

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: see form PCT/ISA/220	PCT WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43<i>bis</i>.1)	
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/EP2019/081442	International filing date (day/month/year) 15.11.2019	Priority date (day/month/year) 09.09.2019
International Patent Classification (IPC) or both national classification and IPC INV. A61B17/80 A61B90/00		
Applicant OROMI, Gaston Enrique		

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 Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Kakoullis, Marios Telephone No. +49 30 25901-0
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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>1-10</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-10</u>
Industrial applicability (IA)	Yes: Claims	<u>1-10</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

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

1 Reference is made to the following documents:

- D1 US 2006/085000 A1 (MOHR MARCUS [US] ET AL) 20 April 2006 (2006-04-20)
- D2 US 2013/338719 A1 (MADJAROV JEKO METODIEV [US]) 19 December 2013 (2013-12-19)
- D3 EP 0 014 823 A1 (HOWMEDICA INT INC [DE]) 3 September 1980 (1980-09-03)
- D4 US 2015/238237 A1 (MADJAROV JEKO METODIEV [US]) 27 August 2015 (2015-08-27)
- D5 US 2018/021074 A1 (SMITS AARON [US] ET AL) 25 January 2018 (2018-01-25)
- D6 DE 38 03 435 C1 21 September 1989 (1989-09-21)

2 Novelty and inventive step:

2.1 Independent claim 1:

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

Document US 2006/085000 A1 (D1), which is considered to represent the most relevant state of the art, discloses (the reference signs applying to this document):

*An individual (para. 25) prosthesis (Figs. 10-11) to replace or splint a rib, said prosthesis comprising:
a piece (15) curved in the longitudinal direction in the form of an arc (para.*

64), said piece also presenting a curvature in the transverse direction (para. 67) that defines a concave face and a convex face and a warping (para. 67) along the longitudinal axis.

The subject-matter of claim 1 therefore differs from this known prosthesis in that it further comprises

two or more transverse grooves (61) located on the convex face,

and is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may therefore be regarded as to eliminate screw holes in a prosthesis of the type claimed.

The solution proposed in claim 1 cannot be considered as involving an inventive step (Article 33(3) PCT) because the above mentioned distinguishing feature is known in the art.

In particular, document US 2013/338719 A1 (D2) discloses grooves (165) which are suitable to receive fixing material such as suture thread. They are also configured such that the surgeon may cut or break the material of the prosthesis along a pre-defined line of weakness.

Another prosthesis is known from DE 38 03 435 C1 (D6) which includes grooves (Rillen 6) for receiving suture thread (Figs. 2 and 3).

In view of the disclosure of D2 or D6, respectively, it would be obvious for the skilled person to configure the prosthesis of D1 with the grooves located on the convex face and thus to arrive at the same solution as the application.

2.2 Dependent claims 2-10:

Dependent claims 2-10 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 inventive step.

All additional features of the claims 2-10 are disclosed in the prior art documents (D1, D2, D3, D4 or D5, respectively) and would be combined with the closest prior art without the need for an inventive step and do not therefore involve an inventive step (Article 33(3) PCT), see:

for claims **2, 4** see in D3 (D1 with D2 and D3):

"Rippenplatte 10" with "Dorne 14";

for claim **6** see in D4 (D1 with D2 and D3 and D4):

"structural portion 105"; para. 59; Fig. 6;

for claim **3** see in D2 (D1 with D2):

Fig. 9;

for claims **5, 7-9** see in D4 (D1 with D2 and D4):

"structural portion 105"; para. 59; Fig. 6;

"PEEK"; page 4, para. 59;

for claim **10** see in D5 (D1 with D2 and D4 and D5):

para. 50.

Remark:

For the evaluation of the inventive step for claim 2 a combination of three documents has been implemented. The combination of more than two documents is allowed when the distinguishing features can be deemed to be independent of each other because there is no interrelationship between the two different features to achieve a new technical effect (PCT Guidelines, Chapter 13.05).

Considering e.g. the additional feature of claim 2 ("the concave face has projections") it is clear that this feature is independent of the distinguishing feature of claim 1 ("transverse grooves") as they obviously solve different problems.

The same applies, *mutatis mutandis*, to the subject-matter of claims 4-10.

3 Industrial applicability:

The industrial applicability of the claimed invention appears to be obvious so that the criterion set forth in Article 33(4) PCT is fulfilled.