



- (51) **International Patent Classification:**
H01J 37/32 (2006.01)
- (21) **International Application Number:**
PCT/US2020/023057
- (22) **International Filing Date:**
17 March 2020 (17.03.2020)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
- | | | |
|------------|----------------------------|----|
| 62/823,436 | 25 March 2019 (25.03.2019) | US |
| 62/823,492 | 25 March 2019 (25.03.2019) | US |
| 62/823,505 | 25 March 2019 (25.03.2019) | US |
| 62/823,508 | 25 March 2019 (25.03.2019) | US |
| 62/823,514 | 25 March 2019 (25.03.2019) | US |
| 62/823,517 | 25 March 2019 (25.03.2019) | US |
| 62/823,484 | 25 March 2019 (25.03.2019) | US |
| 16/820,669 | 16 March 2020 (16.03.2020) | 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, 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,

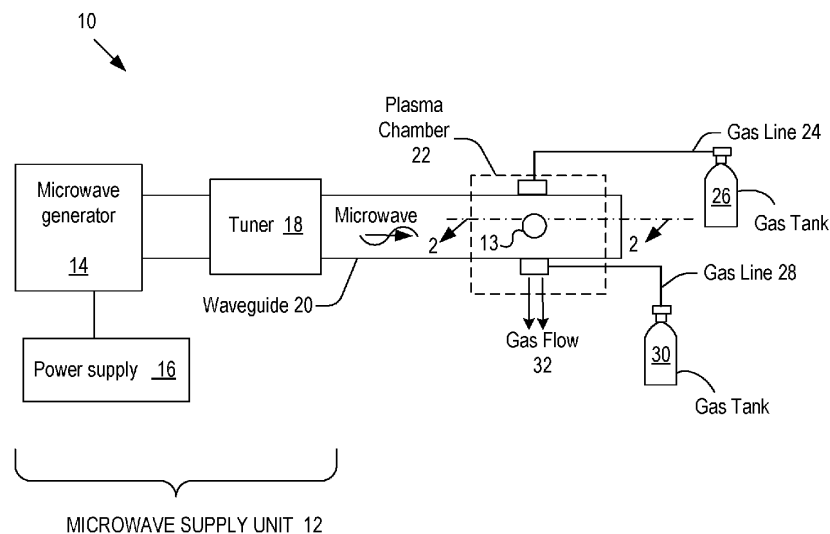
(54) **Title:** OPTICAL SYSTEM FOR MONITORING PLASMA REACTIONS AND REACTORS

FIG. 1

(57) **Abstract:** The present invention provides a plasma generating system (10) that includes: a waveguide (20); a plasma cavity coupled to the waveguide (20) and configured to generate a plasma therewithin by use of microwave energy; a hollow cylinder (13) protruding from a wall of the waveguide (20) and having a bottom cap that has an aperture (66); a detection unit (61) for receiving the light emitted by the plasma (46) through the aperture (66) and configured to measure intensities of the light in an ultraviolet (UV) range and an infrared (IR) range; and a controller (69) for controlling the detection unit (61).

[Continued on next page]

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).

Declarations under Rule 4.17:

— *as to the identity of the inventor (Rule 4.17(i))*

Published:

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