

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

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

International application No.
PCT/IT2015/000297

International filing date (day/month/year)
09.12.2015

Priority date (day/month/year)
09.12.2014

International Patent Classification (IPC) or both national classification and IPC
INV. B01D17/02 B01D17/04 B01D19/00

Applicant
LAVANGA VITO

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 43*bis*.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 66.1*bis*(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.

Name and mailing address of the ISA:



European Patent Office
P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel. +31 70 340 - 2040
Fax: +31 70 340 - 3016


Date of completion of this opinion

see form
PCT/ISA/210

Authorized Officer

Lapeyrère, Jean

Telephone No. +31 70 340-0



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>1-8</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-8</u>
Industrial applicability (IA)	Yes: Claims	<u>1-8</u>
	No: Claims	

2. Citations and explanations

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

Re Item V

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

Reference is made to the following documents:

- D1 EP 1 620 194 A1 (SEPARATECH CANADA INC [CA]) 1 February 2006 (2006-02-01)
- D2 US 2006/175251 A1 (ROBERTS R L [US]) 10 August 2006 (2006-08-10)
- D3 DE 28 12 731 A1 (SPERRY RAND LTD) 5 October 1978 (1978-10-05)
- D4 FR 2 704 447 A1 (OMNIUM TRAITEMENT VALORISA [FR]) 4 November 1994 (1994-11-04)

- 1 Document D1 discloses
- a device (1) for the gravimetric separation of mixtures of fluids, liquid or gaseous, said mixtures being composed by fractions of different densities, of the type which includes:
- means fitted (3 to 8) to create a horizontal flow of said fluid mixtures, in such a way that said fractions are arranged on different levels as a function of their density (this feature is defining how the apparatus used, it's not limiting the scope of the claim);
- (...)
- wherein the separation of said fractions is obtained by the only effect of gravity and of the hydrostatic thrust which derives therefrom (process feature),
- characterized in that
- it comprises a first block (5) and a second block (6);
- (...)
- said blocks (5) and (6) being inserted in a container, so as to locate:
- a first gap (13), between said blocks;
 - a second gap, positioned above said first block (12);
 - a third gap, placed below said second block (14); being provided:

- input means (82), positioned in correspondence with a first end of said first gap;

(...)

when all the the volume comprised in said container is filled by said mixture of fluids of different density, said fluids being:

- run into in said container, through said inlet means (5,5 a);

- taken from said container, through said taking means, (7,7 a),, said taking being differentiated in function of the different density of the fluid (this last feature is merely defining the use of the apparatus, it is not limiting the scope of said claim and ignored for examination).

2 The apparatus of claim 1 differs from the disclosure of D1 in that it further comprises:

a) taking means positioned on each of said levels, fitted to individually take said fractions;

b) each block comprises a plurality of vertical channels fitted to delimit zones in which the flow is exclusively vertical and not disturbed by said horizontal flow (D1 discloses an adsorbent; although it comprises channels, they cannot provide a flow in an exclusive direction),

c) taking means positioned in correspondence with a second end of said first, second and third gap, respectively.

3 Therefore claim 1 is novel over D1 (Art. 33(2)PCT).

4 The technical effect of said differences is not apparent from the description. The problem to be solved is considered to provide an alternative to the apparatus already known. So far the differences are considered to be simple alternative which comes within the normal practice for the skilled person.

5 The applicant is invited to provide a technical effect linked to said difference and the problem in relation with the differences.

Re Item VIII

Certain observations on the international application

- 6 Claim 1 is not clear because the feature "said vertical movements generating additional horizontal flows formed by fluids of different density" is not clear in particular in relation with the feature . Even by reading the description it is not possible to determine what is the limitation implied by this feature (Article 6 PCT).
- 7 Method claim 1 does not contain all the features of apparatus claim 4. As a consequence claim 1 and 4 are not consistent and are not clear (Art. 6 PCT).
A reference to the apparatus of claim 4 would be sufficient.