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(71) Applicant: SURGICAL NAVIGATION TECHNOLOGIES, INC. [US/US]; 530 Compton Street, Broomfield, CO 80020 (US).

(72) Inventors: FOLEY, Kevin, T.; Suite 600, 220 South Claybrook, Memphis, TN 38104 (US). CLAYTON, John, B.; 720 E. Wiggins Street, Superior, CO 80027 (US). MELKENT, Anthony; 1800 Pyramid Place, Memphis, TN 38132 (US). SHERMAN, Michael, C.; 5854 Haymarker Road, Memphis, TN 38120 (US).

(74) Agents: GARRETT, Arthur, S. et al.; Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., 1300 I Street, N.W., Washington, DC 20005-3315 (US).

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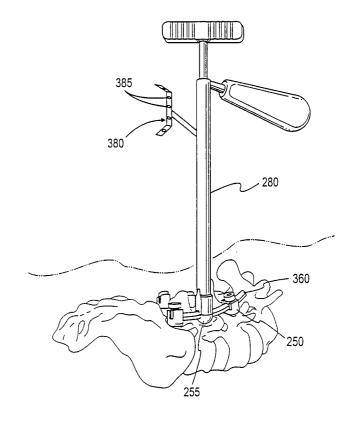
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(54) Title: PERCUTANEOUS REGISTRATION APPARATUS AND METHOD FOR USE IN COMPUTER-ASSISTED SURGICAL NAVIGATION

(57) Abstract

An apparatus and procedures for percutaneous placement of surgical implants and instruments such as, for example, screws, rods, wires and plates into various body parts using image guided surgery. The invention includes an apparatus for use with a surgical navigation system, an attaching device rigidly connected to a body part, such as the spinous process of a vertebrae, with an identification superstructure but rigidly removably connected to the attaching device. This identification superstructure, for example, is a reference arc and fiducial array which accomplishes the function of identifying the location of the superstructure, and, therefore, the body part to which it is fixed, during imaging by CAT scan or MRI, and later during medical procedures.



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INTERNATIONAL SEARCH REPORT

Interr. pmal Application No PCT/US 98/19695

A. CLASSIF IPC 6	A61B17/56			
According to	International Patent Classification (IPC) or to both national classific	ation and IPC		
B. FIELDS S	SEARCHED			
Minimum doo IPC 6	cumentation searched (classification system followed by classificati $A61B$	on symbols)		
Documentation	on searched other than minimum documentation to the extent that s	such documents are included	in the fields searched	
Electronic da	ata base consulted during the international search (name of data ba	ise and, where practical, sea	arch terms used)	
C. DOCUME	ENTS CONSIDERED TO BE RELEVANT			
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X	WO 96 11624 A (ST.LOUIS UNIVERSI SURGICAL NAVIGATION TECHNOLOGIES 25 April 1996 cited in the application	TY AND)	1,2,6,8,	
A	see page 33, line 5 - page 34, l see page 39, line 7 - line 20 see figures 12A-12F	ine 35	18	
A	EP 0 832 609 A (PICKER INTERNATION see column 6, line 36 - column 7 see column 7, line 35 - line 57 see column 8, line 38 - line 44 see figures 4,10	ONAL) , line 4	1,7	
Α	DE 297 04 393 U (AESCULAP) 17 Ju see page 9, line 11 - line 30 see page 14, line 8 - line 22 see figures 2,4		1,8	
		-/		
X Furti	her documents are listed in the continuation of box C.	X Patent family mer	mbers are listed in annex.	
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later t	han the priority date claimed	"&" document member of t		
	actual completion of the international search 26 April 1999	Date of mailing of the 07/05/199	international search report	
		Authorized officer	-	
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	Nice, P		

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 98/19695

Box I	Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This Inte	ernational Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. X	Claims Nos.: 10-17 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 II	Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This Int	ternational 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 all searchable claims.
2.	As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
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.:
Rema	The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

information on patent family members

Inter. nal Application No PCT/US 98/19695

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