

(43) International Publication Date
14 November 2013 (14.11.2013)(51) International Patent Classification:
F02K 3/06 (2006.01)(21) International Application Number:
PCT/US2013/023559(22) International Filing Date:
29 January 2013 (29.01.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
13/363,154 31 January 2012 (31.01.2012) US
61/653,745 31 May 2012 (31.05.2012) US
13/645,606 5 October 2012 (05.10.2012) US

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

(72) Inventors: KUPRATIS, Daniel, Bernard; 12 Sunset Drive, Wallingford, CT 06492 (US). SCHWARZ, Frederick, M.; 121 Steep Hollow Dr., Glastonbury, CT 06033 (US).

(74) Agent: SIRAGUSA, John, M.; Carlson, Gaskey & Olds/Pratt & Whitney, c/o CPA Global, P.O. Box 52050, Minneapolis, MN 55402 (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.

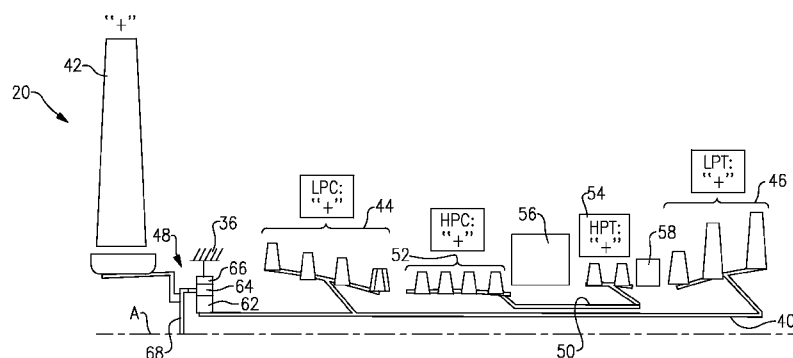
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, 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))
- 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))

(88) Date of publication of the international search report:
16 January 2014

(54) Title: GEARED TURBOFAN GAS TURBINE ENGINE ARCHITECTURE

**FIG. 2**

(57) **Abstract:** A gas turbine engine typically includes a fan section, a compressor section, a combustor section and a turbine section. A speed reduction device such as an epicyclical gear assembly may be utilized to drive the fan section such that the fan section may rotate at a speed different than the turbine section so as to increase the overall propulsive efficiency of the engine. In such engine architectures, a shaft driven by one of the turbine sections provides an input to the epicyclical gear assembly that drives the fan section at a speed different than the turbine section such that both the turbine section and the fan section can rotate at closer to optimal speeds providing increased performance attributes and performance by desirable combinations of the disclosed features of the various components of the described and disclosed gas turbine engine.