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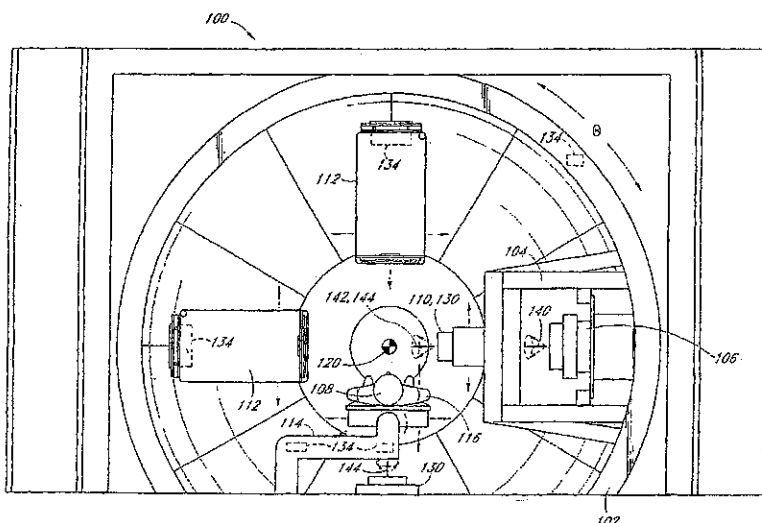
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(54) Title: **PATIENT POSITIONING SYSTEM FOR RADIATION THERAPY SYSTEM**



(57) Abstract: A patient positioning system for a radiation therapy system (100). The positioning system includes multiple external measurement devices (124) which obtain position and orientation measurements of components of the radiation therapy system (100) which are movable and/or are subject to flex or other positional variations from nominal. The external measurements provide corrective positioning feedback to more precisely register the patient and align them with the delivery axis (142) of a radiation beam. The positioning system monitors the relative positions of movable components of the radiation therapy system and plans an efficient movement procedure when indicated. The positioning system also plans the movement to avoid collisions either between the components of the radiation therapy system (100) as well as with personnel that may intrude into a movement envelope. The positioning system can be provided as an integral part of a radiation therapy system (100) or can be added as an upgrade to existing radiation therapy systems.

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