

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 February 2006 (16.02.2006)

PCT

(10) International Publication Number
WO 2006/016264 A3

(51) International Patent Classification:
A24C 5/39 (2006.01) B65G 53/46 (2006.01)
B65G 53/60 (2006.01)

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(21) International Application Number:
PCT/IB2005/002462

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(22) International Filing Date: 3 August 2005 (03.08.2005)

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
04254656.4 3 August 2004 (03.08.2004) EP

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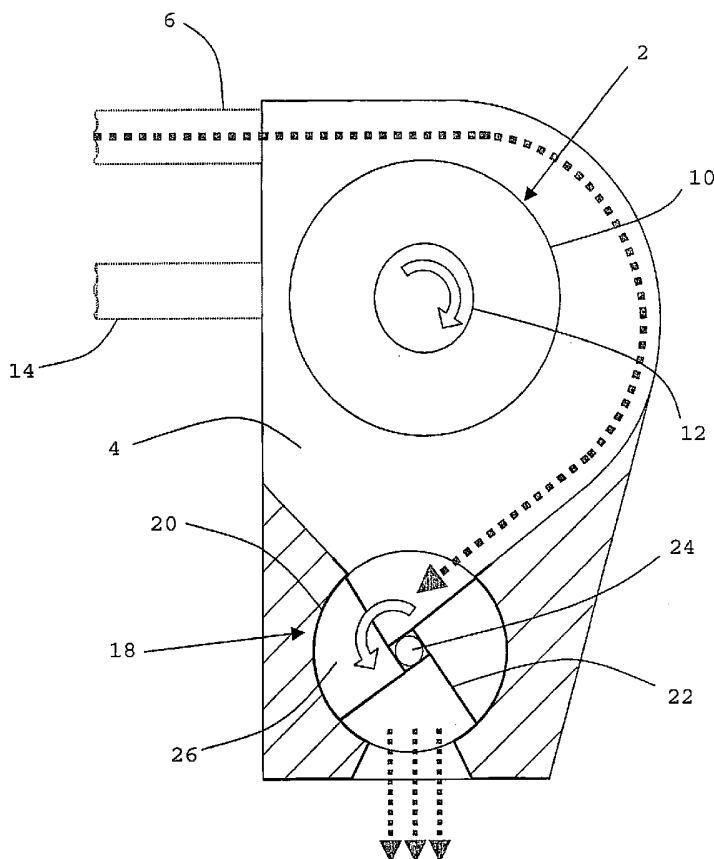
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(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,

[Continued on next page]

(54) Title: TANGENTIAL SEPARATOR



(57) Abstract: A separator for pneumatically transported particulate material comprises a separation surface through which, in use, a vacuum is drawn, for separating the particulate material from a gaseous medium in which it is transported and an inlet (30) for feeding a stream of the pneumatically transported particulate material to the separation surface. The inlet (30) is moveable to sweep the particulate material over the separation surface, which may be a cylindrical sieve drum (2) mounted for rotation about its longitudinal axis. A rotary airlock (18) for pneumatically transported particulate material comprises a plurality of radial vanes (32) mounted for rotation about a central axis. Each vane (32) is resiliently biased in a first radial position whereby, in use, when a force acts upon it in a direction contrary to the direction of rotation of the airlock (18), the vane (32) is deflected from the first radial position in the direction of the force and when the force is removed the vane (32) returns to the first radial position.



RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
4 May 2006

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2005/002462

A. CLASSIFICATION OF SUBJECT MATTER A24C5/39 B65G53/60 B65G53/46		
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) A24C B65G		
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) EP0-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 335 259 A (EDUARD QUESTER) 22 September 1930 (1930-09-22) page 2, line 1 - line 14; figures -----	1-7,12
A	US 1 979 624 A (HERBERT KLUX ALEXANDER) 6 November 1934 (1934-11-06) page 1, line 40 - line 100; figures -----	1
A	DE 102 09 710 A (HAUNI WERKE KOERBER & CO KG) 18 September 2003 (2003-09-18) figures 1,2 -----	1
A	EP 0 501 910 A (TABAC FAB REUNIES SA) 2 September 1992 (1992-09-02) the whole document -----	1
☐ Further documents are listed in the continuation of Box C. ☒ 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 8 November 2005		Date of mailing of the international search report 09. 02. 2006
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Lawder, M

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2005/002462

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 allsearchable 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 reportcovers 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.:

1-7, 12

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-7,12

Invention 1 relates to a tangential separator and the even distribution of particulate material over a separation surface.

2. claims: 8-11,12

Invention 2 relates to a rotary airlock and the reduction of permanent deflection of its vanes.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2005/002462

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 335259	A	22-09-1930	NONE	
US 1979624	A	06-11-1934	FR 730703 A GB 380697 A	20-08-1932 22-09-1932
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EP 0501910	A	02-09-1992	DE 69201739 D1 DE 69201739 T2	27-04-1995 23-11-1995