

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

(19) World Intellectual Property
Organization
International Bureau

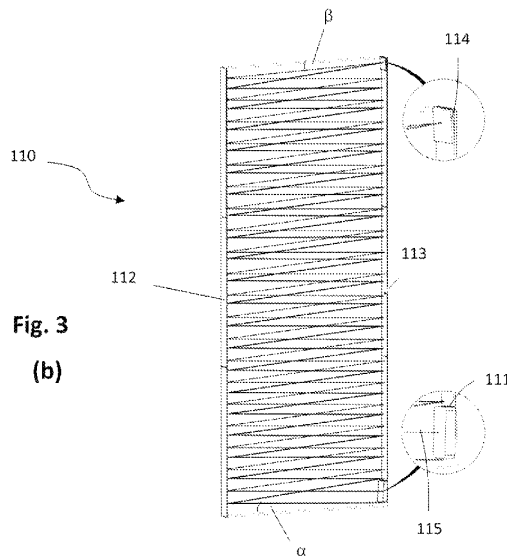
(43) International Publication Date
06 January 2022 (06.01.2022)



(10) International Publication Number
WO 2022/003496 A1

- (51) International Patent Classification:
A61L 9/18 (2006.01) *F24F 8/20* (2021.01)
- (21) International Application Number:
PCT/IB2021/055539
- (22) International Filing Date:
23 June 2021 (23.06.2021)
- (25) Filing Language: Italian
- (26) Publication Language: English
- (30) Priority Data:
102020000015841 01 July 2020 (01.07.2020) IT
- (72) Inventor; and
(71) Applicant: **ZANATA, Francesco** [IT/IT]; Via Diritti
Dell'infanzia, 14/3, 31050 Ponzano Veneto (TV) (IT).
- (72) Inventor: **ZACCHIGNA, Serena**; c/o Francesco Zanata,
Via Diritti Dell'infanzia 14/3, 31050 Ponzano Veneto (TV)
(IT).
- (74) Agent: **PERRONACE, Andrea**; c/o Jacobacci & Partners
S.p.A., via Tomacelli, 146, I-00186 Roma (IT).
- (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.

(54) Title: APPARATUS FOR THE STERILIZATION OF AMBIENT AIR BY MEANS OF A LASER RAYS FILTER



(57) Abstract: The present invention relates to a device (100, 200) for sterilizing air from any bacterium, virus, dust or any other organic or non- organic body present in the air, of a public or private space, using a sterilization chamber (110, 110", 210) provided with a laser beam (115, 115", 215) filter. A dense network of laser beams (115, 115", 215) which saturate the sterilization chamber (110, 110", 210) is created. The air forced to go through the entire sterilization chamber (110, 110", 210) causes every small particle, bacterium, virus of any size, even nanometric, to impact on the laser beams (115, 115", 215), thus pulverizing, destroying and/or neutralizing itself completely, by means of the large beam energy irradiated for a time ranging from 0.5 to 2 seconds.

[Continued on next page]

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*