

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing **See Form PCT/ISA/210**
(day/month/year) **(sheet 2)**

Applicant's or agent's file reference See Form PCT/ISA/220		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/MA2005/000001	International filing date (day/month/year) 01.06.2005	Priority date (day/month/year) 09.08.2004
International Patent Classification (IPC) or both national classification and IPC F02B55/02, F02B55/10, F02B53/00		
Applicant CHAKROUN, Abdellah		

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I	Basis of this opinion
1.	With regard to the language , this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
<input type="checkbox"/>	This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2.	With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
a.	type of material
<input type="checkbox"/>	a sequence listing
<input type="checkbox"/>	table(s) related to the sequence listing
b.	format of material
<input type="checkbox"/>	in written format
<input type="checkbox"/>	in computer readable form
c.	time of filing/furnishing
<input type="checkbox"/>	contained in the international application as filed.
<input type="checkbox"/>	filed together with the international application in computer readable form.
<input type="checkbox"/>	furnished subsequently to this Authority for the purposes of search.
3.	<input type="checkbox"/> In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4.	Additional comments:

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	2, 4, 7, 8, 10, 11	YES
	Claims	1, 3, 5, 6, 9	NO
Inventive step (IS)	Claims		YES
	Claims	1-11	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO
2. Citations and explanations:			
1 Reference is made to the following documents:			
D1: US-A-2 947 290 (FROEDE WALTER G) 2 August 1960 (1960-08-02)			
D2: FR-A-2 200 505 (ILLINOIS TOOL WORKS INC. US; ILLINOIS TOOL WORKS INC) 19 April 1974 (1974-04-19)			
D3: US A-3 688 749 (FELIX WANKEL) 5 September 1972 (1972-09-05)			
D4: GB 947 506 A (KARL NITTKA) 22 January 1964 (1964-01-22)			
D5: FR-A-1 254 162 (N.S.U. WERKE AKTIENGESELLSCHAFT; WANKEL G.M.B.H.) 17 February 1961 (1961-02-17)			
D6: GB-A-1 107 081 (REGIE NATIONALE DES USINES RENAULT) 20 March 1968 (1968-03-20)			
D7: US-A-3 358 439 (CASTELET GAETAN DE COYE DE) 19 December 1967 (1967-12-19)			
D8: DE 22 14 825 A1 (TOYO KOGYO CO. LTD., HIROSHIMA) 9 November 1972 (1972-11-09)			
D9: US-A-3 364 907 (JEANSON RICHARD L) 23 January 1968 (1968-01-23)			
D10: US-A-4 481 920 (CARR <i>ET AL.</i>) 13 November 1984 (1984-11-13)			

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D11: US-A-3 311 094 (KEHL HENRY) 28 March 1967
(1967-03-28)

D12: US-A-3 216 404 (PERAS LUCIEN) 9 November 1965
(1965-11-09)

2 The application fails to comply with the requirements of PCT Article 6 because claims 1-11 are not clear. The grammar and syntax used in the wording of claims 1-11 is such that it is impossible to determine the subject matter of the application for which protection is sought.

2.1 Although claims 1 and 7 have been drafted as separate independent claims, it appears that they have the same subject matter and that they differ only by virtue of a variation in the definition of the subject matter for which protection is sought. Therefore, these claims are not concise and do not fulfil the requirements of PCT Article 6.

2.2 According to the requirements of PCT Rule 11.13(m), the same feature shall be denoted by the same reference sign throughout the application. The use of signs 1-6 (see figures 1-9) does not meet this requirement and confuses the reader. Accordingly, claims 1-11 are not clear.

2.3 Claims 1-11 contain references to the drawings. By virtue of PCT Rule 6.2(a), claims shall not include such references unless absolutely necessary, which is not the case here.

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2.4 In claim 1 the expression "**the rotor**" is not clearly defined. To overcome this objection of lack of clarity, it is recommended that the claim be directed to a heat engine with a rotary rotor.

2.5 The expression "**under tonne**" used in claims 1 and 2 has no well established or recognized meaning and leaves the reader uncertain as to the meaning of the technical feature to which it refers. The subject matter of said claims is not therefore clearly defined (PCT Article 6).

2.5 The expressions "**chambers**", and "**pressure rings**" used in claim 1 are vague and ambiguous, and leave the reader uncertain as to the meaning of the technical features to which they refer. The subject matter of said claim is not therefore clearly defined (PCT Article 6).

2.6 In the French application, the expression "**le nombre de denture**" (literally "the number of tothing") used in claim 2 is vague and ambiguous, and leaves the reader uncertain as to the meaning of the technical feature to which it refers. The subject matter of said claim is therefore not clearly defined (PCT Article 6). It is likely that the word "denture" (literally "tothing") should be replaced by the word "dents" ("teeth").

2.7 Under PCT Rule 6.3(b) a claim must contain **a preamble** indicating the technical features of the invention and **a characterizing part**. By adding an

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independent extra sentence, as in claim 2, the applicant confuses the reader because it is not clear to what this sentence is referring. The subject matter of claim 2 is not therefore clearly defined (PCT Article 6).

2.8 The expressions "**almost cylindrical**", "**the four chambers**" and "**the other components**" used in claim 3 are vague and ambiguous, and leave the reader uncertain as to the meaning of the technical features to which they refer. The subject matter of said claim is not therefore clearly defined (PCT Article 6).

2.9 The expression "**the chamber**" used in claim 5 is vague and ambiguous, and leaves the reader uncertain as to the meaning of the technical feature to which it refers. The subject matter of said claim is therefore not clearly defined (PCT Article 6).

2.10 The expression "**according to requirements**" used in claim 6 has a relative sense with no well established or recognized meaning and leaves the reader uncertain as to the meaning of the technical feature to which it refers. The subject matter of said claim is not therefore clearly defined (PCT Article 6).

2.11 The expression "**with journal place of the eccentric shaft**" used in claim 9 is vague and ambiguous, and leaves the reader uncertain as to the meaning of the technical feature to which it refers. The subject

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matter of said claim is not therefore clearly defined (PCT Article 6).

3 However, despite the lack of clarity mentioned above, the International Searching Authority will give its opinion on the claims as said Authority interprets them.

3.1 The present application fails to comply with the requirements of PCT Article 33(1) since the subject matter of claim 1 does not meet the requirement of novelty defined in PCT Article 33(2).

Document D1 describes, see figures 1a-1d (the references between parentheses apply to this document):

A heat engine with a rotary rotor (18a) (well known in the automotive industry as the "Wankel engine"), which has a rotor with a rounded square shape and which comprises four cavities (see the figures), an internal pinion (28a), sealing elements (page 1, lines 32-36) and "pressure rings",

Consequently, document D1 describes in combination all the features defined in independent claim 1. The subject matter of this claim is therefore not novel (PCT Article 33(2)).

3.2 The present application fails to comply with the requirements of PCT Article 33(1) since the subject matter of **claim 7** does not involve an inventive step as defined in PCT Article 33(3).

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Document D1, which is regarded as the closest prior art, describes **a rotary engine with a square-shaped rotor with a fluid-channelling block and a stator block**, from which the engine claimed in claim 7 differs in that the engine comprises a flywheel, a starter pinion and a distribution pinion.

However, these components are well known in the motor industry and used in virtually every heat engine. It is obvious to those skilled in the art to apply these components to an engine disclosed in document D1 and thus obtain an engine as claimed in claim 7.

4 DEPENDENT CLAIMS 2-6 AND 8-11

4.1 Claims 3, 5, 6 and 9 contain no features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (PCT Article 33(2)) because all the features of these claims are known from document D1.

4.2 Claims 2, 4, 8, 10 and 11 contain no features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (PCT Article 33(3)) because all the features are well known in the automotive industry and the application of these features is obvious to those skilled in the art. See also the documents identified in the search report

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and the passages indicated.

- 5 If the applicant intends to continue the examination procedure in either the international phase or the regional phase, he is strongly advised to consult a registered patent agent in order to draft the application in an appropriate form for the substantive examination, that is to say to meet the requirements not only of Article 6 and Rule 5 and Rule 6, but also of Article 34(2)(b) of the PCT.