(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 146 492 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
24.10.2001 Bulletin 2001/43

(43) Date of publication A2:
17.10.2001 Bulletin 2001/42

(21) Application number: **01302017.7**

(22) Date of filing: **06.03.2001**

(51) Int Cl.[7]: **G08B 17/107**, G08B 29/18

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **17.03.2000 JP 2000076718**

(71) Applicant: **Nittan Company, Limited**
Tokyo 151-8535 (JP)

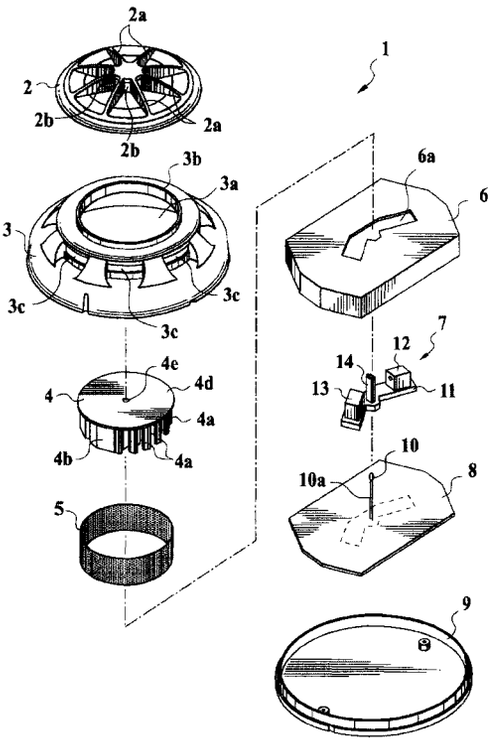
(72) Inventors:
- **Sakurai, Kazuyoshi c/o Nittan Company Limited**
Shibuya-ku, Tokyo 151-8535 (JP)
- **Hamada, Ichiro c/o Nittan Company Limited**
Shibuya-ku, Tokyo 151-8535 (JP)
- **Oya, Yasunori c/o Nittan Company Limited**
Shibuya-ku, Tokyo 151-8535 (JP)

(74) Representative: **Ajello, Michael John**
Urquhart-Dykes & Lord
Greg's Buildings
1 Booth Street
Manchester M2 4DU (GB)

(54) Multi-sensor

(57) A multi-sensor comprises: a smoke chamber for sensing smoke by detecting a scattered light with a light detecting portion, the scattered light being generated by the smoke which enters the smoke chamber to scatter a light emitted from a light emitting portion; a heat sensing element for sensing heat, which is provided above the smoke chamber; and an insert portion which constitutes a wall body having a hole for inserting a wire of the heat sensing element; wherein the wall body is approximately consecutive from an upper surface of an inside of the smoke chamber to a lower surface of an inside of the smoke chamber, and the hole penetrates through the upper surface to the lower surface, to an outside of the smoke chamber.

FIG.1



EP 1 146 492 A3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 30 2017

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D,Y	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 12, 29 October 1999 (1999-10-29) & JP 11 185179 A (MATSUSHITA ELECTRIC WORKS LTD), 9 July 1999 (1999-07-09) * abstract *	1,4,5	G08B17/107 G08B29/18
Y	GB 2 296 764 A (CARADON GENT LIMITED) 10 July 1996 (1996-07-10) * page 4, line 25 - page 6, line 15; figures 1-5,8 *	1,4,5	
A	GB 2 306 218 A (AMLANI MANHAR) 30 April 1997 (1997-04-30) * page 4, line 7 - page 5, line 28; figures 1-3 * * page 4 *	4,5	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)
G08B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	20 August 2001	Wright, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 30 2017

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-08-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 11185179 A	09-07-1999	NONE	
GB 2296764 A	10-07-1996	WO 9621208 A	11-07-1996
GB 2306218 A	30-04-1997	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82