

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 September 2008 (18.09.2008)

PCT

(10) International Publication Number
WO 2008/112384 A3

(51) International Patent Classification:

B08B 9/032 (2006.01)

(21) International Application Number:

PCT/US2008/053954

(22) International Filing Date:

14 February 2008 (14.02.2008)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

11/683,566 8 March 2007 (08.03.2007) US

(71) Applicant (for all designated States except US): **THE COCA-COLA COMPANY** [US/US]; Patents, One Coca-cola Plaza, NW, Atlanta, GA 30313 (US).

(72) Inventors: **LAFON, Remi**; No 85 le Cimail Ancien Chmin d'Evenos, 83330 Evenos (FR). **PIERROT, Alexis**; 95, rue Edmond Rostand, 13008 Marseille (FR). **COMBAL, Jean-luc**; 781 Chemin Pontillaou, 83330 Le Beausset (FR).

(74) Agents: **WARREN, Daniel, J.** et al.; Sutherland Asbill & Brennan LLP, 999 Peachtree Street, NE, Atlanta, GA 30309-3996 (US).

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

(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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) Title: PIPE CLEARING SYSTEMS

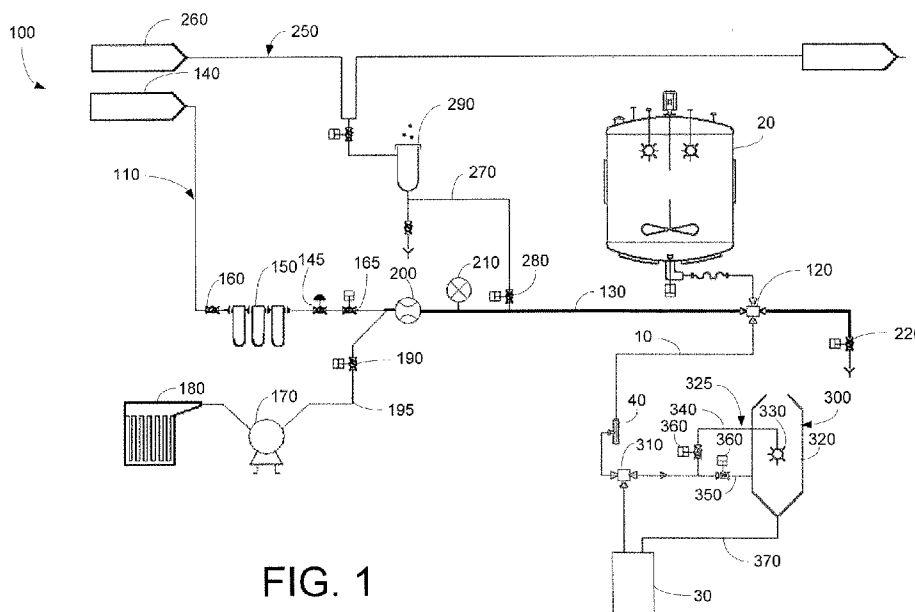


FIG. 1

(57) Abstract: A method of clearing a pipe (10) of contents with an air system (110). The method may include providing air by the air system at high pressure and low velocity compressed air source (140) until the contents begin to move within the pipe, providing air by the air system air at low pressure and high velocity blower (170) until a majority of the contents are removed from the pipe, and continuing to provide air at low pressure and high velocity blower until substantially all remaining contents are removed from the pipe.

WO 2008/112384 A3



Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:

26 March 2009

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/053954

A. CLASSIFICATION OF SUBJECT MATTER
INV. B08B9/032

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)
B08B

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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 353 837 A (AIM DESIGN LTD [GB] WHIRLWIND BY AIR LTD [GB]) 7 March 2001 (2001-03-07) page 1, line 1 – page 4, line 23 page 5, line 27 – page 11, line 2 claims 1,3-6,8-23 figures 1-5 ----- -/--	1,3-7

☒ 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

28 January 2009

Date of mailing of the international search report

05/02/2009

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Psoch, Christian

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/053954

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/91931 A (PRINCETON TRADE AND TECHNOLOGY [US]) 6 December 2001 (2001-12-06) page 1, lines 2-8 page 11, line 10 - page 12, line 2 page 20, line 19 - page 48, line 6 page 54, line 6 - page 55, line 18 page 76, line 9 - page 79, line 3 page 81, line 21 - page 84, line 7 claims 1,3-5,13,14,16,20,23,24 figures 1,2,5 -----	1-5,8
X	WO 2005/105331 A (WHIRLWIND BY AIR LTD [GB]) 10 November 2005 (2005-11-10) page 1, line 5 - page 3, line 36 page 4, line 4 - page 7, line 3 claims 1,2,4,6,7,9-13,15-21,23,24,27-29,31-38,40 figures 1-5 -----	1-7
X	DE 199 22 084 A1 (MESSER GRIESHEIM GMBH [DE]) 30 November 2000 (2000-11-30) column 1, lines 3-27 column 1, line 44 - column 8, line 15 claims 1-3,7-10 figure 1 -----	1-4,6-8
X	US 2004/007255 A1 (LABIB MOHAMED EMAM [US] ET AL) 15 January 2004 (2004-01-15) paragraphs [0002], [0013] - [0015], [0048] - [0090], [0100] - [0113], [0222] - [0237] claims 1,2,4,5,7,9,11 figure 1 -----	1-4
X	US 2005/150831 A1 (PRINCETON TRADE AND TECHNOLOGY [US]) 14 July 2005 (2005-07-14) paragraphs [0002], [0029] - [0031], [0038] - [0085], [0133] - [0157]; claim 16 figures 1,6 -----	1-4
X	US 2005/183744 A1 (STAUB RICHARD K [US] ET AL STAUB RICHARD K [US] ET AL) 25 August 2005 (2005-08-25)	9-19
A	paragraphs [0001], [0004] - [0006], [0010] - [0129] claims 1,7,13,19,25 figures 1-3 ----- -/--	1

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/053954

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 647 780 A (GRIGGIO FRANCESCO [IT]) 19 April 2006 (2006-04-19)	9,12-15
A	paragraphs [0001], [0002], [0043], [0044], [0078] - [0080], [0083] claims 4,12,13 paragraphs [0001] - [0024], [0026] - [0118]; figures 1-3 claims 1,4,12,13 -----	1
A	US 3 169 545 A (KOLLING WILLIAM J) 16 February 1965 (1965-02-16) column 1, line 8 - column 6, line 14 claim 1 figures 1-5 -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/053954

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2353837	A	07-03-2001	AT 302656 T AU 6859600 A DE 60022213 D1 DE 60022213 T2 DK 1220722 T3 EP 1220722 A1 ES 2248105 T3 WO 0117700 A1 JP 2003508220 T	15-09-2005 10-04-2001 29-09-2005 01-06-2006 14-11-2005 10-07-2002 16-03-2006 15-03-2001 04-03-2003
WO 0191931	A	06-12-2001	CA 2390480 A1 EP 1248688 A1 JP 2004504868 T US 2005126599 A1 US 2002189647 A1 US 6454871 B1	06-12-2001 16-10-2002 19-02-2004 16-06-2005 19-12-2002 24-09-2002
WO 2005105331	A	10-11-2005	EP 1763409 A1 GB 2429504 A US 2009014036 A1	21-03-2007 28-02-2007 15-01-2009
DE 19922084	A1	30-11-2000	NONE	
US 2004007255	A1	15-01-2004	CA 2529809 A1 EP 1638703 A1 JP 2007534454 T WO 2004112975 A1	29-12-2004 29-03-2006 29-11-2007 29-12-2004
US 2005150831	A1	14-07-2005	AU 2003215326 A1 CA 2478060 A1 EP 1490183 A1 WO 03076089 A1 US 2002112743 A1 US 2008264454 A1	22-09-2003 18-09-2003 29-12-2004 18-09-2003 22-08-2002 30-10-2008
US 2005183744	A1	25-08-2005	NONE	
EP 1647780	A	19-04-2006	AT 380985 T DE 602005003745 T2 DK 1647780 T3 ES 2300932 T3 US 2006099905 A1	15-12-2007 04-12-2008 05-05-2008 16-06-2008 11-05-2006
US 3169545	A	16-02-1965	NONE	