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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
08 August 2024 (08.08.2024)

WIPO | PCT

(10) International Publication Number
WO 2024/163794 A1

(51) International Patent Classification:
A61B 17/22 (2006.01) *A61M 25/10* (2006.01)

(21) International Application Number:
PCT/US2024/014077

(22) International Filing Date:
01 February 2024 (01.02.2024)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/442,980 02 February 2023 (02.02.2023) US
18/428,752 31 January 2024 (31.01.2024) US

(71) Applicant: **SHOCKWAVE MEDICAL, INC.** [US/US]; 5403 Betsy Ross Drive, Santa Clara, California 95054 (US).

(72) Inventors; and
(71) Applicants: **NGUYEN, Nancy P.** [US/US]; c/o Shockwave Medical, Inc., 5403 Betsy Ross Drive, Santa Clara, California 95054 (US). **FRANCO, Jason B.** [US/US]; c/o Shockwave Medical, Inc., 5403 Betsy Ross Drive, Santa Clara, California 95054 (US).

(72) Inventors: **BETELIA, Rainier**; c/o Shockwave Medical, Inc., 5403 Betsy Ross Drive, Santa Clara, California 95054 (US). **JENKINS, Todd**; c/o Shockwave Medical, Inc., 5403 Betsy Ross Drive, Santa Clara, California 95054 (US). **ROND, Danielle**; c/o Shockwave Medical, Inc., 5403 Betsy Ross Drive, Santa Clara, California 95054 (US).

(74) Agent: **GLORIA, Christopher E.** et al.; Morrison & Foerster LLP, 2100 L ST, NW, Suite 900, Washington, District of Columbia 20037 (US).

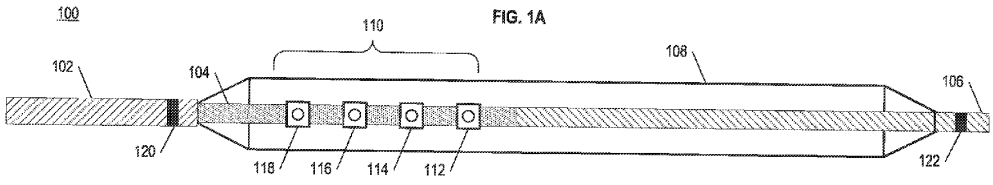
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, 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.

(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))*
— *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))*

(54) **Title:** INTRAVASCULAR LITHOTRIPSY CATHETER WITH MOVABLE EMITTERS

FIG. 1A



(57) **Abstract:** A catheter for treating an occlusion in a body lumen includes a movable emitter carrier having one or more shock wave emitters. The one or more shock wave emitters are movable in a longitudinal direction of the catheter along an inner shaft. In a first configuration of the catheter, the one or more shock wave emitters are retracted from a. distal fluid-fillable enclosure. In a second configuration of the catheter, the one or more shock wave emitters are inserted, in the distal fluid-fillable enclosure.

WO 2024/163794 A1