

(12) **United States Patent**  
**Carol et al.**

(10) **Patent No.:** **US 9,409,040 B2**  
(45) **Date of Patent:** **\*Aug. 9, 2016**

(54) **DELIVERY SYSTEM FOR RADIATION THERAPY**

(71) Applicant: **Triple Ring Technologies, Inc.**, Newark, CA (US)

(72) Inventors: **Mark Philip Carol**, Burlingame, CA (US); **Joseph Anthony Heanue**, Oakland, CA (US)

(73) Assignee: **Triple Ring Technologies, Inc.**, Newark, CA (US)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 273 days.  
This patent is subject to a terminal disclaimer.

(21) Appl. No.: **14/170,478**

(22) Filed: **Jan. 31, 2014**

(65) **Prior Publication Data**  
US 2014/0205067 A1 Jul. 24, 2014

**Related U.S. Application Data**  
(60) Continuation of application No. 13/279,208, filed on Oct. 21, 2011, now Pat. No. 8,644,452, which is a division of application No. 12/251,298, filed on Oct. 14, 2008, now Pat. No. 8,050,384, which is a continuation of application No. 11/149,565, filed on Jun. 9, 2005, now abandoned.  
(60) Provisional application No. 60/578,721, filed on Jun. 10, 2004, provisional application No. 60/578,720, filed on Jun. 10, 2004.

(51) **Int. Cl.**  
**A61N 5/10** (2006.01)

(52) **U.S. Cl.**  
CPC ..... **A61N 5/1031** (2013.01); **A61N 5/10** (2013.01); **A61N 5/1037** (2013.01); **A61N 5/1039** (2013.01); **A61N 5/1049** (2013.01); **A61N 5/1084** (2013.01); **A61N 2005/1059** (2013.01); **A61N 2005/1091** (2013.01); **A61N 2005/1098** (2013.01)

(58) **Field of Classification Search**  
CPC ..... **A61N 2005/1091**  
See application file for complete search history.

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*Primary Examiner* — Hoon Song

(57) **ABSTRACT**  
A device is used to precisely deliver the treatment plan created by an automatic planning system by positioning a single low energy radiation source, or a plurality of low energy sources connected to each other, in a predetermined parallel, planar, or similar geometry, each source equipped with blocking and attenuation mechanisms, thereby delivering a plurality of parallel overlapping beams indexed on a millimeter or submillimeter grid such that a concentration of dose is achieved at a variable depth in tissue relative to the dose where the radiation first enters the tissue. A plurality of overlapping beams indexed on a millimeter or submillimeter grid can converge on a target volume loaded with gold nanoparticles to deliver a tumoricidal dose of radiation in as little as a single session to tumor cells but not to normal cells or to deliver serial radiosurgical treatments.

**20 Claims, 25 Drawing Sheets**

