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(54) **RADIOPHARMACEUTICAL CZT SENSOR AND APPARATUS**

(75) Inventors: **Chad E. Bouton**, Powell, OH (US); **Mehmet Husnu**, Phoenix, AZ (US)

(73) Assignee: **Cardinal Health 414, LLC**, Dublin, OH (US)

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(52) **U.S. Cl.**

CPC ***G01T 1/1648*** (2013.01); ***G01T 1/249*** (2013.01); *G01T 1/24* (2013.01); *G01T 1/241* (2013.01); *G01T 1/2928* (2013.01); *H01L 31/0296* (2013.01)

(58) **Field of Classification Search**

CPC G01T 1/24; G01T 1/249; G01T 1/2928; H01L 31/0296

USPC 250/370.13

See application file for complete search history.

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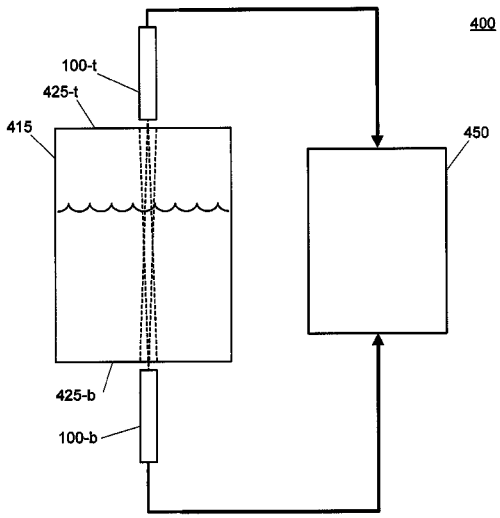
Primary Examiner — Christine Sung
(74) *Attorney, Agent, or Firm* — Amanda F. Maharaj

(57) **ABSTRACT**

A gamma ray detector includes a gamma ray detecting rod elongated along a longitudinal axis, wherein gamma ray detection is enhanced along the longitudinal axis, and a gamma ray shield encapsulating the rod, the shield having an aperture at an end of the detecting rod along the longitudinal axis to admit gamma rays substantially parallel to the longitudinal axis of the elongated detecting rod, wherein gamma ray detection is enhanced along the longitudinal axis and aperture to substantially collimate the sensitivity of the gamma ray detector along the combined aperture and longitudinal axis of the detecting rod.

11 Claims, 8 Drawing Sheets