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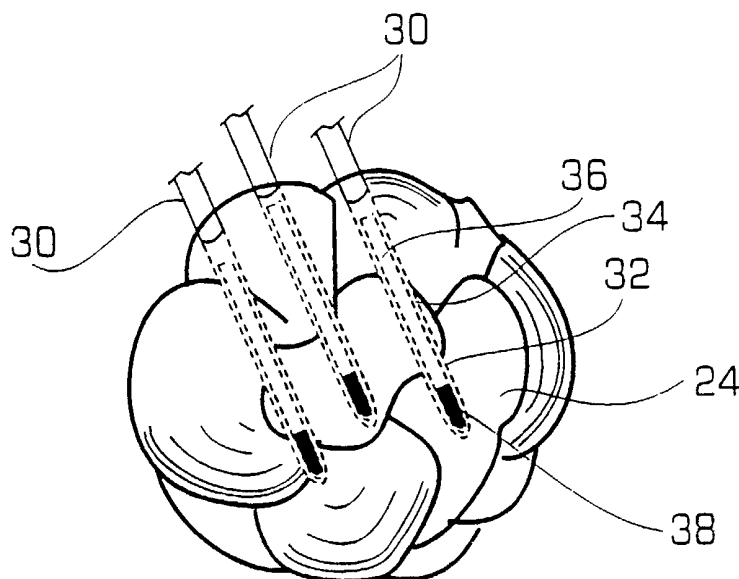
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(54) Title: NEUTRON BRACHYTHERAPY DEVICE AND METHOD



(57) Abstract: A neutron source for neutron brachytherapy is disclosed that may generate neutrons to treat cancer and other tumors (24). The neutron source in accordance with the invention may include a capsule (38) into which the neutron emitting material is loaded and a guide wire (36). A coiled wire may be placed around the capsule (38) and the guide wire (36) to strengthen the capsule (38) and guide wire (36). In accordance with one embodiment, the capsule (38) containing the neutron emitting material is sufficiently thin so that the helium gas generated during the decay of the neutron emitting material may escape into the atmosphere. In a preferred embodiment, the neutron emitting material may be Californium (Cf225).



WO 01/19450 A3

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61N 5/00

US CL : 600/003

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. : 600/001, 003, 006, 007

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)

APS, EIC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,480,382 A (Hammerslag et al.) 02 January 1996, entire document.	1-10, 12-16, 19-26
Y	US 4,510,924 A (Gray) 16 April 1985, entire document.	1-10, 12-16, 19-26
Y	US 5,084,002 A (Liprie) 28 January 1992, entire document.	1-10, 12-16, 19-26
Y	US 5,782,741 A (Bradshaw et al.) 21 July 1998, entire document.	11
Y	Martin et al.; "Biomedical Neutron Research at the Californium User Facility for Neutron Science"; Journal of Radioanalytical and Nuclear Chemistry, Vol. 236, No. 1 and 2, pages 5-10; 01 February 1998.	17-18

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier document published on or after the international filing date	"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
"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 member of the same patent family
"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	

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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.
A,P	US 6,019,736 A (Avellanet et al.) 01 February 2000, entire document.	1-26
A	US 4,891,165 A (Suthanthiran) 02 January 1990, entire document.	1-26
A	US 5,395,300 A (Liprie) 07 March 1995, entire document.	1-26