



(51) International Patent Classification:

F02C 3/16 (2006.01) F02B 53/08 (2006.01)
F01D 1/32 (2006.01) F02B 55/16 (2006.01)
F02B 53/04 (2006.01) F02K 7/00 (2006.01)

(21) International Application Number:

PCT/IB2011/050786

(22) International Filing Date:

24 February 2011 (24.02.2011)

(25) Filing Language:

Italian

(26) Publication Language:

English

(30) Priority Data:

TO2010A000135 24 February 2010 (24.02.2010) IT

(72) Inventor; and

(71) Applicant : **BUBBICO, Rocco Luigi** [IT/IT]; Via Onorato Vigliani, 15/10, I-10135 Torino (IT).

(74) Agent: **ROBBA, Pierpaolo**; Interpatent S.r.l., Via Caboto, 35, I-10129 Torino (IT).

(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, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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:

19 January 2012

(54) Title: ROTARY TYPE INTERNAL COMBUSTION ENGINE

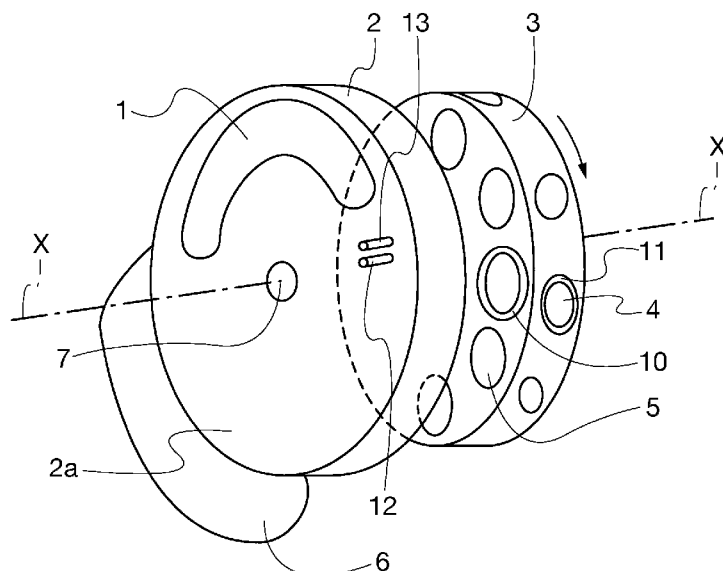


Fig. 1

(57) Abstract: The engine comprises: a stator (2) including a stator inlet opening (1) intended to admit a compressed gaseous oxidant flow, and a stator exhaust opening (6) intended to discharge burnt gases; and a rotor (3) mounted in the stator (2) in a fluid-tight manner and rotatable with respect to the stator (2) around a rotation axis (X-X). The rotor (3) has a rotor inlet orifice (5) oriented in the axial direction and intended to face the stator inlet opening (1) in a manner such to receive the compressed air flow, a combustion chamber (8) communicating with the rotor inlet orifice (5), and an exhaust duct (9) which leads in a transverse direction from the combustion chamber (8) to the periphery of the rotor (3) and is adapted for discharging burnt gases through the stator exhaust opening (6). The inlet opening (5), the combustion chamber (8) and the exhaust duct (9) are arranged for always being in fluid communication with each other during the rotation of the rotor (3), without the interposition of valve members situated among them. The engine also includes seal members (10, 11)

arranged for sealing the rotor inlet orifice (5) and the exhaust duct (9) when they face the internal surface of the stator (2).

INTERNATIONAL SEARCH REPORT

International application No PCT/IB2011/050786

A. CLASSIFICATION OF SUBJECT MATTER INV. F02C3/16 F01D1/32 F02K7/00 F02B53/04 F02B53/08 F02B55/16 ADD. 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) F02C F01D F02K F02B 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 practical, search terms used) EPO-Internal				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
Y	WO 2008/057826 A2 (VANHOLSTYN ALEXANDER [US]) 15 May 2008 (2008-05-15) abstract paragraph [0031] - paragraph [0032] paragraph [0034] - paragraph [0035] paragraph [0046] figures -----	1-25		
Y	WO 2009/019718 A1 (JAMES DILIP DANIEL [IN]) 12 February 2009 (2009-02-12) abstract column 4, paragraph 3 page 5, paragraph 2 page 7, paragraph 2 - page 8, paragraph 2 figures ----- -/--	1-25		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.				
* Special categories of cited documents : <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed </td> <td style="width: 50%; border: none; vertical-align: top;"> "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "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. "&" document member of the same patent family </td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "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. "&" document member of the same patent family
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "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. "&" document member of the same patent family			
Date of the actual completion of the international search	Date of mailing of the international search report			
16 November 2011	28/11/2011			
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Mielimonka, Ingo			

INTERNATIONAL SEARCH REPORT

International application No PCT/IB2011/050786

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 347 698 A (NELSON ALEXANDER) 7 September 1982 (1982-09-07) abstract column 3, line 14 - line 61 figures -----	1-25
Y	US 3 804 549 A (KELLENBARGER M) 16 April 1974 (1974-04-16) abstract column 1, line 57 - column 2, line 20 figures 1,2,4 -----	1-25
Y	US 3 811 275 A (MASTROBUONO A) 21 May 1974 (1974-05-21) abstract column 6, line 66 - column 7, line 47 figures -----	1-25

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2011/050786

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2008057826	A2	15-05-2008	US 2008178572 A1 31-07-2008
			US 2011162618 A1 07-07-2011
			WO 2008057826 A2 15-05-2008

WO 2009019718	A1	12-02-2009	NONE

US 4347698	A	07-09-1982	NONE

US 3804549	A	16-04-1974	NONE

US 3811275	A	21-05-1974	NONE
