



- (51) **International Patent Classification:**
H01L 31/042 (2006.01) *H01L 31/0236* (2006.01)
- (21) **International Application Number:**
PCT/US2013/026914
- (22) **International Filing Date:**
20 February 2013 (20.02.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/601,796 22 February 2012 (22.02.2012) US
61/671,612 13 July 2012 (13.07.2012) 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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, 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, 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, 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))

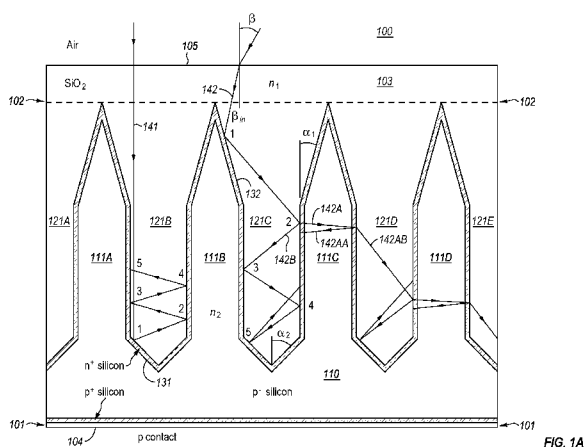
(54) **Title:** WIDE ANGLE THREE-DIMENSIONAL SOLAR CELLS

FIG. 1A

(57) **Abstract:** A three dimensional solar cell composed of a semiconductor body that has a substantially flat bottom surface, and shaped trenches formed in an arrayed manner along its top side. Thus, multiple pillars are thereby formed in the semiconductor body extending toward the top side of the semiconductor body. A light collecting material fills the shaped trenches along the top side of the semiconductor body and forms a substantially flat light receiving top surface parallel to the bottom surface of the semiconductor body. Each of at least some of the trenches are structured such that there exists at least one point on the substantially flat light receiving surface that if a light ray is incident on that point, the light ray, if remaining within the corresponding trench, as opposed to entering the semiconductor body, will be redirected upwards at least after a fourth reflection on neighboring pillars.