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

(11) EP 1 975 896 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
18.03.2009 Bulletin 2009/12

(43) Date of publication A2:
01.10.2008 Bulletin 2008/40

(21) Application number: **08251196.5**

(22) Date of filing: **28.03.2008**

(51) Int Cl.:
G08B 17/10 *(2006.01)* ***G08B 17/113*** *(2006.01)*
G08B 17/107 *(2006.01)*

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
Designated Extension States:
AL BA MK RS

(30) Priority: **30.03.2007 JP 2007091276**

(71) Applicant: **NOHMI BOSAI LTD.**
Chiyoda-ku
Tokyo (JP)

(72) Inventor: **Yokota, Hiroyuki**
c/oNohmi Bosai Ltd.
Chiyoda-ku, Tokyo (JP)

(74) Representative: **Mounteney, Simon James**
Marks & Clerk
90 Long Acre
London
WC2E 9RA (GB)

(54) Smoke detector and sampling air supplying method for smoke detector

(57) In order to enable supply of a sampling air to a smoke detection portion at a stable flow velocity, the present invention provides a smoke detector including: a black box (21) including a smoke detection portion (25) having an inflow port and an outflow port; a sampling pipe (30) laid in a monitor space; a gas flow pipe (P) connected to the sampling pipe and which houses a fan (3) therein; a flow path branching portion (33) provided to the gas flow pipe on a secondary side of the fan and connected to the inflow port of the smoke detection portion; and a flow path merging portion (32) which is provided to the gas flow pipe on the secondary side of the fan and connected to the outflow port of the smoke detection portion, and at which a pressure of a fluid flowing through the gas flow pipe is lower than a fluid flowing through the gas flow pipe at the flow path branching portion. Such pressure difference ensures that a constant flow rate is maintained in the smoke detection portion, thereby enabling a reliable smoke detection.

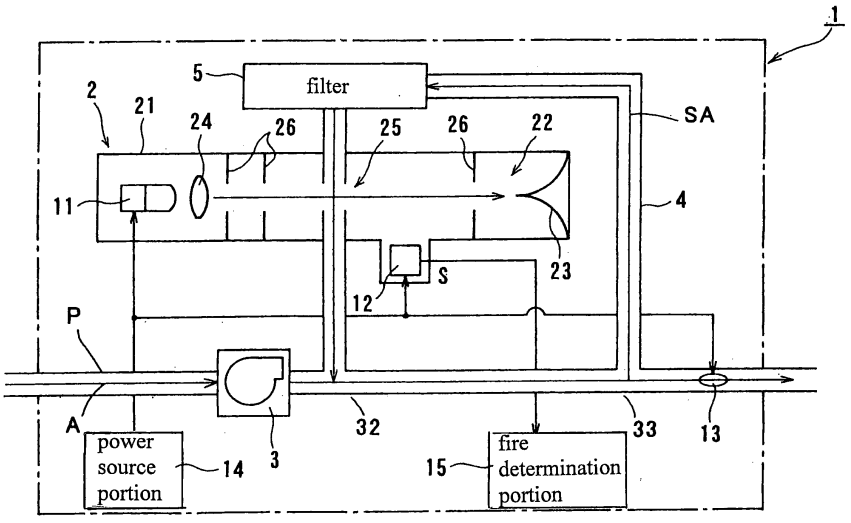

FIG. 1

EP 1 975 896 A3

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 08 25 1196

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 5 103 212 A (NOTARIANNI KATHY A [US] ET AL) 7 April 1992 (1992-04-07) * column 1, line 15 - column 2, line 23 * * column 3, line 19 - column 6, line 43 * -----	1-4	INV. G08B17/10 G08B17/113 G08B17/107
Y	GB 2 347 541 A (PITTWAY CORP [US]) 6 September 2000 (2000-09-06) * page 4, line 3 - page 5, line 18 * * page 6, lines 3-26 * -----	1-4	
A	US 2004/035184 A1 (YAMANO NAOTO [JP] ET AL) 26 February 2004 (2004-02-26) * paragraphs [0001] - [0010], [0041] - [0056], [0064]; figures 1,3,9,10 * -----	1-4	
A	US 3 678 487 A (LUDEWIG FREDERICK A JR ET AL) 18 July 1972 (1972-07-18) * column 3, line 13 - column 5, line 31 * -----	1-4	
			TECHNICAL FIELDS SEARCHED (IPC) G08B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	13 January 2009	Russo, Michela

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)

6

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 08 25 1196

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.

13-01-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5103212 A	07-04-1992	NONE	
GB 2347541 A	06-09-2000	CA 2299919 A1	04-09-2000
US 2004035184 A1	26-02-2004	AU 2003236420 A1	11-03-2004
		CN 1485609 A	31-03-2004
		GB 2393782 A	07-04-2004
		JP 3714926 B2	09-11-2005
		JP 2004078807 A	11-03-2004
US 3678487 A	18-07-1972	AR 194221 A1	29-06-1973
		CA 1012629 A1	21-06-1977
		CH 549251 A	15-05-1974
		DE 2205634 A1	31-08-1972
		FR 2124548 A5	22-09-1972
		GB 1383041 A	05-02-1975
		IT 947364 B	21-05-1973

EPO FORM P0459

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