

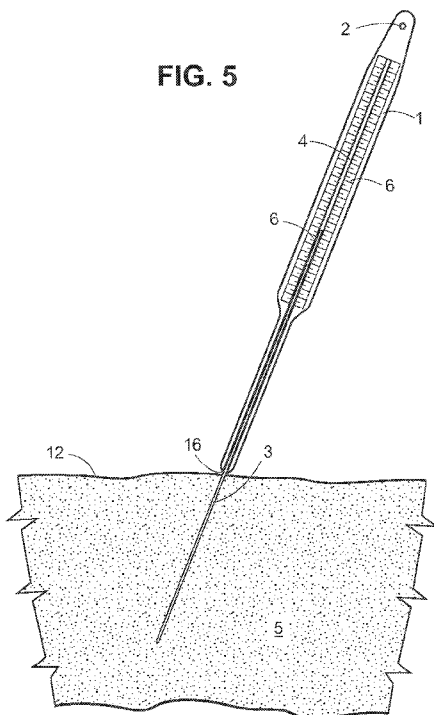


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[Continued on next page]

(54) Title: GUIDES FOR SURGICAL DRILL BITS, GUIDE WIRES AND/OR SCREWS AND METHODS FOR USING SAID GUIDES

FIG. 5



(57) Abstract: Drill and/or guide wire guides and methods are usable with at least one orthopedic surgical implant screw, wherein the guides have a length defined between a first end and a second end located opposite to the first end and a thickness defined between a front side and a back side located opposite to the front side of the guide. The guides have a guide hole which has a diameter sized to receive a diameter of a drill bit or a guide wire. The guides have a slot formed on the front side of the guide and located adjacent to the front side of the guide, wherein the slot extends along at least a portion of the length of the guide, wherein the slot has a diameter sized to receive a diameter of a drill bit or a guide wire. The guide hole being disposed at an angle to the thickness.





TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

**Published:**

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**INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/US 14/49204

<p><b>A. CLASSIFICATION OF SUBJECT MATTER</b>                  IPC(8) - A61B 17/17 (2014.01)                  CPC - A61B 17/17                  According to International Patent Classification (IPC) or to both national classification and IPC</p>																												
<p><b>B. FIELDS SEARCHED</b>                  Minimum documentation searched (classification system followed by classification symbols)                  IPC(8) - A61B 17/17 (2014.01)                  CPC - A61B 17/17</p>																												
<p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched                  USPC - 606/96,98; CPC - A61B 17/17*                  (Search term limited; see below)</p>																												
<p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)                  PubWest (PGPB, USPT, EPAB, JPAB); Google; PatBase (All);                  Search Terms: Drill, guide, introduce, wire, guidewire, pin, hole, cannula, aperture, slot, angle*, longitudinal, elongat*, measur*, determin*, depth*, insert*, length, scale, tick mark*, graduation,</p>																												
<p><b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b></p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US 2007/0083210 A1 (HESTAD et al.) 12 April 2007 (12.04.2007) Entire document, especially Abstract, para[0058], para[0061] and FIG. 4A.</td> <td>1-4</td> </tr> <tr> <td>X</td> <td rowspan="2">US 2012/0239044 A1 (KAM et al.) 20 September 2012 (20.09.2012) Entire document, especially Abstract, para[0025]- para[0031] and FIGS. 1-6.</td> <td>1</td> </tr> <tr> <td>Y</td> <td>5-12</td> </tr> <tr> <td>Y</td> <td>WO 2012/080637 A1 (LARCHE et al.) 21 June 2012 (21.06.2012) Entire document, especially Abstract, p16, para6 and FIGS. 1-10.</td> <td>5-12</td> </tr> <tr> <td>A</td> <td>US 2013/0012945 A1 (CHREENE et al.) 10 January 2013 (10.01.2013) Entire document, especially Abstract, FIG. 21</td> <td>1-12</td> </tr> <tr> <td>A</td> <td>US 2010/0145340 A1 (PHAN et al.) 10 June 2010 (10.06.2010) Entire document.</td> <td>1-12</td> </tr> <tr> <td>A</td> <td>US 5,180,388 A (DICARLO) 19 January 1993 (19.01.1993) Entire document.</td> <td>1-12</td> </tr> <tr> <td>A</td> <td>US 3,704,707 A (HALLORAN) 05 December 1972 (05.12.1972) Entire document.</td> <td>1-12</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 2007/0083210 A1 (HESTAD et al.) 12 April 2007 (12.04.2007) Entire document, especially Abstract, para[0058], para[0061] and FIG. 4A.	1-4	X	US 2012/0239044 A1 (KAM et al.) 20 September 2012 (20.09.2012) Entire document, especially Abstract, para[0025]- para[0031] and FIGS. 1-6.	1	Y	5-12	Y	WO 2012/080637 A1 (LARCHE et al.) 21 June 2012 (21.06.2012) Entire document, especially Abstract, p16, para6 and FIGS. 1-10.	5-12	A	US 2013/0012945 A1 (CHREENE et al.) 10 January 2013 (10.01.2013) Entire document, especially Abstract, FIG. 21	1-12	A	US 2010/0145340 A1 (PHAN et al.) 10 June 2010 (10.06.2010) Entire document.	1-12	A	US 5,180,388 A (DICARLO) 19 January 1993 (19.01.1993) Entire document.	1-12	A	US 3,704,707 A (HALLORAN) 05 December 1972 (05.12.1972) Entire document.	1-12
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<p><input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/></p>																												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"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</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"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</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"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</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"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	"E" earlier application or patent but published on or after the international filing date	"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	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"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	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed																	
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<p>Date of the actual completion of the international search 03 November 2014 (03.11.2014)</p>		<p>Date of mailing of the international search report <b>10 FEB 2015</b></p>																										
<p>Name and mailing address of the ISA/US                  Mail Stop PCT, Attn: ISA/US, Commissioner for Patents                  P.O. Box 1450, Alexandria, Virginia 22313-1450                  Facsimile No. 571-273-3201</p>		<p>Authorized officer:                  Lee W. Young                  PCT Helpdesk: 571-272-4300                  PCT OSP: 571-272-7774</p>																										

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 14/49204

**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 continuation 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 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.:
- 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.:  
1-12

**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.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 14/49204

----- Continuation of Box III: Observations where unity of invention is lacking (Continuation of item 3 of first sheet) -----

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I: Claims 1-12, is drawn to a drill or guide wire guide.

Group II: Claims 13-20, is drawn to methods of using a drill or guide wire guide.

The inventions listed as Groups I - II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group I-II are related as an apparatus (Group I) and method(s) of using the apparatus (Group II). These groups therefore share the technical features of the apparatus of claim 1, however, these shared technical features fail to provide a contribution over the prior art of US 2012/0239044 A1 to Kam et al. (hereinafter: Kam). Kam teaches a drill or guide wire guide for use with at least one surgical implant screw (Abstract, para[0027]), wherein the guide (100, FIGS. 1-6) has a length defined between a first end (bottom FIGS. 1-2) and a second end located opposite to the first end (top, FIGS. 1-2) and a thickness defined between a front side (side with shoulder 176 and exit point 116, FIG. 2, para[0025]) and a back side located opposite to the front side of the guide (side with entry point 114, FIG. 1, para[0025]), wherein the guide comprises: a guide hole formed adjacent to the first end of the guide (bore 110, FIGS. 1-6; para[0025]-[0026]), wherein the guide hole extends through the thickness of the guide from the front side to the back side of the guide (FIGS. 1-6; para[0025]), wherein the guide hole has a diameter sized to receive a diameter of a drill bit or a guide wire (para[0025]); and a slot and/or cannula formed on the front side of the guide and located adjacent to the second end of the guide (FIGS. 2-3, at 176/177), wherein the slot and/or cannula extends along at least a portion of the length of the guide (FIG. 2), wherein the slot has a diameter sized to receive a diameter of a drill bit or a guide wire (para[0031]), wherein, when the cannula is provided, the cannula may extend along the entire length of the slot or less than the entire length of the slot, wherein a longitudinal axis of the guide hole is angled from a longitudinal axis of the guide or the slot by an angle  $\alpha$ , wherein the angle  $\alpha$  is greater than about 1deg and less than about 90deg (FIGS. 1-2; para[0025]).

Thus, Groups I-II lack unity of invention because they do not share a same or corresponding special technical feature providing a contribution over the prior art.