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- **Ueda, Akira**
Kanagawa, 211-8588 (JP)
- **Yamaguchi, Atsushi**
Kanagawa, 211-8588 (JP)
- **Otsuka, Akihiro**
Kanagawa, 211-8588 (JP)
- **Katsui, Tadashi**
Kanagawa, 211-8588 (JP)

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(71) Applicant: **Fujitsu Limited**
Kawasaki-shi, Kanagawa 211-8588 (JP)

(74) Representative: **HOFFMANN EITLE**
Patent- und Rechtsanwälte
Arabellastrasse 4
81925 München (DE)

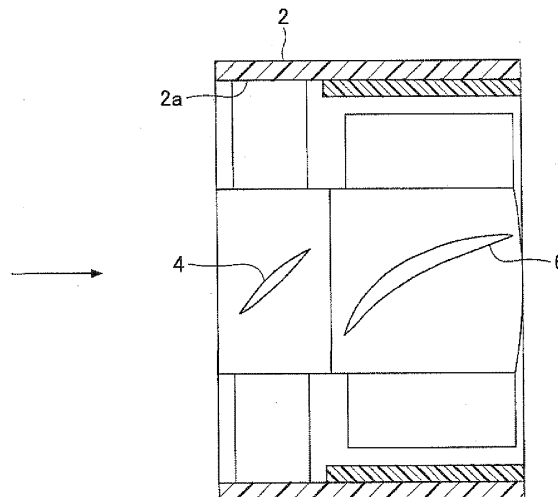
(72) Inventors:
• **Nitta, Kazuhiro**
Kanagawa, 211-8588 (JP)

(54) **Axial blower**

(57) An axial blower includes a moving vane generating air flow by rotation, a casing accommodating said moving vane, and an adapter detachably attached to the

casing. The adapter includes a fitting part to be fit to an inner surface of the casing. The adapter forms a protrusion or a step on the inner surface of the casing.

FIG.1



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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	US 4 750 860 A (KELLEY FRANCIS E [US]) 14 June 1988 (1988-06-14)	1,2,5-8	INV. F04D25/06 F04D29/52 F04D29/68
Y	* the whole document * * column 1, lines 9-13, 36-37, 42-54 * * column 2, lines 18-33, 46-61 * * figure 2 *	3,4	
X	US 6 254 343 B1 (SCHMIDT DETLEF W [US] ET AL) 3 July 2001 (2001-07-03)	1-3,5-8	
Y	* the whole document * * column 1, lines 6-10, 55-65 * * column 2, lines 26-56 * * column 3, line 16 - column 4, line 16 * * figures 1, 3, 5 *	4	
X	JP 2004 293389 A (HITACHI MAXELL) 21 October 2004 (2004-10-21)	1,2,6,8	
Y	* abstract * * the whole document * * figure 1 *		
X	US 3 178 099 A (CHILD LACHLAN W) 13 April 1965 (1965-04-13)	1,5-8	TECHNICAL FIELDS SEARCHED (IPC)
Y	* the whole document * * column 1, lines 8-12 * * column 10, lines 30-49 * * column 2, lines 36-49 * * figure 7 *	3,4	F04D
Y	US 7 658 592 B1 (JARRAH YOUSEF [US] ET AL) 9 February 2010 (2010-02-09)	3,4	
A	* the whole document * * column 1, lines 13-15 * * column 2, lines 36-42 * * column 4, lines 8-24 * * figures 4A, 4B *	1	
		-/--	
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		16 September 2014	De Tobel, David
CATEGORY OF CITED DOCUMENTS		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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EUROPEAN SEARCH REPORT

Application Number
EP 12 16 0575

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55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	JP 2009 127612 A (NIPPON KEIKI WORKS) 11 June 2009 (2009-06-11) * the whole document * * abstract * * figures 3, 6 * -----	1,5	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 16 September 2014	Examiner De Tobel, David
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 12 16 0575

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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.

16-09-2014

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4750860 A	14-06-1988	NONE	
US 6254343 B1	03-07-2001	NONE	
JP 2004293389 A	21-10-2004	NONE	
US 3178099 A	13-04-1965	NONE	
US 7658592 B1	09-02-2010	CN 101326101 A US 7658592 B1	17-12-2008 09-02-2010
JP 2009127612 A	11-06-2009	NONE	

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