

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
22 January 2009 (22.01.2009)

PCT

(10) International Publication Number  
WO 2009/011002 A3

(51) International Patent Classification:  
F03G 7/10 (2006.01)

MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(21) International Application Number:  
PCT/IT2008/000371

(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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(22) International Filing Date:  
3 June 2008 (03.06.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
RM2007A000390 13 July 2007 (13.07.2007) IT

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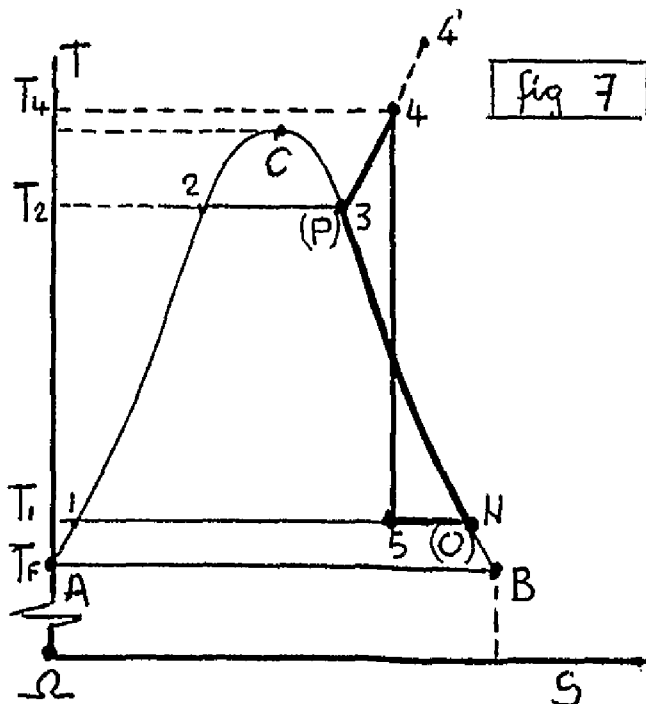
Published:

- 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))

(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, 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,

(88) Date of publication of the international search report:  
12 August 2010

(54) Title: STEAM ENGINES WITH UNITARY EFFICIENCY



(57) Abstract: BEFORE and/or AFTER the ISOTHERMOBARIC phases ( $dT=0, dp=0$ ), of BOILING, the PHYSICAL STATE of a MIXTURE  $M=(M'+M'')$ , formed by a LIQUID ( $M'$ ) with its VAPOR ( $M''$ ), is defined (GIBBS) by STATE EQUATIONS of the type  $p=f(T,x)$  that include the PRESSURE ( $p$ ), TEMPERATURE ( $T$ ) and CONCENTRATION ( $x=M'/M$ ) of ( $M$ ). In particular, all the TRANSFORMATIONS  $p=f(T,x_0)$  at constant concentration ( $dx=0$ ) occur (fig.3) on the LINE of EQUAL CONCENTRATION (FC), ( $dx=0$ ), between the two CURVE LIMITS (AC)(BC), of the FIELD (ACBA). In these transformations we obtain the FIRST SIDES (OP), ( $dx=0$ ), of the unexpected ENTROPIC CYCLES (O,P,3,4,5,O) where the EFFICIENCY increases  $\forall(x_0>0)$ , becoming UNITARY  $\forall(x_0\geq x_5)$ , from the CYCLE (5,M,3,4,5),(fig.5) to the CYCLE (N,3,4,5,N),(fig.7). These particular THERMAL CYCLE (figs 5,7), without CONDENSATION, may have a REMARKABLE application in the use of REFRIGERATOR FLUIDS at temperatures (e.g. FREON) where energetic EXCHANGES ( $\delta Q, \delta L$ ) may almost be FREE, attaining (might we say) the utopist SECOND TYPE of PERPETUAL MOTION.

WO 2009/011002 A3

## INTERNATIONAL SEARCH REPORT

International application No

PCT/IT2008/000371

## A. CLASSIFICATION OF SUBJECT MATTER

INV. F03G7/10

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)

F03G F01K

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, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 92/06281 A2 (FELBER JOSEF [CH]; BARTL LUDWIG [CH]; ZWEIDLER ADRIAN [CH]) 16 April 1992 (1992-04-16) page 1, line 1 - page 14, line 7 page 43, line 22 - page 53, line 15; figures 15,17,19,21	1-10
A	DE 33 27 838 A1 (GENSWEIN ANNEMARIE [DE]) 8 December 1983 (1983-12-08) the whole document	1-10
A	EP 0 388 337 A1 (BECH JEAN ANDRE [FR]) 19 September 1990 (1990-09-19) column 5, line 11 - column 6, line 34	1-10

Further documents are listed in the continuation of Box C.

See patent family annex.

## \* Special categories of cited documents:

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"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

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Date of the actual completion of the international search

14 June 2010

Date of mailing of the international search report

30/06/2010

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IT2008/000371

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9206281	A2	AU 8508691 A	28-04-1992
DE 3327838	A1	NONE	
EP 0388337	A1	DE 69002112 D1	12-08-1993
		DE 69002112 T2	13-01-1994
		FR 2644206 A1	14-09-1990