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(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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

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Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

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

(54) Title: UV-C STERILIZING DEVICE FOR SERVICE TOUCH SCREENS AND (ATM) MACHINES

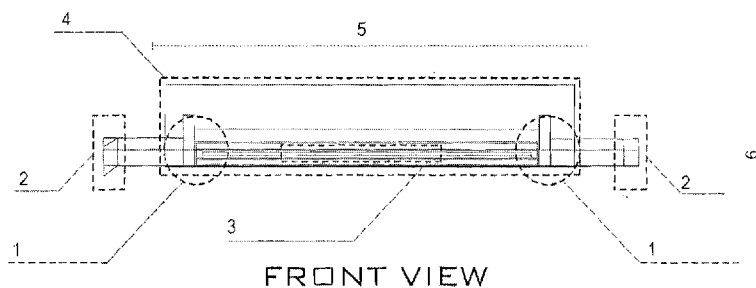


Fig.1

(57) Abstract: The introduced new device installed on ATM and service touch screens machines to disinfect and sterilize touch screens as well as keyboards using ultraviolet rays of the type used in sterilization (Ultraviolet C-wave) with an motion sensor to shut off the sterile ultraviolet rays during use to prevent the users from expose to harmful UV-C rays. The infrared works to close the ultraviolet lamps when users came close to the ATM and service touch screens machines and the ultraviolet sterilizing lamp work again after the user move away from the ATM and service touch screens machines.



UV-C sterilizing device for service touch screens and (ATM) machines

1- Technical Field:-

Engineering - Public health

2- Background Art:-

The ATM (Automated Teller Machine) and service touch screens machines are being disinfected by using hand sanitizers and sterilizers or by using ultraviolet rays with manual devices once or more per day and requires labor, and sterilization is not done between one user and another.

2-1 The problem or deficiency in previous art:-

If the ATM machine and service touch screens machines are disinfected using disinfectants and sterilizers, or by using a manual ultraviolet sterilization device, it does not lead to achieving its intended purpose as the disinfection process does not take place between every user and thus the chance of disease transmission is great if the machine is used by an infected person With viruses or bacteria, this is in addition to the fact that the use of alcohols and disinfectants in sterilization may lead to an increase in the cost of disinfection, as well as damage to the ATM machine and service touch screens, and thus does not achieve the desired results.

3- Disclosure of Innovation

3-1 New in the subject of the invention:-

- 1- The ATM machine and service touch screens machines are sterilized using Ultraviolet C-wave automatically.
- 2- Sterilization takes place between each user and the other user of the machine without human intervention, as well as sterilization between each user and another without wasting time in the sterilization process.
- 3- Sterilization takes place without using disinfectants that harm the machines and damage the machines Electrical circuits.
- 4- A sensor is used in the device to stop the ultraviolet rays automatically when the user approaches the ATM machine and service touch screens machines so the user will not expose to the UVC rays and the disinfection and the ultraviolet sterilizing lamp work again after the user move away from the ATM devices and service touch screens machines are to sterilize the touch screen and keyboards between each user and another.

3-2 Detailed Description:-

The introduced new device installed on ATM devices and service touch machines screens to disinfect and sterilize touch screens as well as

keyboards using ultraviolet rays of the type used in sterilization (Ultraviolet C-wave) with an infrared sensor to shut off the sterile ultraviolet rays during use to prevent the users from expose to harmful UV-C rays.

4- The infrared works to close the ultraviolet lamps when users came close to the ATM and service touch screens machines and the ultraviolet sterilizing lamp work again after the user move away from the ATM devices and service touch screens machines to sterilize the screen and keyboards between each user and another, thus saving the cost of disinfectants and sterilizers and preserving the electronic devices inside the machine from damage.

3-3 Method of exploitation:-

When the user passes near the ATM and service touch screens machines, the sensor closes the ultraviolet rays used for sterilization so that the user is not exposed to the UV-C rays while using the ATM and service touch screens machines. And also sterilize between user and another automatically without human intervention.

5- Brief Description of the drawing

1-UVC sterilizing lamp

2-The device holder is on the wall away from the ATM and service touch screens machines or on stand.

3- Motion sensor (Infrared).

- 4- Device protection shield for (protect users from exposed to UVC rays).
- 5- Variable wide according to the ATM and service touch screens machines wide
- 6- Variable depth according to the ATM and service touch screens machines type.

6- Claims

- 1- Automatically sterilized The ATM and service touch screens machines using Ultraviolet C-wave.
- 2- using motion sensor to stop the ultraviolet rays automatically when the user approaches the ATM and service touch screens machines so the user will not expose to the UVC rays and the disinfection and the ultraviolet sterilizing (lamp or led) work again after the user move away from the ATM and service touch screens machines to sterilize the touch screen and keyboards between each user and another.
- 3- Sterilization takes place without using disinfectants that harm the machines and damage the machines Electrical circuits.
- 4- The device is covered by protection shield for (protect users from exposed to UVC rays and give concentrated ray refraction on the screen and keyboard).

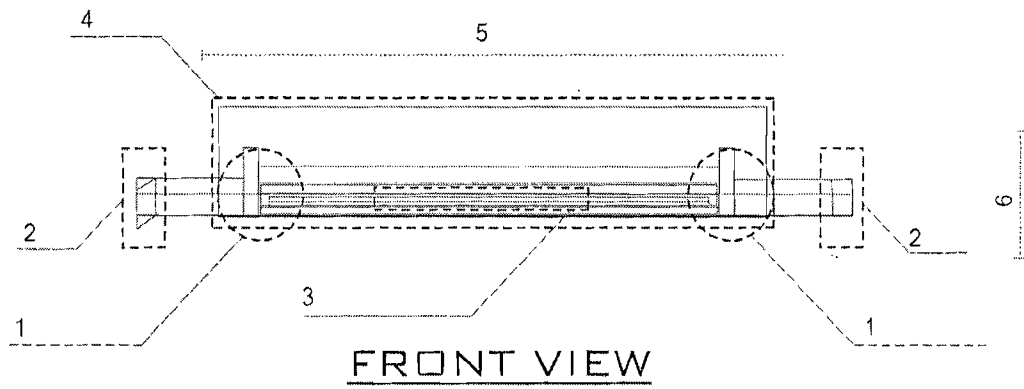


Fig.1

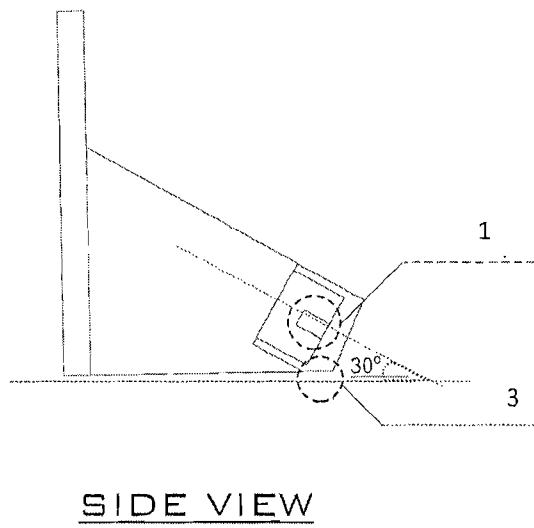


Fig.2

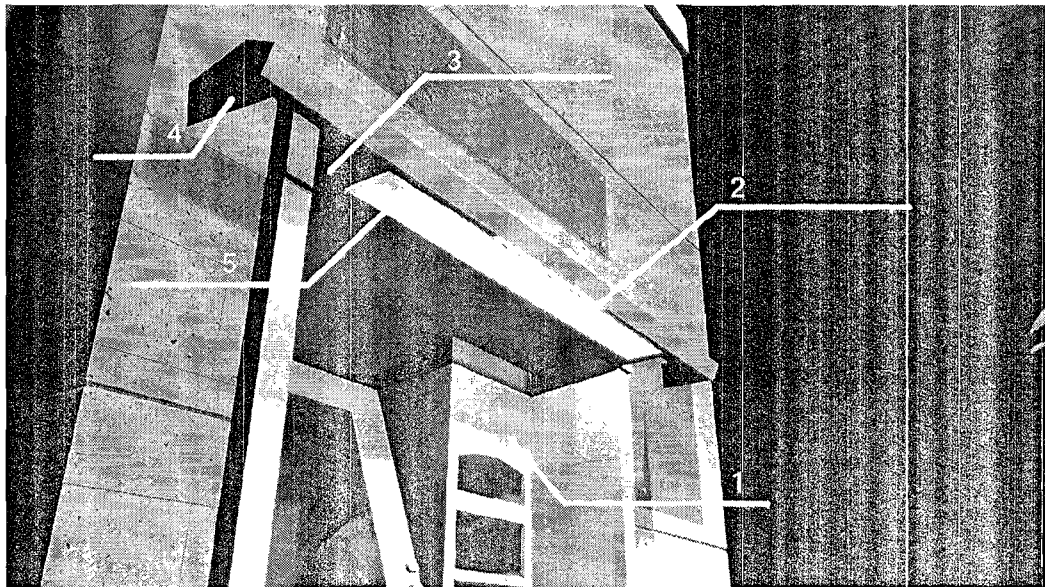


Fig.3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EG2020/000024

A. CLASSIFICATION OF SUBJECT MATTER		
A61L 2/10 (2006.01); G06F 3/041 (2006.01)		
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 2/10; G06F 3/041		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched A61L , G06F		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Espacenet , google advanced search , WIPO		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 8597569 B2 (GRUEN ROBERT WARREN [US]) 03 December 2013 (2013-12-03) Column 2 Lines (40 – 57) Column 4 lines (58 – 67) Column 5 lines (24 – 67) Column 6 lines (1-34, 52 – 67) Column 7 lines (51- 67) Column 8 lines (19 - 25) Claims 1, 10, 13. Figs. (5, 6, 7)	1 - 2 , 4
X	WO 2015051024 A1 (VIOGUARD LLC [US]) 09 April 2015 (2015-04-09) The whole document	1 - 2 , 4
X	EP 3043244 B1 (CEYHAN MESUT [TR]) 25 September 2019 (2019-09-25) Paragraphs [0001], [0022], [0024 - 0025], [0039] ; claim 10	1 - 2 , 4
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 “D” document cited by the applicant in the international application “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 03 August 2021		Date of mailing of the international search report 03 August 2021
Name and mailing address of the ISA/EG Egyptian Patent Office Academy of Scientific Research -- 101 Kasr Al Ainy st. P.O:11516 Cairo Egypt Telephone No. (202) 792 22 03, 792 12 72 Facsimile No. +2027921273		Authorized officer Nehal Salah Metawea' Telephone No.

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.: **3**
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:

claim 3 describes that the sterilization takes place without using disinfectants that harm the machines and damage the machines electrical circuits , but the claim does not contain any technical features .

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).

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/EG2020/000024

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
US	8597569	B2	03 December 2013	US	2011256019	A1	20 October 2011
WO	2015051024	A1	09 April 2015	US	2015182647	A1	02 July 2015
				US	9233179	B2	12 January 2016
EP	3043244	B1	25 September 2019	NONE			