

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference ST040WO	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/IB2004/001784	International filing date ( <i>day/month/year</i> ) 01 June 2004 (01.06.2004)	Priority date ( <i>day/month/year</i> )	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant SYNTHES GMBH			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 25%;">Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																						

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 28 December 2006 (28.12.2006)
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**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 (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference <b>ST040WO</b>		<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/IB2004/001784</b>	International filing date (day/month/year) <b>01.06.2004</b>	Priority date (day/month/year)
International Patent Classification (IPC) or both national classification and IPC <b>A61B17/80</b>		
Applicant <b>SYNTHESE GMBH</b>		

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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INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Box No. I	Basis of this opinion
1.	With regard to the <b>language</b> , 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 <b>nucleotide and/or amino acid sequence</b> 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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International application No. PCT/IB2004/001784
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<b>Box No. V</b>	<b>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>
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1. Statement			
Novelty (N)	Claims	_____	YES
	Claims	1-9	NO
Inventive step (IS)	Claims	_____	YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims	_____	NO

2. Citations and explanations:

1. This opinion makes reference to the following documents:

D1: HEARN, E.J.: "Mechanics of Materials, Volume 2 - The Mechanics of Elastic and Plastic Deformation of Solids and Structural Materials (3rd Edition)" 1997, ELSEVIER, AMSTERDAM NL, ISBN: 0-7506-3266-6

D2: PILKEY, WALTER D.: "Peterson's Stress Concentration Factors (2nd Edition)" 1997, JOHN WILEY & SONS, NEW YORK, USA, ISBN: 0-471-53849-3

D3: US 5 785 712 A (RUNCIMAN ET AL) 28 July 1998 (1998-07-28)

**2. Independent claim 1**

**2.1.** The present application does not meet the requirements of PCT Article 33(1), because the subject matter of claim **1** does not involve an inventive step within the meaning of PCT Article 33(3).

It is generally known that, in the case of a plate with two or more bores on which a bending force acts, the area with the greatest stresses is the region between the bores (see Pilkey (**D2**) pages 238-242, figures 4.79-4.84).

Furthermore, it is standard practice for an additional stress-reducing element (for example a notch) to be provided in the areas with great stresses. This element

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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

is a stress-relieving factor (see Hearn (**D1**) paragraph 10.3.7(c), page 429, lines 17-20, page 430, lines 1-7). The additional element makes it possible to distribute the load over a larger area on account of the stress equalization according to **D1** (see page 410, lines 1-5). **D1** discloses that the relieving notches are an efficient means of reducing stresses. Pilkey (**D2**) states that, to reduce stresses around a bore that undergoes bending, the edges of the bore should be rounded off or bevelled (see page 239, lines 8-9).

In addition, Hearn (**D1**) discloses a method of designing different parts that allows stress peaks to be reduced (see page 434, paragraph 10.3.9.). Item 3(c) of the method discloses the method on which the present application is also based.

Document **D1** describes the same advantages with regard to the feature of a notch as the present application. Consequently, the solution proposed in claim **1** of the present application cannot be regarded as inventive (PCT Article 33(3)). A person skilled in the art would regard the relieving notch in an area with excessive stresses as a conventional measure for reducing stress peaks and thereby improving the stability of a plate.

**2.2.** The attention of the applicant is also drawn to the fact that document **D3** discloses all the features of claim **1** (see column 1, line 46 - column 2, line 61, column 3, lines 26-33, 43-47, column 4, lines 26-67, figures).

**D3** is therefore is also prejudicial to the novelty of the subject matter of claim **1** of the present application (PCT Article 33(2)).

**3. Dependent claims 2-9**

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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

Claims **2-9** do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT requirements for novelty and inventive step (PCT Article 33(2) and (3)).

**3.1.** The form or the adjustment of the relieving notch as claimed in claims **2-8** are only obvious possibilities from which a person skilled in the art would choose according to the circumstances to reduce the stress peaks and improve the stability, without thereby being inventive.

**3.2.** The feature of claim **9** is only one of several obvious possibilities from which a person skilled in the art would choose according to the circumstances to treat a fracture, without thereby being inventive.