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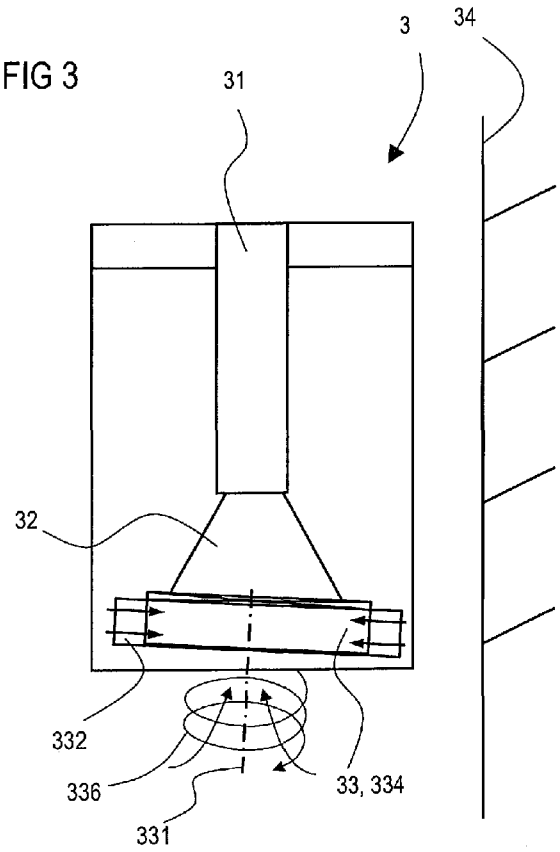
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[Continued on next page]

(54) Title: SUCTION HOOD

FIG 3



(57) Abstract: The invention relates to a suction hood (3, 4, 5), preferably vortex hood or tornado hood, a) comprising a vortex generator (33, 43, 53) for generating a vortex air stream (336, 436, 536), b) wherein the vortex air stream comprises an at least substantially circular, cyclone, vortex and/or helix like air movement, c) such that fumes or smoke can be pulled into the suction hood (3, 4, 5) by the vortex air stream, d) comprising stabilizing means (32, 433, 54) for improving the stability of the vortex air stream.

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Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
10 November 2011

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2009/008825

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2009/008825

A. CLASSIFICATION OF SUBJECT MATTER
INV. F24C15/20
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
F24C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 89/11926 A (HANSEN & RAAGAARD APS [DK]) 14 December 1989 (1989-12-14)	1,2,6-9
A	pages 2,3,5-7; figures	5

X	EP 1 887 286 A (ELECTROLUX PROFESSIONAL SPA [IT]) 13 February 2008 (2008-02-13) paragraphs [0024] - [0043]; figures	1,2,6-9

A	JP 2000 266385 A (DAIKIN IND LTD) 29 September 2000 (2000-09-29) abstract; figures	1-4,7-9

X	JP 2004 332967 A (HORI FUJIO) 25 November 2004 (2004-11-25) abstract; figures	1,2,7-9

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
30 August 2011	07/09/2011

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	von Mittelstaedt, A

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Form PCT/ISA/210 (second sheet) (April 2005)

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2005 317205 A (HORIKOSHI KUNIAKI) 10 November 2005 (2005-11-10) abstract; figures	1,2,7-9
X	EP 1 118 820 A1 (DAIKIN IND LTD [JP]) 25 July 2001 (2001-07-25)	1,7-9
A	columns 10-33; figures 1-4, 14-20,24	6
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A	the whole document	6

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2009/008825

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FR 2843054 A1	06-02-2004	NONE	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4, 7-9

A suction hood wherein the vortex air stream rotates around an axis whereby stabilizing means tilt the axis of the vortex generator.
The resulting effect is that, when the suction hood is mounted at a wall, the vortex air stream is or can be directed away from the wall, and the vortex air stream thereby be stabilized.

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2. claim: 5

A suction hood with a skirt as stabilizing means, for at least partially surrounding the vortex air stream, with the skirt being shiftable between an first and a second position.
The resulting effect is, that when the skirt is in its first position, it is located substantially inside the vortex generator. When the skirt is in its second position, the skirt is located below the vortex generator so that the vortex generator is extended downwards.

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3. claim: 6

A suction hood wherein the stabilizing means are suction means by which laterally and/or vertically sucked air towards the suction hood can be generated at least partially around the vortex air stream.
The resulting effect is, that the radial losses of the vortex generator (536) are reduced.
