

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
16 April 2020 (16.04.2020)



(10) International Publication Number
WO 2020/076562 A1

(51) International Patent Classification:
H01J 37/32 (2006.01)

(21) International Application Number:
PCT/US2019/054109

(22) International Filing Date:
01 October 2019 (01.10.2019)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
16/156,918 10 October 2018 (10.10.2018) 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: SHOWERHEAD FACEPLATE HAVING FLOW APERTURES CONFIGURED FOR HOLLOW CATHODE DISCHARGE SUPPRESSION

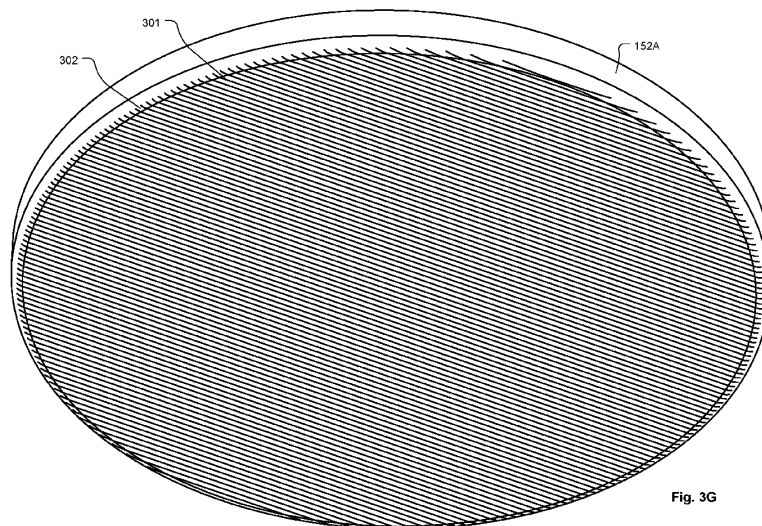


Fig. 3G

(57) Abstract: A faceplate of a showerhead has a bottom side that faces a plasma generation region and a top side that faces a plenum into which a process gas is supplied during operation of a substrate processing system. The faceplate includes apertures formed through the bottom side and openings formed through the top side. Each of the apertures is formed to extend through a portion of an overall thickness of the faceplate to intersect with at least one of the openings to form a corresponding flow path for process gas through the faceplate. Each of the apertures has a cross-section that has a hollow cathode discharge suppression dimension in at least one direction. Each of the openings has a cross-section that has a smallest cross-sectional dimension that is greater than the hollow cathode discharge suppression dimension.

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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.

(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).

Published:

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