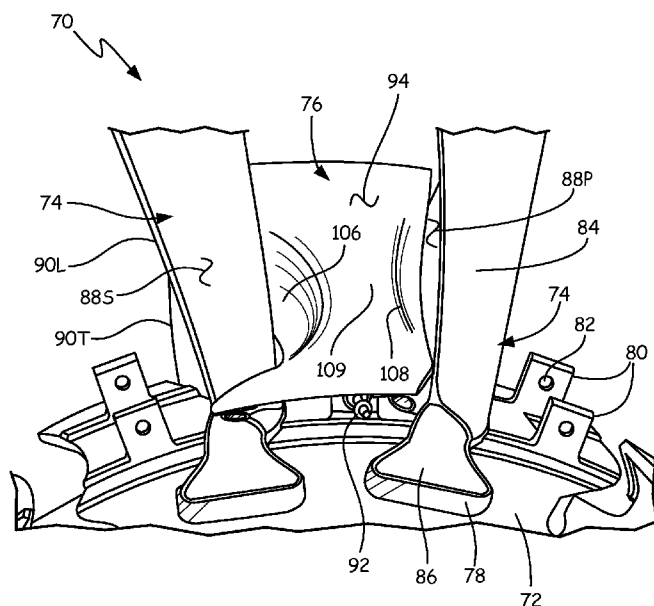




- (51) **International Patent Classification:**
F01D 5/30 (2006.01) *F02C 7/00* (2006.01)
F01D 5/12 (2006.01)
- (21) **International Application Number:**
PCT/US2013/032189
- (22) **International Filing Date:**
15 March 2013 (15.03.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/684,490 17 August 2012 (17.08.2012) US
- (71) **Applicant:** UNITED TECHNOLOGIES CORPORATION [US/US]; One Financial Plaza, Hartford, Connecticut 06101 (US).
- (72) **Inventors:** TURNER, Matthew, A.; 119 Quigley Road, Wallingford, Connecticut 06492 (US). ALARCON, Andrew, G.; 150 Pine Street, Apt. 305, Manchester, Connecticut 06040 (US). GLASPEY, James; 9 Fawn Drive, Farmington, Connecticut 06032-3066 (US). GREEN, Brian; 25 Clark Street, New Haven, Connecticut 06511 (US). FORD, Barry, M.; 123 Greenview Terrace, Middletown, Connecticut 06457 (US). JUREK, Renee, J.; 60 Pleasant Street, Colchester, Connecticut 06415 (US).
- (74) **Agents:** ZUEGE, Austen et al.; Kinney & Lange, P.A., 312 South Third Street, Minneapolis, Minnesota 55415 (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, 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).

[Continued on next page]

(54) **Title:** CONTOURED FLOWPATH SURFACE



(57) **Abstract:** A spacer assembly for a rotor assembly of a gas turbine engine includes an endwall segment having a non-axisymmetric flowpath surface, a first depression and a second depression. A perimeter of the flowpath surface includes a forward edge, an aft edge, a suction side edge and a pressure side edge. The first depression is formed along the flowpath surface adjoining the suction side edge, and the second depression is formed along the flowpath surface adjoining the pressure side edge.



Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

— *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))*

Published:

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