



- (51) **International Patent Classification:**
G06K 17/00 (2006.01) **G06Q 50/00** (2006.01)
- (21) **International Application Number:**
PCT/US2010/037215
- (22) **International Filing Date:**
3 June 2010 (03.06.2010)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/184,398 5 June 2009 (05.06.2009) US
- (72) **Inventors; and**
- (71) **Applicants :** BAREFOOT, William, Chadwick [US/US]; 378 North Keswick Ave., Glenside, Pennsylvania 19038 (US). DAVIS, James, Shaderick, IV [US/US]; 104 Moyer Rd., Telford, Pennsylvania 18969 (US).
- (74) **Agent:** SLOWOWITZ, Scott, M.; Caesar, Rivise, Bernstein, Cohen & Pokotilow, LTD., Seven Penn Center, 1635 Market Street, 11th Floor, Philadelphia, Pennsylvania 19103 (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, SE, SI, SK, SM, 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))

Published:

- with international search report (Art. 21(3))

[Continued on next page]

- (54) **Title:** HYGIENE MONITORING AND CONTROL SYSTEM

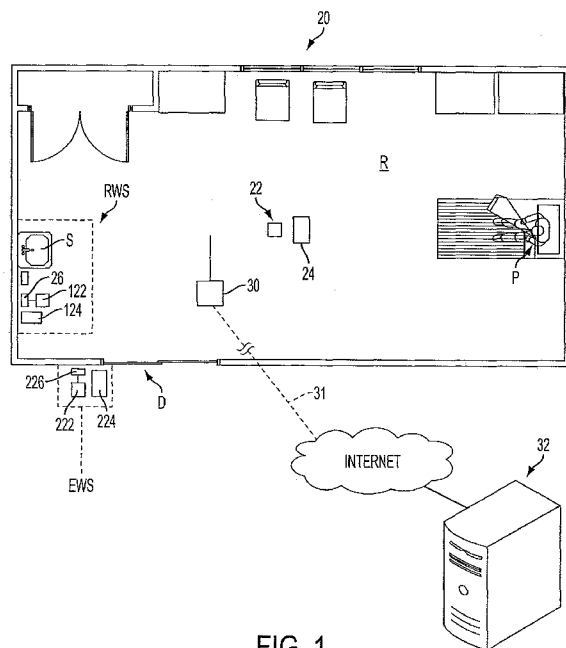


FIG. 1

(57) **Abstract:** A tracking system/method of hygiene device usage. The system/method involves an RFID reader within a location that automatically detects an entering attendant RFID tag. Respective passive RFID readers and/or RFID dispenser tags coupled to the hygiene devices are activated upon hygiene device activation. All RFID readers are coupled with interface adapters that communicate reader information to a remote location for analysis/reporting. If attendant enters the location, a timer starts to monitor time it takes the attendant to activate the hygiene device in the location. Alternatively, if the attendant activates another hygiene device located just outside the specified location, the timer monitors how long after that activation it takes for the attendant to enter the location. Upon attendant exit, the system/method tracks activation of the hygiene device in the location and prompt departure of attendant, or upon departing the location, he/she promptly activates the hygiene device located outside the location.



— *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:**
3 March 2011

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/037215**A. CLASSIFICATION OF SUBJECT MATTER****G06K 17/00(2006.01)i, G06Q 50/00(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)

G06K 17/00; G06F 7/00; G08B 13/14; G08B 23/00

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: hygiene, monitoring, RFID

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LINDQVIST, P. "RFID MONITORING OF HEALTH CARE ROUTINES AND PROCESS IN HOSPITAL ENVIRONMENT" Master's Thesis, Department of Electrical and Communications Engineering Helsinki University of Technology, 10 August 2006	29,30
Y	See abstract, chapter 4 and figures 4.1-4.4.	1-28
Y	US 2009-0051545 A1 (KOBLASZ, ARTHUR) 26 February 2009 See abstract, paragraphs [0023], [0024] and figures 1,9,10.	1-28
A	US 2008-0100441 A1 (PRODANOVICH, TIMOTHY et al.) 01 May 2008 See abstract, figure 8 and claim 1.	1-30
A	US 2008-0087719 A1 (SAHUD, A.G.) 17 April 2008 See abstract.	1-30



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

30 DECEMBER 2010 (30.12.2010)

Date of mailing of the international search report

30 DECEMBER 2010 (30.12.2010)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM, Chang Ju

Telephone No. 82-42-481-5676



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/037215

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009-0051545 A1	26.02.2009	None	
US 2008-0100441 A1	01.05.2008	US 2008-099045 A1 US 2009-084407 A1 US 2010-097224 A1 US 7659824 B2 US 7682464 B2	01.05.2008 02.04.2009 22.04.2010 09.02.2010 23.03.2010
US 2008-0087719 A1	17.04.2008	AU 2007-219356 A1 CA 2606285-A1 CN 101162531 A0 EP 1913892 A2 EP 1913892 A3 JP 2008-176766 A US 7770782 B2	01.05.2008 13.04.2008 16.04.2008 23.04.2008 13.01.2010 31.07.2008 10.08.2010