

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
31 March 2022 (31.03.2022)



(10) International Publication Number
WO 2022/067303 A1

(51) International Patent Classification:

H05H 1/26 (2006.01) *H05H 1/30* (2006.01)
B01J 19/08 (2006.01) *H05H 1/34* (2006.01)
B23K 10/02 (2006.01) *H05H 1/42* (2006.01)

(21) International Application Number:

PCT/US2021/071519

(22) International Filing Date:

20 September 2021 (20.09.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/082,919 24 September 2020 (24.09.2020) US

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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, 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,

(54) Title: SYSTEMS, DEVICES, AND METHODS FOR STARTING PLASMA

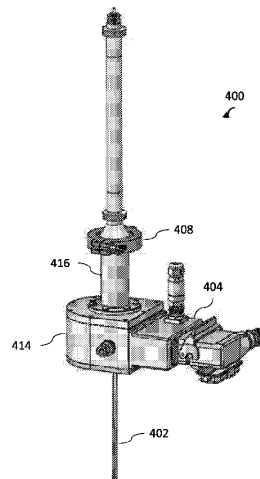


FIG. 3

(57) Abstract: Some embodiments herein are directed to devices and methods for automatically starting a plasma utilizing a wand. In some embodiments, the wand may be used to start a plasma in a plasma torch such as, for example, a microwave plasma torch or an induction plasma torch. The plasma torches discussed herein may be used in various applications including, for example, high volume synthesis of advanced materials such as nano-materials, micro-powders, coatings, alloy compositions for additive manufacturing.

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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))*

Published:

- *with international search report (Art. 21(3))*