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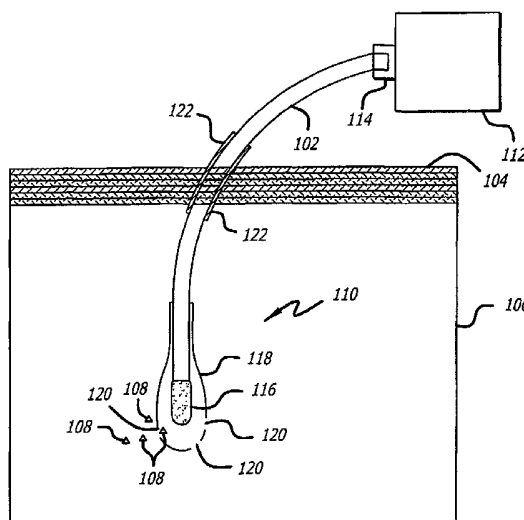
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(54) Title: INTERNAL BIOCHEMICAL SENSING DEVICE



(57) Abstract: A biosensing device for detecting biological analytes, and methods of use and manufacture, are disclosed. The device includes a biosensing element that can remain implanted for extended periods of time. The biosensing element is connected to an optical fiber terminating outside of the body. The optical fiber is also connected to an information analyzer. The information analyzer directs light through the optical fiber into the biosensing element. The light excites fluorophores, created by a chemical reaction between analytes and biosensing material within the biosensing element. Emitted fluorescent light is redirected through the optical fiber to the information analyzer. Optical gratings within the filtering member of the information selectively deflect fluorescent emissions into a cladding layer. Detectors attached to the cladding layer detect the deflected fluorescent emissions and, according to their determined wavelength, report the presence or quantity of specific analytes to the patient on an external display.

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INTERNATIONAL SEARCH REPORT

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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. : 600/309-310, 317, 312, 322			
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) EAST			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
X --- Y	US 4,974,929 A (CURRY) 04 December 1990 (04.12.1990), See the entire document.	32 and 41 ----- 15, 18, 19, 23-27, 29-30, 32, 33, 40, 45-46	
X	US 5,938,595 A (GLASS et al.) 17 August 1999 (17.08.1999), See the entire document.	32, 35, 38, 41 and 43	
X, P	US 6,417,506 B1 (PINKEL et al.) 09 July 2002 (09.07.2002), See the entire document.	32, 35 and 37	
X	US 5,096,671 A (KANE et al.) 17 March 1992 (17.03.1992), See the entire document.	41-42	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.			
<p>* Special categories of cited documents:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </td> <td style="width: 50%; border: none;"> <p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p> </td> </tr> </table>		<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p>
<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p>		
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INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,098,659 A (YIM et al.) 24 March 1992 (24.03.1992), See the entire document.	1-7, 8-18, 15, 19, 20-22, 27-31, 29-30, 32, 34, 39, 41 and 47
Y, E	US 6,505,059 B1 (KOLLIAS et al.) 07 January 2003 (07.01.2003), See the entire document.	1-7, 8-18, 19, 20-22, 27-31, 32, 34, 39, 41 and 47
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Y	US 5,109,442 A (KLAINER et al.) 28 April 1992 (28.04.1992), See the entire document.	33
Y	US 5,002,054 A (ASH et al.) 26 March 1991 (26.03.1991), See the entire document.	40
Y	US 6,331,163 B1 (KAPLAN) 18 December 2001 (81.12.2001), See the entire document.	45-46