstract; figure 1A page 4 ---	1-11
Y	EP 0 721 583 A (HUGGENBERGER CRISTIAN) 17 July 1996 (1996-07-17) abstract; figures 1-5 page 5 -page 7 ---	5,8-11
A	EP 0 298 570 A (BACHARACH INC) 11 January 1989 (1989-01-11) abstract; figure 6 column 4, line 34-49 column 6, line 4 -column 8, line 54 ---	1-11
A	US 5 997 706 A (KIESELE HERBERT ET AL) 7 December 1999 (1999-12-07) abstract; figure 1 column 2, line 60 -column 3, line 45 ---	1-11
A	US 5 346 606 A (THOENI STEWART ET AL) 13 September 1994 (1994-09-13) the whole document ---	1-11
A	GB 2 292 804 A (TRANSDUCER RESEARCH INC) 6 March 1996 (1996-03-06) abstract ---	1-11
X	US 4 766 346 A (WEISS WERNER ET AL) 23 August 1988 (1988-08-23) the whole document ---	12,13
X	PATENT ABSTRACTS OF JAPAN vol. 016, no. 096 (P-1322), 10 March 1992 (1992-03-10) & JP 03 274026 A (SEIKO EPSON CORP), 5 December 1991 (1991-12-05) abstract ---	12,13
X	US 4 673 455 A (MAY MICHAEL G) 16 June 1987 (1987-06-16) abstract; figure 1 column 1-2 ---	12,13
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 02/00967

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 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 all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
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.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/GB 02 00967

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. Claims: 1-11

electrochemical gas sensor according to claim 1 with the characterizing feature that the capillary action of the separator is greater than the capillary action of the wicking material

2. Claims: 12,13

method of manufacturing an electrochemical gas sensor according to claim 12 where each wire is held in a groove within the housing while the potting compound is applied, the width of the groove being such that the potting compound is drawn up the groove by capillary action to isolate the end portion of each wire connected to its contact pin.

INTERNATIONAL SEARCH REPORT

Information on patent family members

PCT/GB 02/00967

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INTERNATIONAL SEARCH REPORT

Information on patent family members

PCT/GB 02/00967

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