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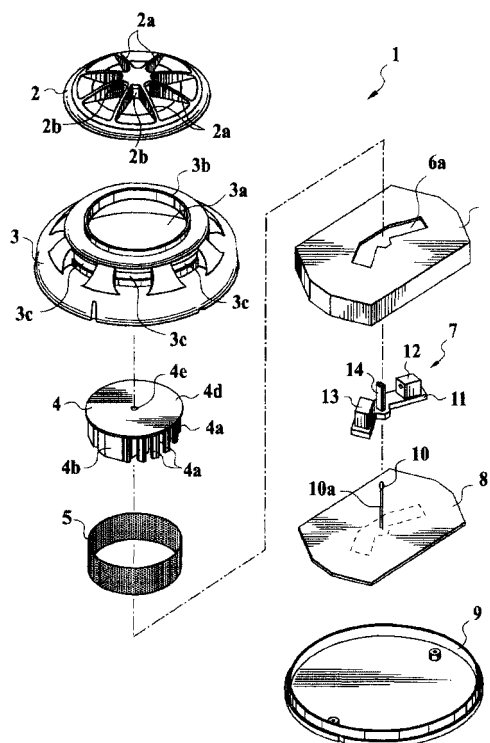
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(54) **Multi-sensor**

(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



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EUROPEAN SEARCH REPORT

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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 MUNICH		Date of completion of the search 20 August 2001	Examiner 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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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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	

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