

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
30 December 2021 (30.12.2021)



(10) International Publication Number
WO 2021/262796 A1

(51) International Patent Classification:
A61F 9/00 (2006.01) *A61F 7/00* (2006.01)

(21) International Application Number:
PCT/US2021/038597

(22) International Filing Date:
23 June 2021 (23.06.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/043,275 24 June 2020 (24.06.2020) US
63/126,189 16 December 2020 (16.12.2020) US

(71) Applicant: **BRIDGE LABS LLC** [US/US]; 3898 Magnolia Drive #15, Palo Alto, California 94306 (US).

(72) Inventors: **HEREKAR, Anjali**; 3898 Magnolia Drive #15, Palo Alto, California 94306 (US). **HEREKAR, Rajeev**; 3898 Magnolia Drive #15, Palo Alto, California 94306 (US). **HEREKAR, Satish**; 3898 Magnolia Drive #15, Palo Alto, California 94306 (US).

(74) Agent: **HEIDARI, Emon**; Wilson Sonsini Goodrich & Rosati, 650 Page Mill Road, Palo Alto, California 94304 (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, 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.

(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).

(54) Title: SYSTEMS, METHODS, AND APPARATUS FOR OCULAR LASER THERAPY

(57) Abstract: Near-infrared/Mid-infrared lasers are used to de-claudicate glaucomatous tissue, translocate extra-ocular muscles, thermally pulsate palpebrae, and permeate/vasodilate superficial/epi-scleral membranes for drug delivery. Diffractive optic element-mediated laser patterns may irradiate eye tissues under pulsed or continuous wave regimes with programmable durations and sequences for efficient treatments while minimizing adverse effects.

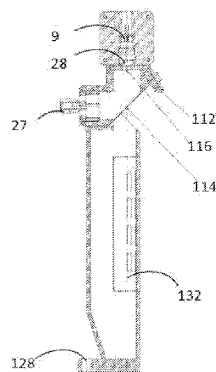


FIG. 12B

WO 2021/262796 A1

[Continued on next page]

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*