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- (71) Applicant (for all designated States except US):  
**MEDTRONIC NAVIGATION, INC.** [US/US]; 826  
Coal Creek Circle, Coal Creek Corporate Center One,  
Louisville, Colorado 80027 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **HUNTER, Mark W.**

- [US/US]; 204 Summit Trail, Broomfield, Colorado 80020 (US). **GOODCHILD, Gordon** [US/US]; 5051 Yates Circle, Broomfield, Colorado 80020 (US). **LAROCQUE, Brandon D.** [US/US]; 11263 Vrain Drive, Westminster, CO 80031 (US). **STRUPECK, Frank** [US/US]; 824 Walnut Street, Apt. B, Boulder, CO 80302 (US). **SHAVER, Scott** [US/US]; 460 East 133rd Way, Thornton, Colorado 80241 (US).
- (74) Agents: **WARNER, Richard W.** et al.; Harness, Dickey & Pierce, P.L.C., P.O. Box 828, Bloomfield Hills, Michigan 48303 (US).
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[Continued on next page]

(54) Title: NAVIGATED CUT GUIDE FOR TOTAL KNEE RECONSTRUCTION

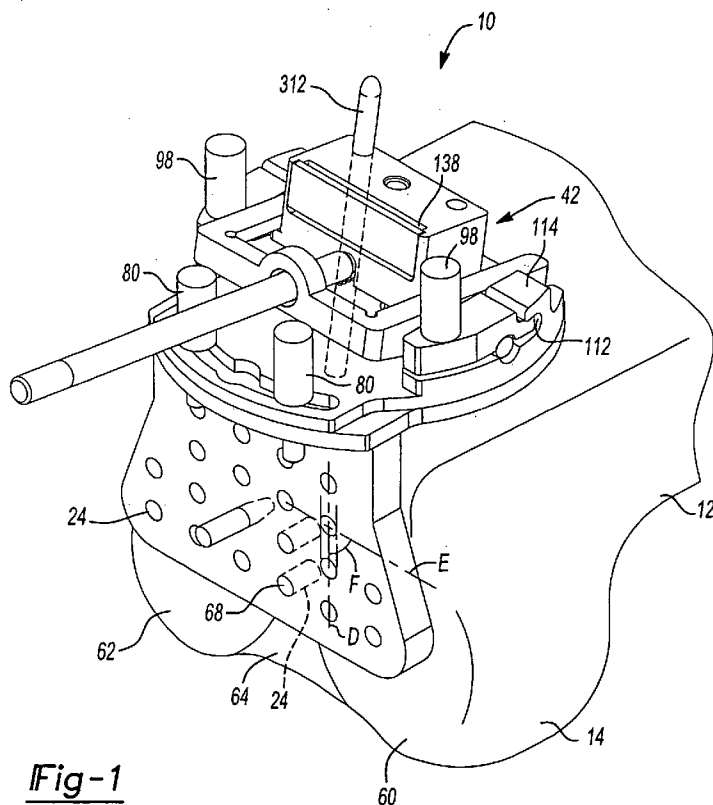


Fig-1

(57) Abstract: A method and apparatus are disclosed that provides a system to perform a procedure on a patient or on a patient's anatomy. The apparatus can include a guide member that includes at least three degrees of freedom of movement of a guide or alignment portion. The apparatus can be used to guide or form reference points for a guide to resect a portion of an anatomy.

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**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

**(88) Date of publication of the international search report:**

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**INTERNATIONAL SEARCH REPORT**

International application No  
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**A. CLASSIFICATION OF SUBJECT MATTER**

INV. A61B17/15  
ADD. A61B19/00      A61B17/17

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)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 856 274 A (PERCEPTION RAISONNEMENT ACTION [FR]) 24 December 2004 (2004-12-24) abstract; figures 1-5 page 7, line 16 - page 9, line 24	1-16,21, 23-27
X	EP 1 430 842 A (ZIMMER TECH INC [US]) 23 June 2004 (2004-06-23) abstract; figures 1-3 paragraphs [0041] - [0048]	1-11, 13-27
X	FR 2 776 176 A (AESCULAP SA [FR]) 24 September 1999 (1999-09-24) abstract; figures 6-10 page 17, line 25 - page 18, line 22 page 23, lines 14-21	1-16,21, 23-27
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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
- \*E\* earlier document but published on or after the international filing date
- \*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)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*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.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

7 August 2008

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18/08/2008

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Macaire, Stéphane

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 681 316 A (DEORIO JAMES K [US] ET AL) 28 October 1997 (1997-10-28)  abstract; figures 1,3-5,7 -----	1-8, 10, 11, 13, 14, 21, 23, 24, 26, 27
X	US 5 364 401 A (FERRANTE JOSEPH M [US] ET AL) 15 November 1994 (1994-11-15)  abstract; figures 2,7 -----	1-8, 10, 11, 13, 14, 21, 23, 24, 26, 27

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2008/001795

## 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.: 28-29  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
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:

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

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/001795

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
FR 2856274	A	24-12-2004	WO 2005000128 A1	06-01-2005
			US 2006241645 A1	26-10-2006
EP 1430842	A	23-06-2004	AU 2003270992 A1	08-07-2004
			CA 2453706 A1	20-06-2004
			ES 2301761 T3	01-07-2008
			JP 2004202239 A	22-07-2004
			US 2004122436 A1	24-06-2004
			US 2006149276 A1	06-07-2006
FR 2776176	A	24-09-1999	NONE	
US 5681316	A	28-10-1997	NONE	
US 5364401	A	15-11-1994	AU 5354194 A	09-05-1994
			BR 9305697 A	31-12-1996
			CA 2124837 A1	28-04-1994
			DE 69324233 D1	06-05-1999
			DE 69324233 T2	02-12-1999
			EP 0616513 A1	28-09-1994
			JP 7501966 T	02-03-1995
			WO 9408528 A1	28-04-1994