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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

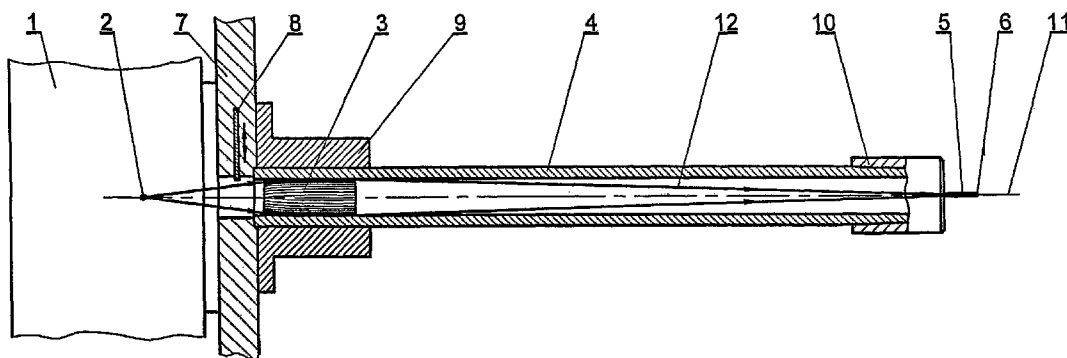
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(54) Title: X-RAY NEEDLE APPARATUS AND METHOD FOR RADIATION TREATMENT



(57) Abstract: The invention is directed to an x-ray device and method for radiation treatment comprising an x-ray source (1), a collimator (4) incorporating conditional optics, such as a capillary lens (3) for directing and focusing the x-ray radiation, and implantable needles. One or more capillary semilenses (16, 17) are positioned along the optical axis of the x-ray beam allow to form a movable focus by changing the distance between the semilenses. The input end of the collimator (4) is optically and mechanically conjugated with the x-ray source (1). The output end of the collimator is optically and mechanically conjugated with an originating end of the needle (5). At its output end is a transparent window (6) on which can repose a layer (13) that substantially absorbs and re-emits radiation which passes through the window (6).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC: **A61B 5/05**(2006.01)
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 USPC: 600/427
 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. : 600/427

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 5,195,526 A (MICHELSON) 23 March 1993 (23.03.1993), entire document	1-31
X	US 4,821,727 A (LEVENE et al) 18 April 1989 (18.04.1989), entire document	1-31
X	US 4,485,815 A (AMPLATZ et al) 04 December 1984 (04.12.1984), entire document	1-31

Further documents are listed in the continuation of Box C. Sec 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
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