

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

| | |
|---|--|
| Applicant's or agent's file reference see form PCT/ISA/220 | FOR FURTHER ACTION See paragraph 2 below |
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| International application No. PCT/IL2020/050343 | International filing date (day/month/year) 23.03.2020 | Priority date (day/month/year) 01.04.2019 |
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International Patent Classification (IPC) or both national classification and IPC
INV. B60K15/035

Applicant
RAVAL A.C.S. LTD.

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 and 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 usually 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.

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| Name and mailing address of the ISA:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465 | Date of completion of this opinion see form PCT/ISA/210 | Authorized Officer Ozdemir, Anil Telephone No. +49 89 2399-0 |
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Box No. I Basis of the 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.
 - a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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) | Yes: Claims | <u>13, 15, 18, 33, 35, 38, 42, 44, 47, 63, 65, 68</u> |
| | No: Claims | <u>1-12, 14, 16, 17, 19-32, 34, 36, 37, 39-41, 43, 45, 46, 48-62, 64, 66, 67, 69-75</u> |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | <u>1-75</u> |
| Industrial applicability (IA) | Yes: Claims | <u>1-75</u> |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

1 **Re Item V**

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1.1 Reference is made to the following documents:

- D1 EP 3 040 227 A1 (INERGY AUTOMOTIVE SYSTEMS RES [BE]) 6 July 2016 (2016-07-06)
- D2 US 2017/145962 A1 (DUDAR AED M [US]) 25 May 2017 (2017-05-25)
- D3 US 2016/290285 A1 (DUDAR AED M [US] ET AL) 6 October 2016 (2016-10-06)
- D4 US 2017/314512 A1 (DUDAR AED M [US]) 2 November 2017 (2017-11-02)

1.2 The present application does not meet the criteria of Article 33(2) PCT, because the subject-matter of claim 1 is not new.

1.2.1 D1 discloses (abstract; figures 1-7; (abstract; figures 1-7; paragraphs [0002] - [0026]; [0028] - [0043])

- "A venting system (10) for a fuel system, the fuel system including a fuel tank (12, 510) connected to a vapor recovery canister via a main conduit, the venting system comprising:

an electrically actuated vent control valve configured for being installed in the main conduit to thereby enable selectively opening or closing fluid communication between the fuel tank and the vapor recovery canister (18);

a plurality of sensors (40) for providing data indicative of conditions relating to the tank;

a control unit coupled to the sensors and to the electrically actuated vent control valve, the control unit configured for operating the electrically actuated vent control valve to open or close said fluid communication according to first predetermined criteria, wherein said first predetermined criteria include minimizing risk of liquid carry over from the fuel tank to the vapor recovery canister (paragraph [0003])."

1.2.2 Furthermore, documents D2-D3 each discloses all the features of claim 1.

D2: see abstract; figures 1-5; paragraphs [0026] - [0071],

D3: see abstract; figures 1-4; paragraphs [0022] - [0072].

- 1.3 The present application does not meet the criteria of Article 33(2) PCT, because the subject-matter of claim 22 is not new.
- 1.3.1 D1 discloses (abstract; figures 1-7; paragraphs [0002] - [0026]; [0028] - [0043])
- "A method for venting a fuel system, the fuel system comprising at least a fuel tank and a vapor recovery canister, the fuel tank being connected to the vapor recovery canister via a main conduit, and further comprising an electrically actuated vent control valve installed in said main conduit to thereby enable selectively opening or closing fluid communication between the fuel tank and the vapor recovery canister, the method comprising selectively operating the electrically actuated vent control valve to:
prevent venting of the tank to the vapor recovery canister under predetermined conditions including at least a first said condition indicative of potential liquid carry over from the tank to the vapor recovery canister".
- 1.3.2 Furthermore, documents D2-D3 each discloses all the steps of claim 22.
D2: see abstract; figures 1-5; paragraphs [0026] - [0071],
D3: see abstract; figures 1-4; paragraphs [0022] - [0072],
- 1.4 The present application does not meet the criteria of Article 33(2) PCT, because the subject-matter of claim 39 is not new.
- 1.4.1 D1 discloses (abstract; figures 1-7; paragraph [0002] - paragraph [0026]; paragraph [0028] - paragraph [0043])
- "A venting system for a fuel system of an engine, the fuel system including a fuel tank connectable directly to the engine via a conduit, the venting system comprising:
an electrically actuated direct venting valve configured for being installed in the conduit to thereby enable selectively opening or closing fluid communication between the fuel tank and the engine;
a plurality of sensors for providing data indicative of conditions relating to the tank;
a control unit coupled to the sensors and to the direct venting valve, the control unit configured for operating the direct venting valve to open or close said fluid communication according to first predetermined criteria related to said data".
- 1.4.2 Furthermore, documents D2-D4 each discloses all the features of claim 39.
D2: see abstract; figures 1-5; paragraphs [0026] - [0071],
D3: see abstract; figures 1-4; paragraphs [0022] - [0072],
D4: see abstract; figures 1-8; paragraphs [0018] - [0040]; [0034] - [0067].

- 1.5 The present application does not meet the criteria of Article 33(2) PCT, because the subject-matter of claim 60 is not new.
- 1.5.1 D1 discloses (abstract; figures 1-7; paragraph [0002] - paragraph [0026]; paragraph [0028] - paragraph [0043])
- "A method for venting a fuel system of an engine, the fuel system comprising at least a fuel tank and connected to the engine via a conduit, and further comprising an electrically actuated direct venting valve installed in the conduit to thereby enable selectively opening or closing direct fluid communication between the fuel tank and the engine, the method comprising providing data indicative of conditions relating to the tank; selectively operating the direct venting valve to allow venting the tank directly to the engine according to first predetermined criteria related to said data".
- 1.5.2 Furthermore, documents D2-D4 each discloses all the steps of claim 60.
- D2: see abstract; figures 1-5; paragraphs [0026] - [0071],
- D3: see abstract; figures 1-4; paragraphs [0022] - [0072],
- D4: see abstract; figures 1-8; paragraphs [0018] - [0040]; [0034] - [0067].
- 1.6 Dependent claims 2-21, 23-38, 40-59, 61-75 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (Article 33(2) PCT) or inventive step (Article 33(3) PCT).
- 1.6.1 Claims 2-12, 14, 16, 17, 19-21, 23-32, 34, 36, 37, 40-41, 43, 45, 46, 48-59, 61, 62, 64, 66, 67, 69-75: see D1 (figures 1-7; paragraphs [0002] - [0026]; [0028] - [0043]), D2 (figures 1-5; paragraphs [0026] - [0071]),
- 1.6.2 Claims 39-41, 45, 46, 56-62, 66, 67: see D3 (figures 1-4; paragraphs [0022] - [0072]).
- 1.6.3 Claims 2-4, 10-12, 16, 17, 19-21, 23, 29-32, 36, 37, 40-41, 45, 46, 56-59, 61, 62, 66, 67, 69, 70: see D4 (figures 1-8; paragraphs [0018] - [0040]; [0034] - [0067]),
- 1.6.4 Claims 13, 15, 18, 33, 35, 38, 42, 44, 47, 63, 65, 68
- The additional features/steps of claims 13, 15, 18, 33, 35, 38, 42, 44, 47, 63, 65, 68 are considered to be a common practise for a skilled person in the art since making these kind of design modifications for a venting system/method is merely one of several straightforward possibilities which the skilled person would select, depending on the requirements of the system/method and

therefore would not require any inventive skill. Thus, the subject-matter of claims 13, 15, 18, 33, 35, 38, 42, 44, 47, 63, 65, 68 does not meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT) over any of D1-D2 combined with the knowledge of the skilled person.

Similarly, the subject-matter of claims 13, 18, 33, 38, 42, 47, 63, 68 does not meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT) over D3 combined with the knowledge of the skilled person.

Similarly, the subject-matter of claims 42, 47, 63, 68 does not meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT) over D4 combined with the knowledge of the skilled person.

1.7 Claims 1-75 meet the criteria set out in Article 33(4) PCT, industrial applicability being self-evident.

2 **Re Item VII**

Certain defects in the international application

2.1 Claims 1-75 contain references to the description and/or the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

2.2 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in D1-D4 is not mentioned in the description, nor are these documents identified therein.

3 **Re Item VIII**

Certain observations on the international application

3.1 Claims 1-75 do not meet the requirements of Article 6 PCT because the matter for which protection is sought is not clearly defined. The claims attempt to define the subject-matter in terms of the result to be achieved, which merely amounts to a statements (such as "minimizing risk of liquid carry over from the fuel tank to the vapor recovery canister") of the underlying problem, without providing the technical features necessary for achieving this result.