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(71) Applicant: **AT&T INTELLECTUAL PROPERTY I, L.P.** [US/US]; 675 West Peachtree Street, Atlanta, GA 30308 (US).

(72) Inventors: **KREINER, Barrett, M.**; 112 Wiley Bridge Court, Woodstock, GA 30188 (US). **REEVES, Jonathan, L.**; 141 Spruce Street, Roswell, GA 30075 (US).

(74) Agent: **TONG, Kin-Wah**; Wall & Tong, LLC, 12 Christopher Way, Suite 105, Eatontown, NJ 07724 (US).

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17 March 2016

(54) Title: METHOD AND APPARATUS FOR STERILIZING A SURFACE

(57) Abstract: Various devices for sterilizing a surface are disclosed. For example, a first device includes an ultraviolet light emitting unit, a processor and a computer-readable medium. The computer-readable medium stores instructions which, when executed by the processor, cause the processor to perform operations. The operations include detecting a proximity of a surface to the ultraviolet light emitting unit and activating the ultraviolet light emitting unit to sterilize the surface in response to the detecting. Another device includes an ultraviolet light emitting unit, a processor and a computer-readable medium. The computer-readable medium stores instructions which, when executed by the processor, cause the processor to perform operations. The operations include storing a location parameter, determining whether location information of the device satisfies the location parameter and activating the ultraviolet light emitting unit when it is determined that the location information of the device satisfies the location parameter



INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/038831

A. CLASSIFICATION OF SUBJECT MATTER INV. A61L2/00 A61L2/10 A61L2/24 G06Q50/22 H04M1/17 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) A61L G06Q H04M		
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 practicable, 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	US 2013/045132 A1 (TUMANOV ILYA [US]) 21 February 2013 (2013-02-21) paragraphs [0012], [0015] - [0017], [0024], [0027], [0029], [0033] -----	1-6
☐ 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 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	
20 October 2015	15/01/2016	
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 Bjola, Bogdan	

INTERNATIONAL SEARCH REPORT

International application No.
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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.:

1-6

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: 1-6

Sterilization device comprising a UV source activatable through proximity detection

2. claims: 7-20

Sterilization device comprising a UV source activatable upon the location of the device

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/038831

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2013045132 A1	21-02-2013	US 2013045132 A1	21-02-2013
		US 2015174276 A1	25-06-2015
