(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
13 October 2011 (13.10.2011)

PCT

(10) International Publication Number
WO 2011/127031 A3

(51) International Patent Classification:
F16K 15/02 (2006.01) *F16K 31/122* (2006.01)
F16K 11/00 (2006.01) *F16K 31/66* (2006.01)

(21) International Application Number:
PCT/US2011/031212

(22) International Filing Date:
5 April 2011 (05.04.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/321,682 7 April 2010 (07.04.2010) US

(71) Applicant *(for all designated States except US)*: **DIVERSEY, INC.** [US/US]; 8310 16th Street, M/S 509, P.O.Box 902, Sturtevant, WI 53177-0902 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **SCHILLER, Steven, E.** [US/US]; 7519 - 7th Avenue, Kenosha, WI 53143 (US). **LARSON, Paul** [US/US]; 1503 Johnson Avenue, Racine, WI 53402 (US). **BOURNOVILLE, James, L.** [US/US]; 1107 Cedar Creek Street, Racine, WI 53402 (US).

(74) Agent: **BOLLIS, Gregory, S.**; Diversey, Inc., 8310 16th Streetm, M/s 509, P.O.Box 902, Sturtevant, WI 53177-0902 (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, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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:
5 January 2012

(54) Title: DISPENSING ASSEMBLY WITH SHUT OFF VALVE, BACKFLOW PREVENTER, AND METHODS OF OPERATING THE SAME

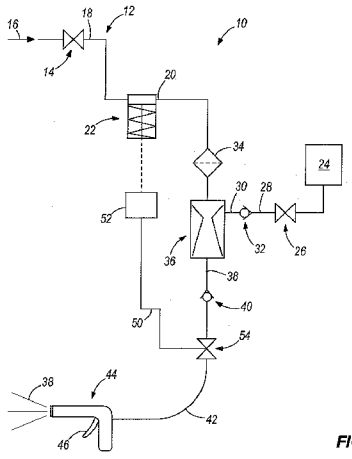


FIG. 1

(57) Abstract: A dispensing assembly for dispensing a mixture of fluids is provided. In some embodiments, the dispensing assembly includes a first valve for selectively permitting fluid flow to a mixing chamber in which a second fluid is introduced, wherein the valve is actuated between open and closed positions responsive to fluid pressure downstream of the mixing chamber. In such embodiments, the fluid pressure downstream of the mixing chamber can change based upon whether fluid is dispensed from a spray gun, wand, nozzle, or other dispensing head of the dispensing assembly.

WO 2011/127031 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/031212

A. CLASSIFICATION OF SUBJECT MATTER

F16K 15/02(2006.01)i, F16K 11/00(2006.01)i, F16K 31/122(2006.01)i, F16K 31/66(2006.01)i

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)

F16K 15/02; B05B 9/00; F16K 31/08; F17D 1/00; F16K 15/00; F16K 19/00; A01G 25/09

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords:mixing, check, venturi, chamber, piston, magnet, valve

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US 04951713A A (JORDAN; FOSTER A. et al.) 28 August 1990 See column 3, line 50 - column 9, line 44 and figures 1-7.	1,3,7-8 2,9-10 4-6
Y	JP 62-066061 U (TAKEMURA FACTORY) 24 April 1987 See pages 1-2.	2
Y	US 2010-0000608 A1 (GOTO TAKAO et al.) 07 January 2010 See paragraph [0107] and figure 1.	9-10
A	US 04311160A A (CHARLAND; LEO) 19 January 1982 See column 1, line 4 - column 3, line 23 and figure 1.	1-10

☐ 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 application or patent 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 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
03 NOVEMBER 2011 (03.11.2011)	**21 NOVEMBER 2011 (21.11.2011)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsa-ro,
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KWAK, Seong Ryong

Telephone No. 82-42-481-5486

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/031212

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 04951713A A	28.08.1990	None	
JP 62-066061 U	24.04.1987	None	
US 2010-0000608 A1	07.01.2010	CN 101501597 A	05.08.2009
		CN 101501597 B	15.06.2011
		JP 2008-039513 A	21.02.2008
		KR 10-2009-0035573 A	09.04.2009
		KR20090035573A	09.04.2009
		WO 2008-016189 A1	07.02.2008
US 04311160A A	19.01.1982	None	