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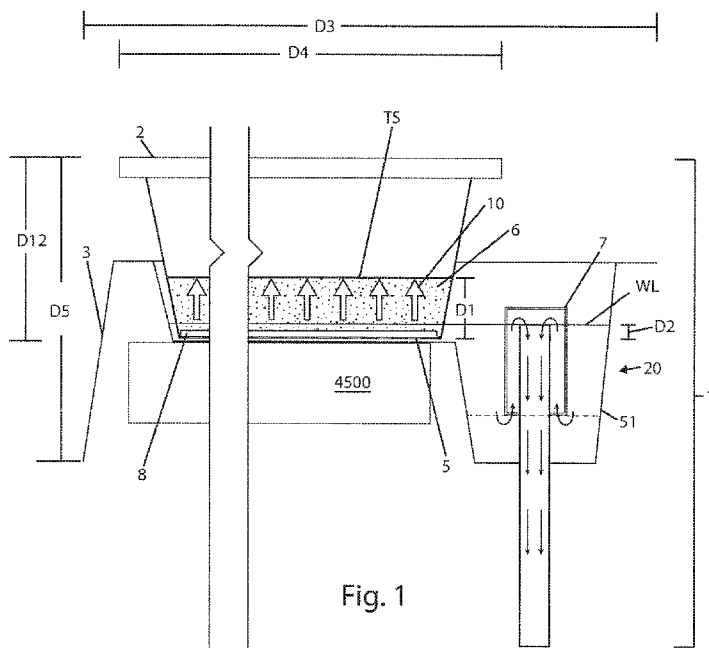
(81) Designated States (unless otherwise indicated, for every
kind of national protection available):

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, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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(54) Title: ORGANIC SOIL BASED AUTOMATED GROWING ENCLOSURE



(57) Abstract: An automated organic closed-loop grow enclosure that has rows of hydration trays that support removable (three across) grow containers for microgreens such as broccoli. Each grow container has a layer of soil. The seeds are treated with mycorrhizae and mixed with enriched top soil having a wicking agent. The grow containers are automatically watered once a day from the bottom and the capillary action of the soil lifts and holds the water in the grow container. LED Lighting is used to stimulate day and night cycles. The water is treated with magnets, turbulence and charcoal filters. The water cascades down the tiered trays using siphons. No other treatment of the water is necessary since almost no micro-organisms or organic material leak from the grow containers due to a filter barrier in the bottom of the grow container. Spectacular consistent growth rates are easily achieved.



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).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 19/13336

<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A01G 9/02, A01G 9/029, A01G 31/02, A01G 31/06 (2019.01) CPC - A01G 9/0291, A01G 9/0293, A01G 9/029, A01G 31/02, A01G 9/0297, A01G 31/06</p>											
<p>According to International Patent Classification (IPC) or to both national classification and IPC</p>											
<p>B. FIELDS SEARCHED</p>											
<p>Minimum documentation searched (classification system followed by classification symbols) See Search History Document</p>											
<p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched See Search History Document</p>											
<p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) See Search History Document</p>											
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p>											
<p>Category*</p>	<table border="1"> <thead> <tr> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td> X US 2017/0172082 A1 (Replantable LLC), 22 June 2017 (22.06.2017), entire document, especially Fig. 1-4; para [0002]-[0070] -- Y -- A </td> <td> 1-7, 21-24, 26, 32-35, 47-53, 67-70, 93-95 and 136-137 ----- 25, 71, 96-99, 109-116, 118-121, 131-135 ----- 100-108, 117, 122-130 </td> </tr> <tr> <td> X US 2010/0218423 A1 (Walhovd), 02 September 2010 (02.09.2010), entire document, especially Fig. 1-9; para [0021]-[0095] -- Y -- A </td> <td> 1, 8-14, 16, 19-20, 36, 47, 54-60, 62, 64-66 and 82 ----- 15, 17-18, 61, 63, 96-99, 109-116, 118-121, 131-135 ----- 37-46, 83-92, 100-108, 117, 122-130 </td> </tr> <tr> <td> X US 2013/0031833 A1 (MacKinnon), 07 February 2013 (07.02.2013), entire document, especially Fig. 1-9; para [0002]-[0035] -- Y -- A </td> <td> 1, 21, 26-31, 47 and 67 ----- 15, 61, 69, 72-81, 138 ----- 117 </td> </tr> <tr> <td> Y - DE 3424367 A1 (MENNENGA & HOLLAND OHG), 09 January 1986 (09.01.1986), entire document, especially Fig. 1-2; pg. 2, para 7 to pg. 4, para 7 </td> <td> 17-18, 63, </td> </tr> </tbody> </table>	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X US 2017/0172082 A1 (Replantable LLC), 22 June 2017 (22.06.2017), entire document, especially Fig. 1-4; para [0002]-[0070] -- Y -- A	1-7, 21-24, 26, 32-35, 47-53, 67-70, 93-95 and 136-137 ----- 25, 71, 96-99, 109-116, 118-121, 131-135 ----- 100-108, 117, 122-130	X US 2010/0218423 A1 (Walhovd), 02 September 2010 (02.09.2010), entire document, especially Fig. 1-9; para [0021]-[0095] -- Y -- A	1, 8-14, 16, 19-20, 36, 47, 54-60, 62, 64-66 and 82 ----- 15, 17-18, 61, 63, 96-99, 109-116, 118-121, 131-135 ----- 37-46, 83-92, 100-108, 117, 122-130	X US 2013/0031833 A1 (MacKinnon), 07 February 2013 (07.02.2013), entire document, especially Fig. 1-9; para [0002]-[0035] -- Y -- A	1, 21, 26-31, 47 and 67 ----- 15, 61, 69, 72-81, 138 ----- 117	Y - DE 3424367 A1 (MENNENGA & HOLLAND OHG), 09 January 1986 (09.01.1986), entire document, especially Fig. 1-2; pg. 2, para 7 to pg. 4, para 7	17-18, 63,
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<p>Date of the actual completion of the international search 19 March 2019</p>	<p>Date of mailing of the international search report 19 APR 2019</p>										
<p>Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300</p>	<p>Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</p>										

INTERNATIONAL SEARCH REPORT

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y -- A	➔ AMARANTHUS et al. "Inoculate with Mycorrhizae: It's as easy as A-B-Seeds," Acres, published on January 2012 (01.2012), retrieved on 15 March 2019 (15.03.2019), accessed at < https://mycorrhizae.com/wp-content/uploads/2017/04/Inoculate-with-Mycorrhizae-PDF.pdf >, entire document, especially pg. 1, col 1, para 1 to pg. 2, col 3, para 2	25, 71, 112-116, 118 ----- 117
Y	➔ BURRELL "Garden Soil Tips" HowStuffWorks, published on 3 April 2007 (03.04.2007), retrieved on 18 March 2019 (18.03.2019), accessed at < https://home.howstuffworks.com/gardening/garden-design/garden-soil-tips.htm >, entire document, especially pg. 1, para 1-5	69, 72-81, 138
Y	US 2017/0188531 A1 (Daniels), 06 July 2017 (06.07.2017), entire document, especially Fig. 1; para [0034]-[0048]	134
A	US 2013/0247461 A1 (Rolf et al.), 26 September 2013 (26.09.2013), entire document	1-138
A	US 2013/0042524 A1 (Friton), 21 February 2013 (21.02.2013), entire document	1-138
A	US 2012/0227321 A1 (Furumura et al.), 13 September 2012 (13.09.2012), entire document	1-138
A	US 2013/0180173 A1 (E I DU PONT DE NEMOURS AND COMPANY), 18 July 2013 (18.07.2013), entire document	1-138
A	US 8,088,280 B2 (Pedersen), 03 January 2012 (03.01.2012), entire document	1-138