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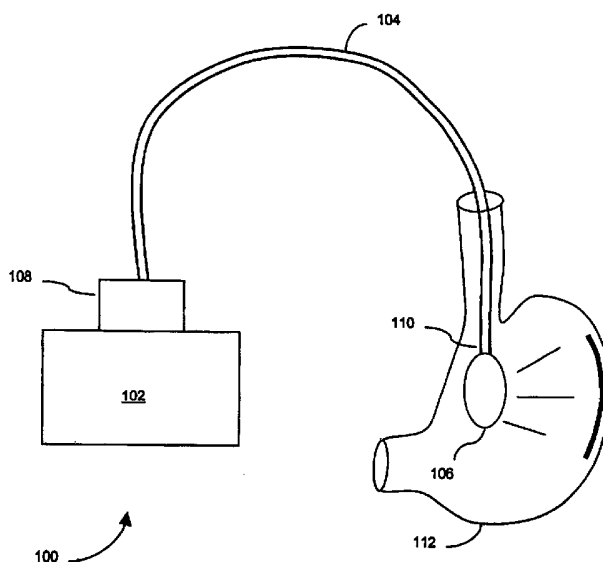
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(54) Title: APPARATUS AND METHODS USING VISIBLE LIGHT FOR DEBILITATING AND/OR KILLING MICROORGANISMS WITHIN THE BODY



(57) Abstract: The present invention relates to the devices and methods for killing and/or debilitating pathogenic microorganisms, such as *H. pylori* bacteria within a patient's body. A light source (102) is provided that emits electromagnetic radiation having wavelengths within the visible spectrum. The light source can be internal and/or external to the patient's body. For embodiments having an external light source, a light guide (104) is provided for transferring the radiation from the light source to a location within the patient's body. The light guide has a proximal end optically coupled to the light source and a distal end dimensioned for insertion into a patient's body. A delivery element (106) is also provided to optically couple the radiation from the light to a location within a patient's body.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61N 5/067
 US CL : 604/20

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. : 604/20,19,21

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.
X ---	US 5,445,608 A (CHEN et al) 29 August 1995 (29.08.1995), see entire document	1,2,5,7-11,14-23,25,27
Y		3,4,13,26
X ---	US 5,993,378 A (LEMELSON) 30 November 1999 (30.11.1999), see entire document	11,23
Y		13,25,26
X	US 5,104,392 A (KITRELL et al) 14 April 1992 (14.04.1992), see entire document	1,4,5,7-10,28

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:		"T"
"A"	document defining the general state of the art which is not considered to be of particular relevance	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 published on or after the international filing date	"X"
"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)	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
"O"	document referring to an oral disclosure, use, exhibition or other means	"Y"
"P"	document published prior to the international filing date but later than the priority date claimed	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
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