



(51) International Patent Classification:

F01D 5/18 (2006.01) *F02C 7/12* (2006.01)
F01D 25/10 (2006.01) *F02C 7/00* (2006.01)

(21) International Application Number:

PCT/US2013/026010

(22) International Filing Date:

14 February 2013 (14.02.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

13/413,969 7 March 2012 (07.03.2012) US

(71) Applicant: **UNITED TECHNOLOGIES CORPORATION** [US/US]; One Financial Plaza, Hartford, Connecticut 06101 (US).

(72) Inventor: **OTERO, Edwin**; 580 Andrews Street, Southington, Connecticut 06489 (US).

(74) Agents: **MCINTIRE, John C.** et al.; Kinney & Lange, P.A., 312 So. Third St., 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).

Published:

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

(54) Title: AIRFOIL WITH IMPROVED INTERNAL COOLING CHANNEL PEDESTALS

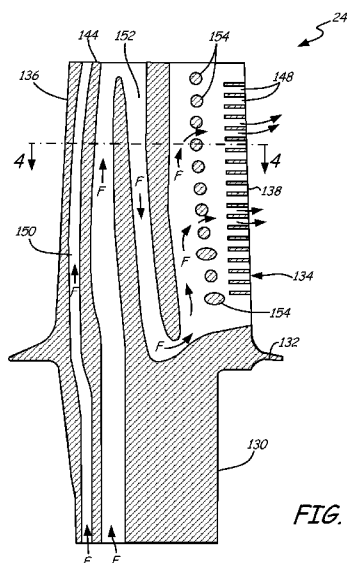


FIG. 3

(57) Abstract: An airfoil for a turbine engine, the airfoil including a first side wall, a second side wall spaced apart from the first side wall, and an internal cooling channel formed between the first side wall and the second side wall. The internal cooling channel includes at least one pedestal having a first pedestal end connected to the first side wall and a second pedestal end connected to the second side wall. The internal cooling channel also includes a first fillet disposed around the periphery of the first pedestal end between the first side wall and the first pedestal end; and a second fillet disposed around the periphery of the second pedestal end between the second side wall and the second pedestal end. At least one of the first fillet and the second fillet includes a profile that is non-uniform around the periphery of the corresponding pedestal end.