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[Continued on next page]

(54) Title: COMPOSITE MATERIAL BONE IMPLANT

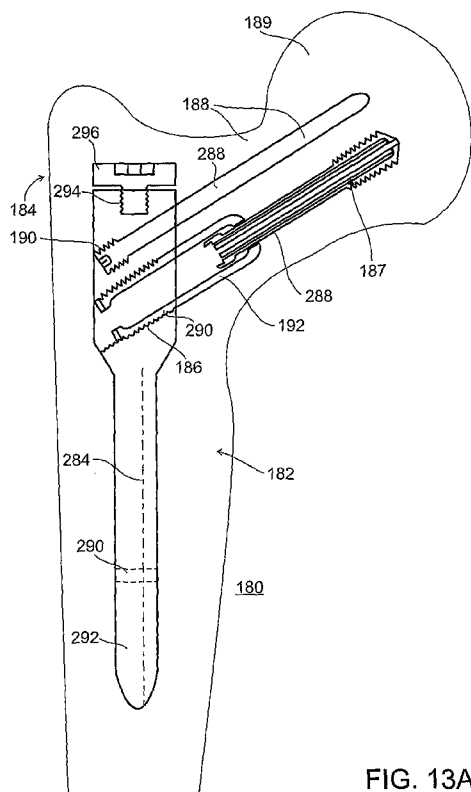


FIG. 13A

(57) Abstract: A composite bone implant. In some embodiments, one or more features are provided, such as markers for passageways, axial engagement of bone screws, sliding support of bone screws and/or a cannulated channel for a guide wire.

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A. CLASSIFICATION OF SUBJECT MATTER
INV. A61B17/16 A61B17/72 A61B17/80 A61B17/86 A61B17/88
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ADD.
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	EP 1 733 704 A2 (DEPUY PRODUCTS INC [US]) 20 December 2006 (2006-12-20) figures 5-7	1-4,9 53 5,10
X	WO 96/02203 A1 (SMITH & NEPHEW RICHARDS INC [US]) 1 February 1996 (1996-02-01) figures 7,8	12-15
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Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search 4 November 2010	Date of mailing of the international search report 10/11/2010
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Fernández Arillo, J
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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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X	US 2006/235400 A1 (SCHNEIDER ROLF [CH]) 19 October 2006 (2006-10-19) paragraphs [0010], [0013], [0019]; figure 3 -----	22-31, 37-39
X	US 6 206 881 B1 (FRIGG ROBERT [CH] ET AL) 27 March 2001 (2001-03-27) figure 3 -----	22-26
X	US 2005/192578 A1 (HORST STEVEN P [US]) 1 September 2005 (2005-09-01) figure 3 -----	22-26
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X	WO 2008/092192 A1 (UNIV SYDNEY [AU]; BOUGHTON PHILIP [AU]; RICE ANDREW [AU]; ROGER GREGOR) 7 August 2008 (2008-08-07) figure 7 -----	40,48
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X	US 2002/156473 A1 (BRAMLET DALE G [US] ET AL) 24 October 2002 (2002-10-24) paragraphs [0078], [0081]; figure 1 -----	49,52,55
Y	US 2008/046091 A1 (WEISS JOSHUA B [US] ET AL) 21 February 2008 (2008-02-21) figures 10,11 -----	51

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2010/050225

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

1-5, 9-17, 22-55

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5, 9, 10

A bone implant according to claim 4, wherein the radiopaque material is in the form of two rods located at each end of the passage (claim 5), thereby solving the problem of allowing the location and orientation of the bone fixation screw passage of a polymeric bone implant to be easily determined.

2. claims: 6, 8

A bone implant according to claim 1, wherein the radiopaque material comprises a metal element (claim 6) or layer (claim 8), for solving the problem of allowing the location of the passage to be more easily determined.

3. claim: 7

A bone implant according to claim 1, wherein the implant is a bone plate, for solving the problem of allowing a bone plate to be precisely implanted without the need of having direct visualization of the bone screw holes.

4. claims: 11-17

A bone implant comprising a fiber reinforced matrix body and further comprising a connector at a proximal end for solving the problem of providing attachment means allowing an implant insertion tool to be attached to the implant.

5. claims: 18-21

An end cap for a bone implant, for inhibiting tissue growth from preventing access to the connector for subsequent implant removal.

6. claims: 22-26

A bone implant comprising a reinforced polymer matrix body and a passage configured to resist axial withdrawal of a bone screw received therein, thereby solving the problem of providing a more secure attachment of the implant to the bone.

7. claims: 27-39

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A bone implant comprising a polymer matrix body and a metal element/layer for solving the problem of increasing the strength of a portion of the polymeric implant.

8. claims: 40-48

A bone fixation screw with a composite core and a metal exterior surface for solving the problem of providing light bone attachment means with high strength.

9. claims: 49-55

A femur nail assembly for repairing a proximal femoral fracture.

10. claims: 56, 57

A tool for removing a bone implant.

11. claims: 58-61

A bone implant drilling assembly for drilling a hole into the bone.

12. claims: 62-65

Methods of forming bone implants comprising fiber reinforced polymer portions.

INTERNATIONAL SEARCH REPORT

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International application No

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