(19) World Intellectual Property Organization

International Bureau



. I DERTE ENTREMENT DE ENTRE ENT

(43) International Publication Date 10 March 2005 (10.03.2005)

PCT

(10) International Publication Number WO 2005/021947 A3

(51) International Patent Classification⁷: 53/04, 19/00, F01C 1/02

F02B 53/00,

(21) International Application Number:

PCT/US2004/027472

(22) International Filing Date: 24 August 2004 (24.08.2004)

(25) Filing Language: English

(26) Publication Language: English

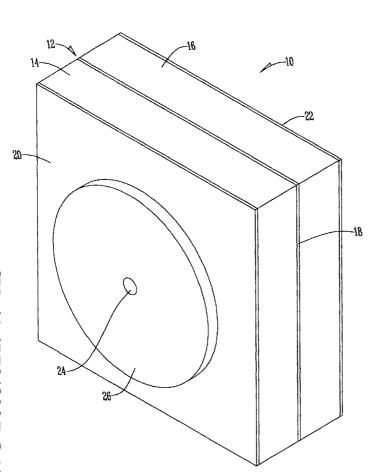
(**30**) **Priority Data:** 10/647,491

25 August 2003 (25.08.2003) US

- (71) Applicant and
- (72) Inventor: PERSON, Matt [US/US]; 7401 S.W. Hunters Place, Denton, Nebraska 68339 (US).
- (74) Agents: ZARLEY, Timothy, J. et al.; Capital Square, 400 Locust Street, Suite 200, Des Moines, Iowa 50309-2350 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ROTARY INTERNAL COMBUSTION ENGINE



(57) Abstract: A rotary engine is provided that comprises a compression cylinder and combustion cylinder divided by a separation wall. Air or a fuel/air mixture is drawn into the compression cylinder, compressed, and then transferred to the combustion cylinder. compressed air or air/fuel mixture is ignited in the combustion cylinder, creating an expansion of the combustion gases which drives the system. The compression and combustion cylinders have epicycloidal-shaped chambers that each house a single vane. The vanes pass through the crankshaft and adjust to remain in contact with the chamber walls as the crankshaft rotates. The compression ratio of the present invention can be maximized by adjusting the thicknesses of the compression and combustion cylinders as well as by offsetting the positions of the compression and combustion vanes with respect to one another.

WO 2005/021947 A3



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 4 August 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/27472

A. CLASSIFICATION OF SUBJECT MATTER IPC(7): F02B 53/00, 53/04, 19/00; F01C 1/02 US CL: 123/230, 236, 241, 242, 237, 235; 418/255, 254, 253, 61.3 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S.: 123/230, 236, 241, 242, 237, 235; 418/255, 254, 253, 61.3							
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched							
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)							
C. DOCUMENTS CONSIDERED TO BE RELEVANT							
Category *	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.				
Y	DE 4,229,999 A1 (BRUNS) 10 March 1994, see fig	. 3.	9-12, 15				
Y	US 3,226,013 A (TOYODA ET AL.) 28 December 1965, see figs. 1 and 17 and col. 10, lines 72-75 and col. 11, lines 1-16.		0, 9-12, 15				
Y	US 2,359,903 A (FANNING) 10 October 1944, see figs. 1 and 3 and col. 2, lines 20-28.		8. 11				
Y	US 1,267,157 A (ZABRISKIE) 21 May 1918, see entire document.		15				
Further	documents are listed in the continuation of Box C.	See patent family annex					
		"T" later document published after the international filing date or priority					
"A" document	t defining the general state of the art which is not considered to be	date and not in conflict with to principle or theory underlying	he application but cited to understand the g the invention				
of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to		"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art					
				"P" document published prior to the international filing date but later than the priority date claimed		"&" document member of the same patent family	
				Date of the a	Date of the actual completion of the international search Date of mailing of the international search report		
29 November	r 2004 (29.11.2004)	14 JUN 2005					
Name and mailing address of the ISA/US		Authorized officer	Theeh / ever				
Mail Stop PCT, Attn: ISA/US		LINDA SHOLL	(Skeild H. Veney				
Commissioner for Patents P.O. Box 1450		2	raralegal Specialist				
Alexandria, Virginia 22313-1450 Foscimile No. (703)305-2230		Telephone No. 703 308-0858	Tech. Center 3700				

Form PCT/ISA/210 (second sheet) (January 2004)