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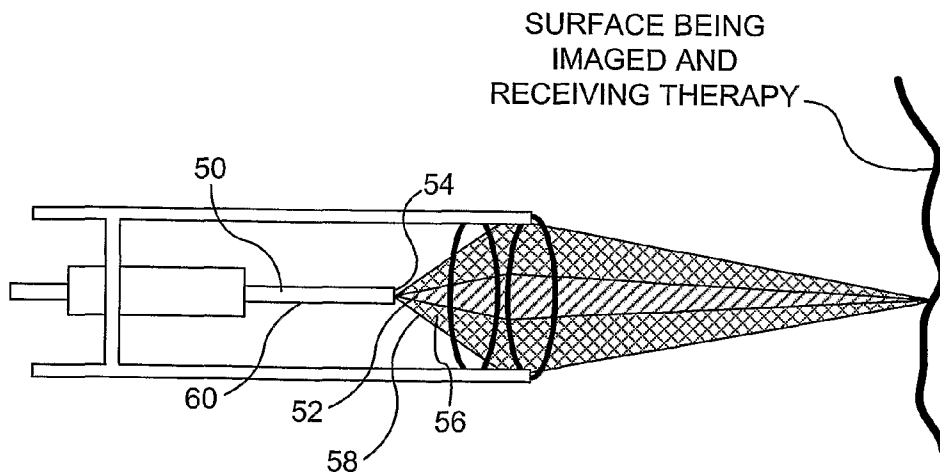
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(54) Title: MULTI-CLADDING OPTICAL FIBER SCANNER



(57) Abstract: A multi-cladding optical fiber includes a core that conveys visible light used by a scanner for imaging a site within a patient's body, and an inner cladding that conveys high-power light, such as infrared light, used for providing therapy to site. The distal end of multi-cladding optical fiber is driven to scan the site when imaging or rendering therapy using an actuator. High-power light is coupled into inner cladding at proximal end of optical fiber using several different techniques. Some techniques use an axicon to direct the high-power light into the inner cladding, while visible light is coupled directly into the core. Another technique uses a multimode optical fiber in a coupling relationship with the multi-cladding optical fiber, to transfer high-power light from a core of the multimode fiber into the inner cladding of the multi-cladding optical fiber.

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/07704

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC: **A61B 18/18**( 2006.01)

USPC: 606/11,16  
 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)  
 U.S. : 606/7, 10-18; 600/101, 109, 310

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 practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,199,431 A (KITRELL et al) 06 April 1993 (06.04.1993), see the entire document	1-35
Y	US 2004/0254474 A1 (SEIBEL et al) 16 December 2004 (16.12.2004), see the entire document	1-35
Y	US 2006/0013544 A1 (BOUMA et al) 19 January 2006 (19.01.2006), see the entire document	1-35

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	"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
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"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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