

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
22 May 2025 (22.05.2025)



(10) International Publication Number
WO 2025/106107 A1

(51) International Patent Classification:

A01G 31/02 (2006.01) A01G 31/06 (2006.01)
A01G 31/00 (2018.01)

(21) International Application Number:

PCT/US2024/026119

(22) International Filing Date:

25 April 2024 (25.04.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

18/512,407 17 November 2023 (17.11.2023) US

(71) Applicant: **ULTUM NATURE SYSTEMS, INC.**

[US/—]; 2623 River Avenue Suite B, Rosemead, CA 91770 (US).

(72) Inventors: **FOON, Brandon**; 2623 River Avenue Suite B, Rosemead, CA 91770 (US). **TANG, Edward**; 2623 River Avenue Suite B, Rosemead, CA 91770 (US).

(74) Agent: **KELLER, Spencer**; LegalForce RAPC Worldwide, 446 E Southern Ave., Tempe, AZ 85282 (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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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: PLANT GROWTH APPARATUS AND METHOD OF FORMATION THEREOF

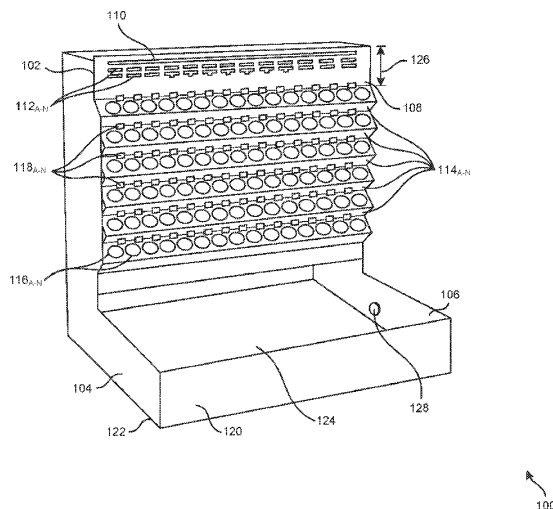


FIG. 1A

(57) Abstract: A plant growth apparatus includes a vapor duct, a plurality of cascade points, a plurality of mounts, a plurality of spill throughs, a reservoir, a water return, and a vaporizer. The vapor duct allows the passage of vapor into a plant enclosure. The plurality of cascade points allows passage of water from a trough. The plants are set into plant receivers of the mounts. The roots of the plant occupy a root space formed by the plant wall and the mounts. The spill throughs are cut into the mounts which allow water to enter the root space and a pool below the mounts. The reservoir fills the trough with water and causes it to flow through the cascade points. The water return connects the pool of the plant enclosure and the reservoir. The vaporizer located partially within the reservoir creates vapor that moves to the plant enclosure.

[Continued on next page]

WO 2025/106107 A1

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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))*