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(54) **QUALITY ASSURANCE DEVICE FOR A MEDICAL LINEAR ACCELERATOR**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 238 days.

(21) Appl. No.: **09/715,517**

(22) Filed: **Nov. 17, 2000**

(51) **Int. Cl.**^{7} **A61N 5/00**; G21G 5/00
(52) **U.S. Cl.** **250/492.3**
(58) **Field of Search** 250/492.1, 492.3

(56) **References Cited**

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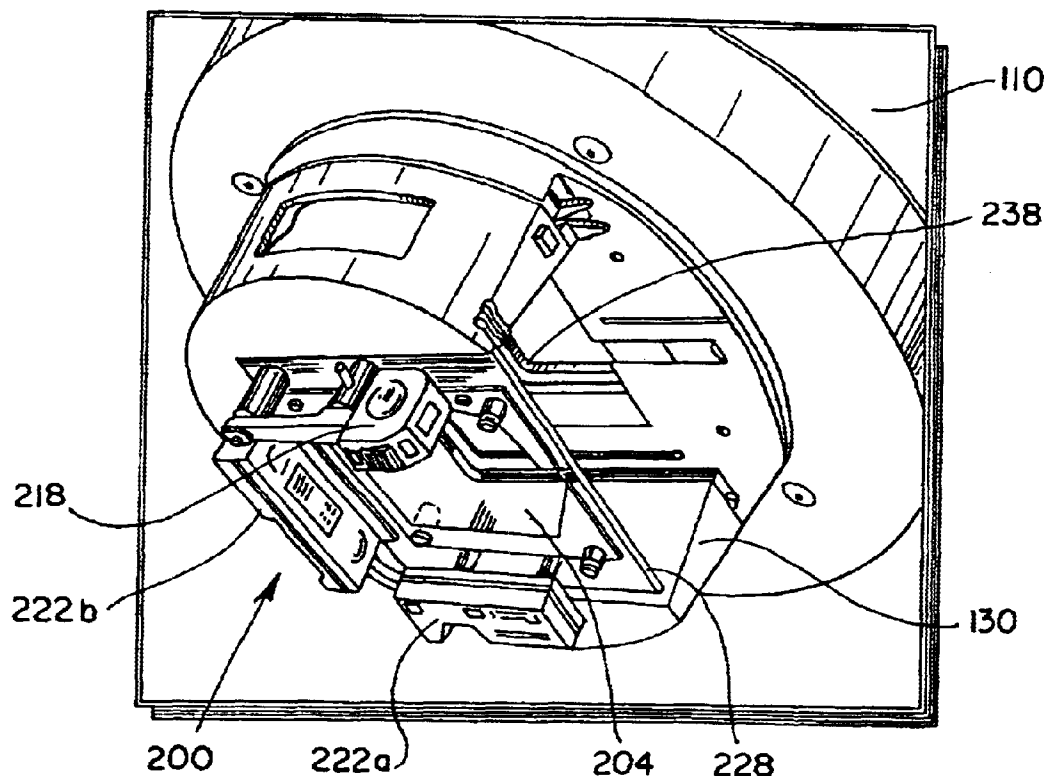* cited by examiner

Primary Examiner—John R. Lee
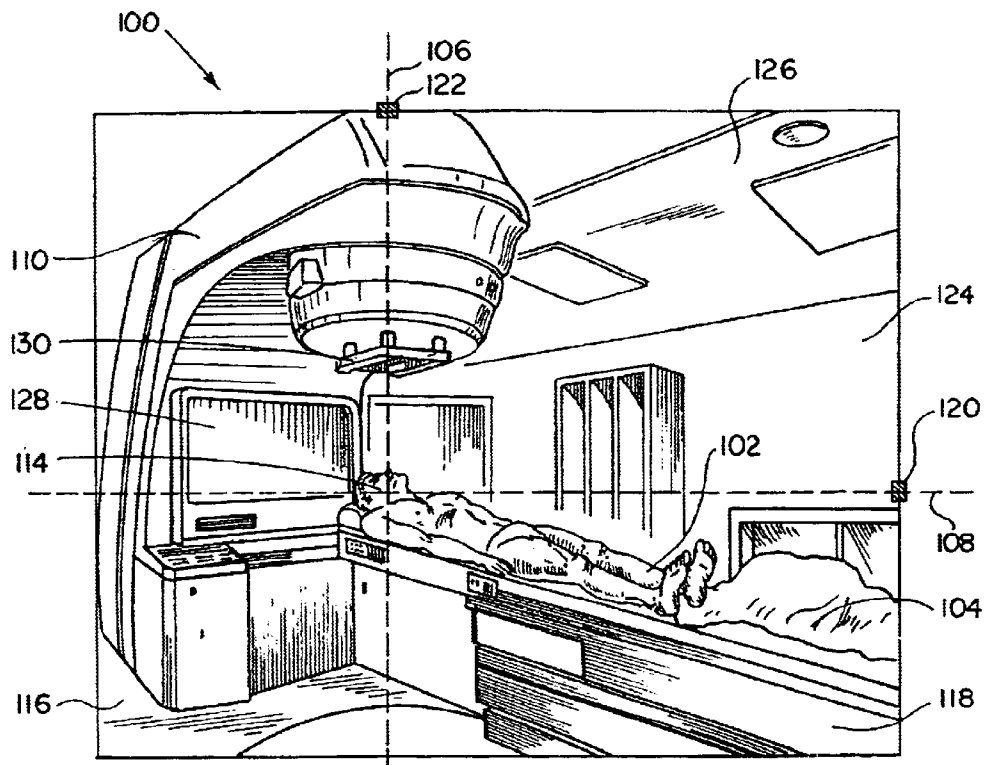*Assistant Examiner*—James Leybourne
(74) *Attorney, Agent, or Firm*—Dilworth & Barrese
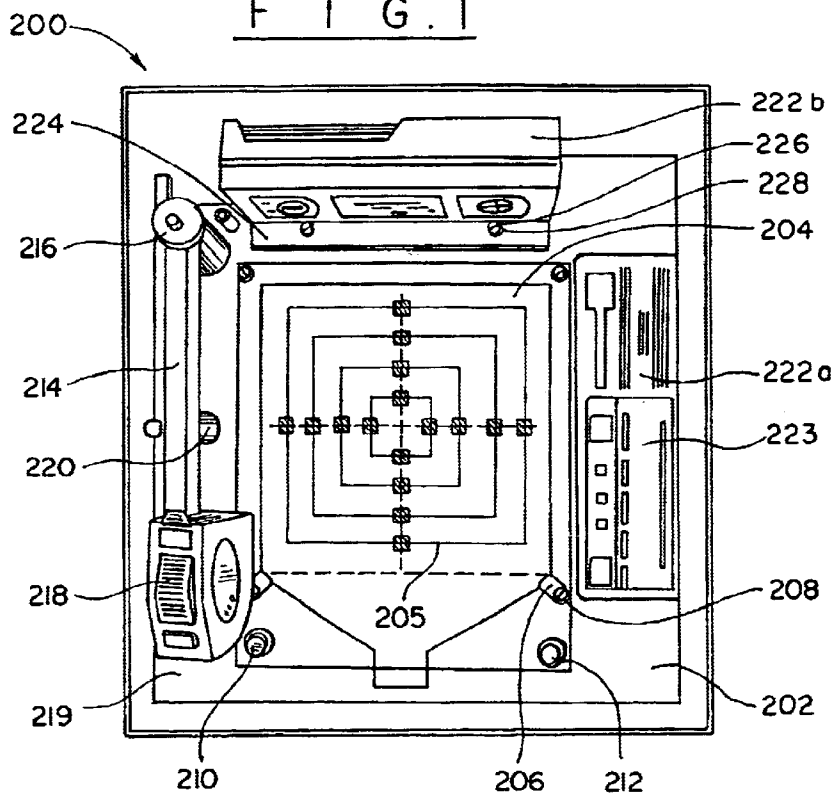
(57) **ABSTRACT**

A quality assurance device is provided for ensuring the accuracy and reproducibility of the mechanical parameters of medical linear accelerators (Medical LINACs). The quality assurance devices is configured for placement within two parallel slots on the gantry of a Medical LINAC and includes off-the-shelf components for ensuring the accuracy and reproducibility of an optical distance indicator (ODI) distance measurement readout, collimator and gantry angles indicated by a display of the Medical LINAC, a radiation field size indicated by the Medical LINAC display, the centering of cross-hairs on the gantry with the intersection of the Medical LINAC axes, and alignment of the two lasers emanating from two positions toward the Medical LINAC with the intersection of the Medical LINAC axes.
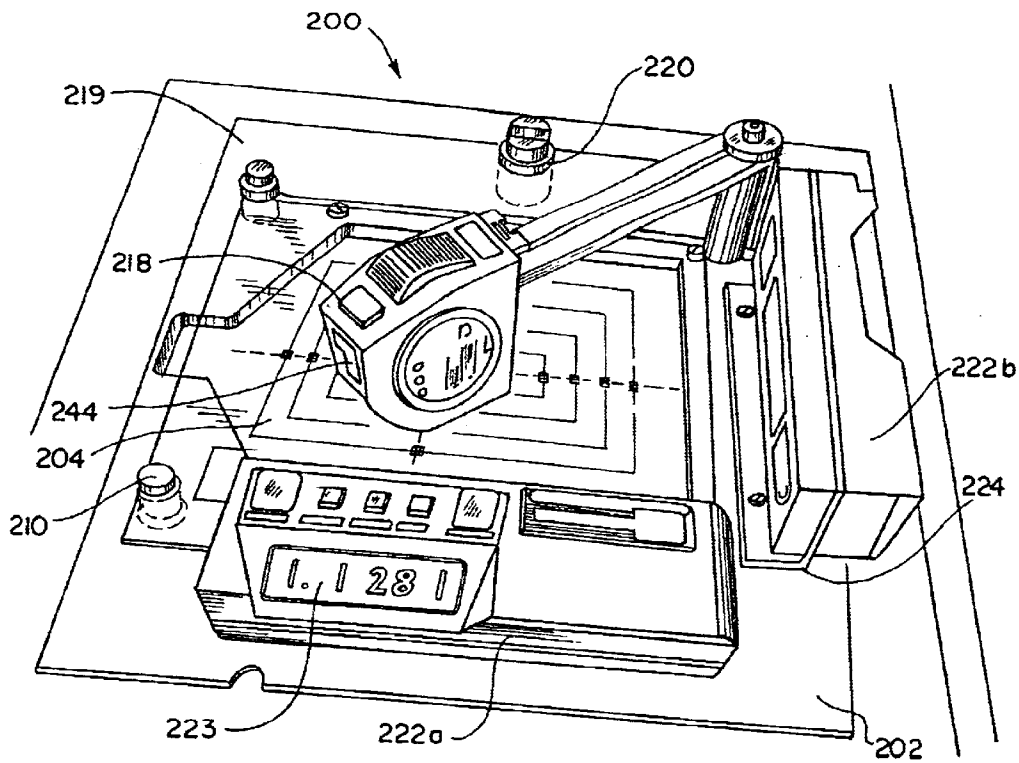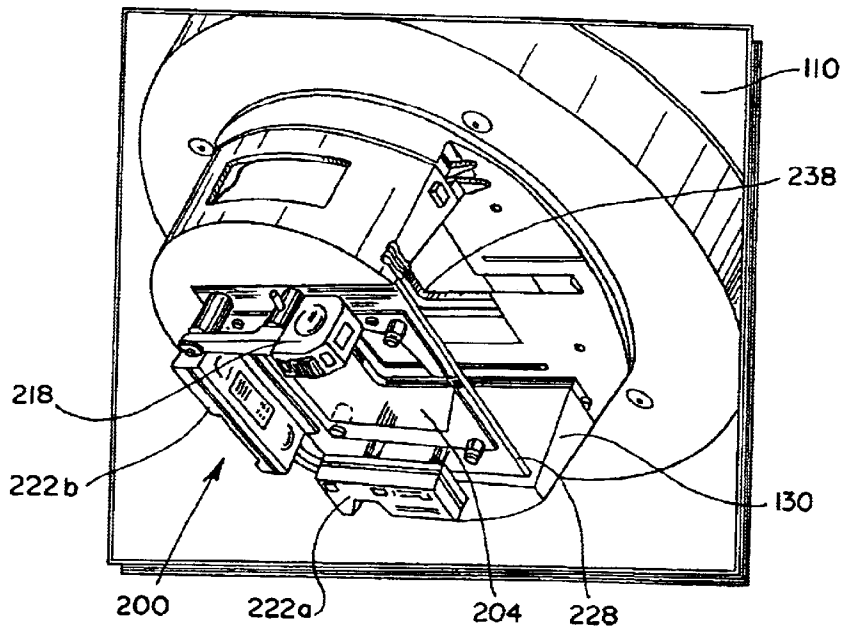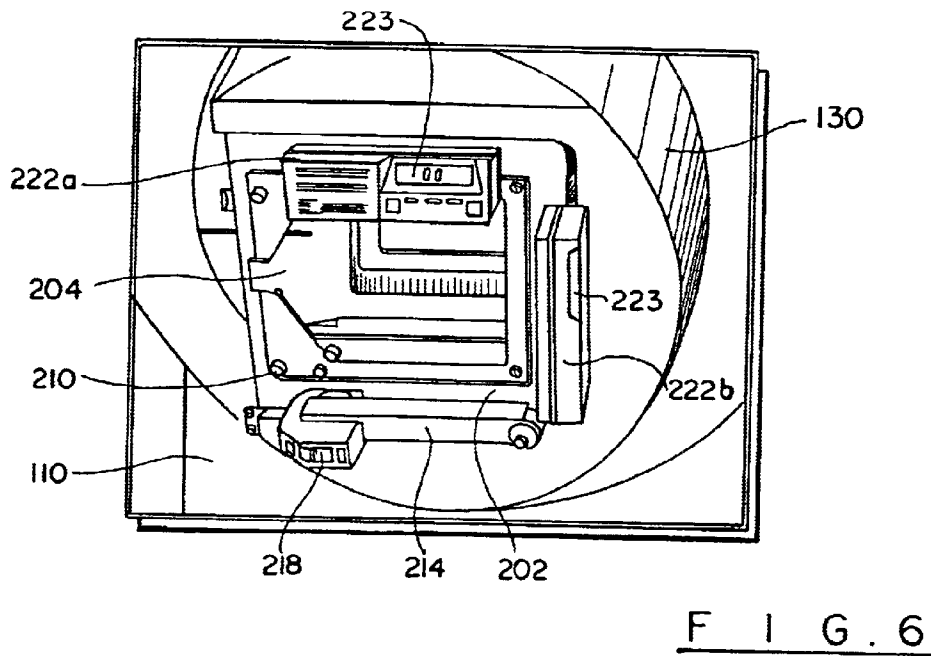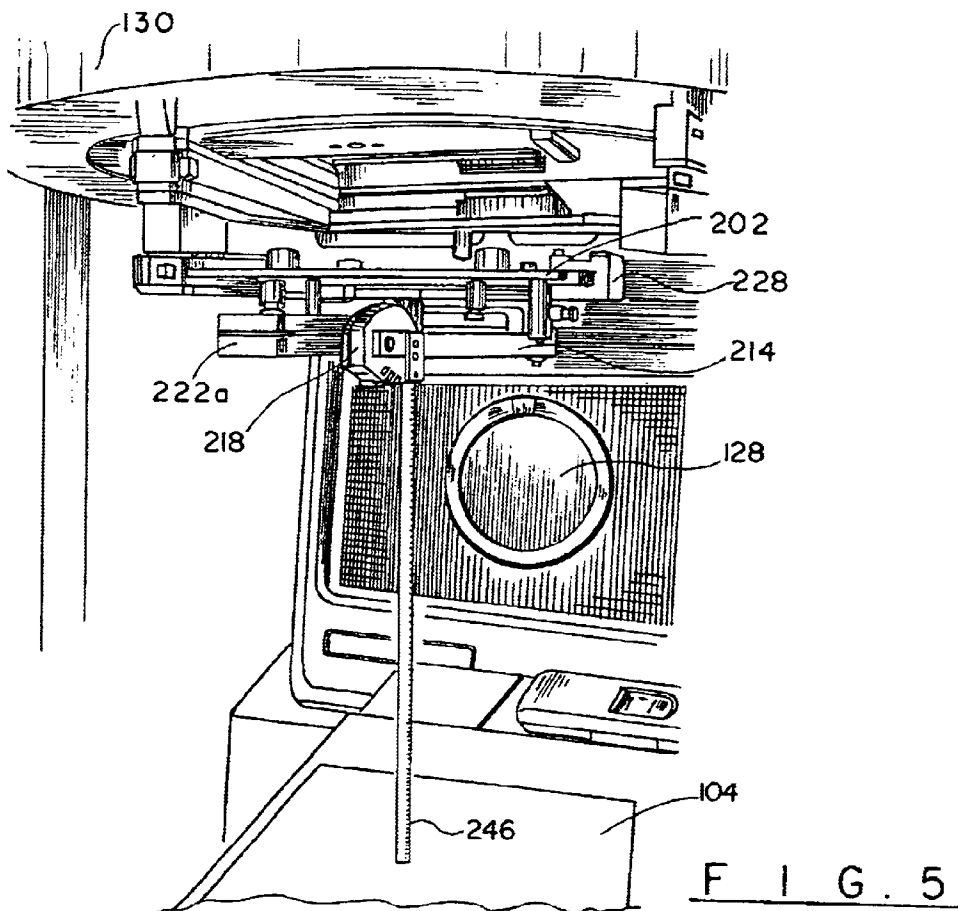
8 Claims, 6 Drawing Sheets

F I G . 1

F I G . 2

F I G . 3

F I G . 4

130

202
228
214

222a
218

128

104
246

F I G . 5

223

222a
130
204
223
210
222b
110

218 214 202

F I G . 6

260

253

104

F I G. 9

251

253

104

F I G. 7

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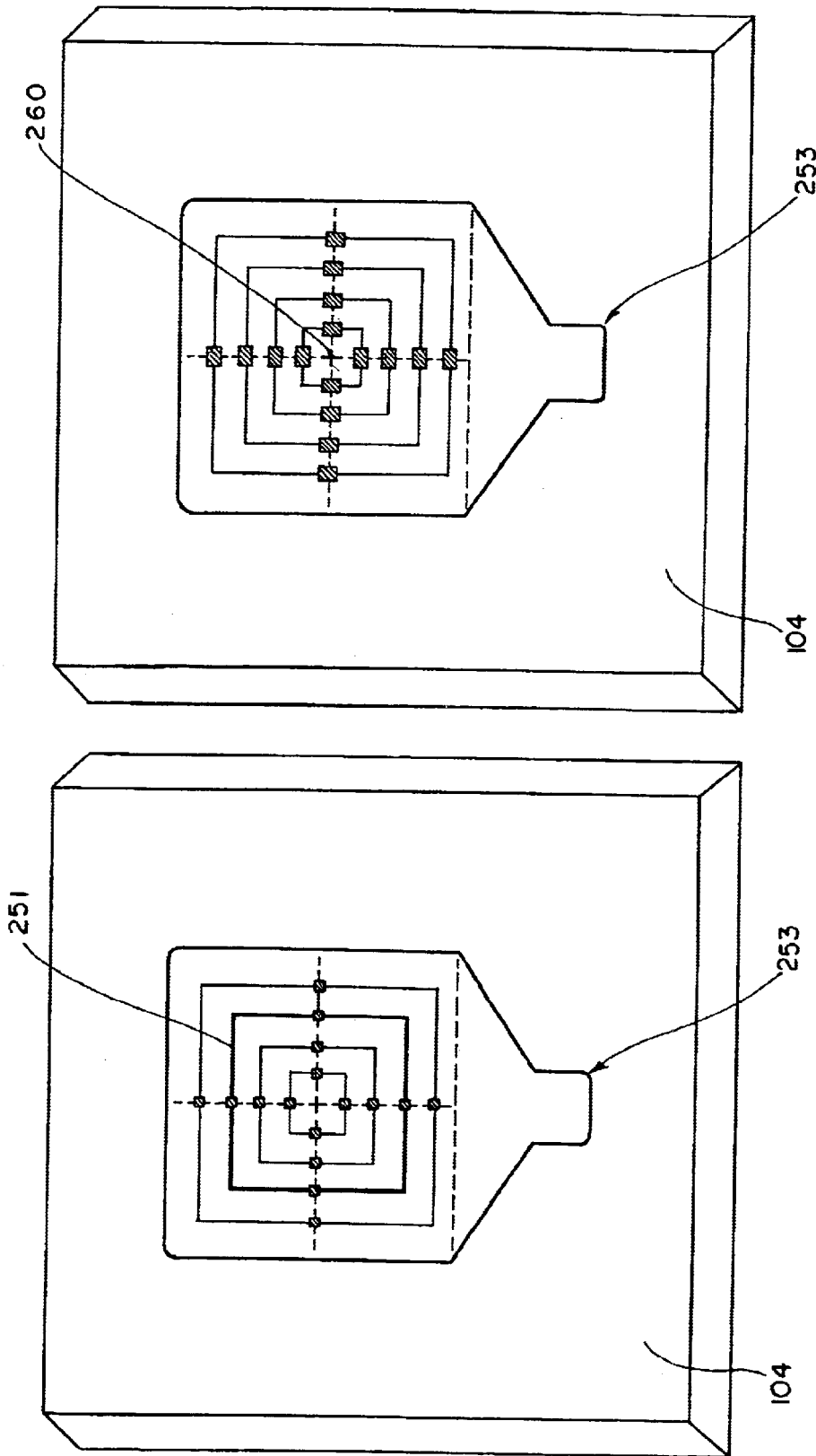
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