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(54) **AIR CURTAIN FOR SMOKE CONTROL**

(57) The present application discloses an air curtain combined with a mechanical extraction of smoke, released by a fire in a room, which comprises a vertical or horizontal plane jet with appropriate slope, generated by a cylindrical rotor fan enclosed in a housing with two openings, one outside the room and the other on the lower side.

In this manner, this technology is useful for confining the flow of smoke, produced in fire situations in buildings, only to the room of fire origin, without the need of closing the passage ways with smoke doors, and without being necessary to set speeds for the air flowing through those passages, within the same range of the speed of the smoke flow, this being the technical problem solved.

The usage of this system is compatible with current smoke exhaust means to be applied to buildings, and makes it unnecessary to inflate fresh air inside that room, once this is now done through the passage way, which remains protected by the air curtain.

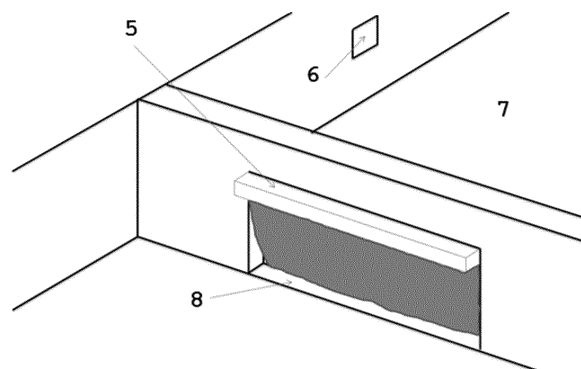


Figure 3



EUROPEAN SEARCH REPORT

Application Number
EP 15 18 4842

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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 (IPC)
X	DE 102 40 745 A1 (HORCH FABIAN [DE]) 18 March 2004 (2004-03-18) * paragraph [0019] - paragraph [0023]; figures 1-3 *	1-9	INV. F24F9/00 A62C2/04 A62C4/00 A62C3/00
X	DE 296 08 290 U1 (SCHULTE GUENTER [DE]) 11 July 1996 (1996-07-11) * page 9, line 1 - line 29; figures 3,4 *	1-9	
X	KR 101 289 865 B1 (DONGIL ENGINEERING CONSULTANTS CO LTD [KR]) 24 July 2013 (2013-07-24) * abstract; figures 1, 2a,2c *	1-9	
X	US 3 362 469 A (ERLING BERNER ET AL) 9 January 1968 (1968-01-09) * the whole document *	1-9	
X	WO 82/02934 A1 (STICHTING ONTWIKKELING KOELTEC [NL]; VAHL LASZLO [NL]; MALE JOHANNES V) 2 September 1982 (1982-09-02) * the whole document *	1-9	TECHNICAL FIELDS SEARCHED (IPC)
X	JP S48 15663 U (NOT READABLE) 22 February 1973 (1973-02-22) * abstract *	1-9	F24F A62C
X	US 3 215 058 A (ANDERSON GEORGE A M) 2 November 1965 (1965-11-02) * the whole document *	1-9	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 21 March 2016	Examiner Valenza, Davide
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.**

EP 15 18 4842

5 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
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21-03-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 10240745 A1	18-03-2004	NONE	
DE 29608290 U1	11-07-1996	DE 29600140 U1 DE 29608290 U1	29-02-1996 11-07-1996
KR 101289865 B1	24-07-2013	NONE	
US 3362469 A	09-01-1968	JP S4818177 B1 US 3362469 A	04-06-1973 09-01-1968
WO 8202934 A1	02-09-1982	NONE	
JP S4815663 U	22-02-1973	NONE	
US 3215058 A	02-11-1965	NONE	