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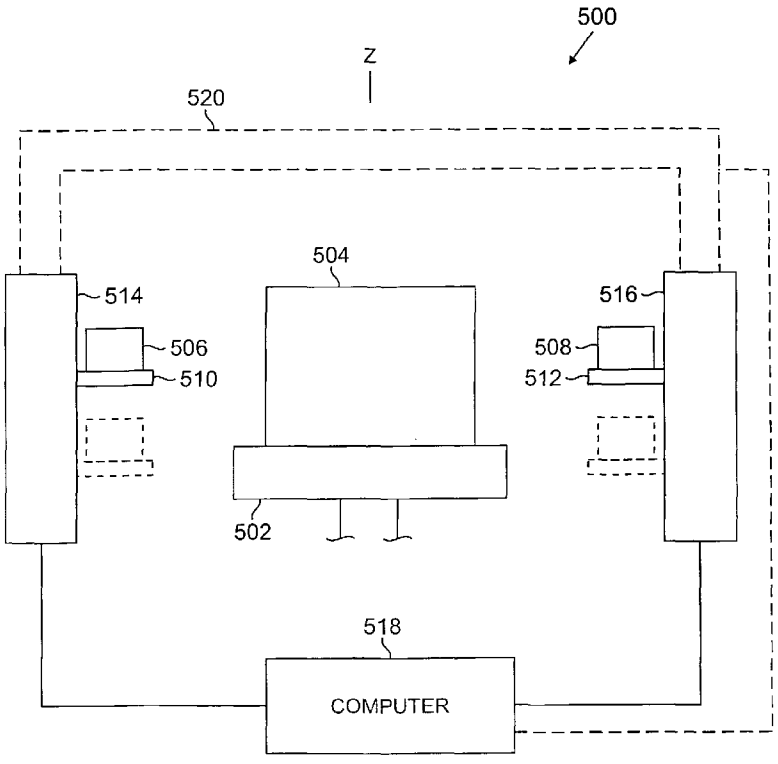
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(54) Title: RADIATION SCANNING UNITS INCLUDING A MOVABLE PLATFORM



(57) Abstract: A scanning unit for inspecting objects comprises in one embodiment a radiation source to emit a beam of radiation, a rotatable platform to support an object for inspection by the beam of radiation and a detector positioned to receive radiation after interaction of the beam with the object. At least one of the platform, the source and the detector may be moved in a first direction, such as vertically. The object may be scanned while being rotated and moved to generate volumetric computed tomographic images. The rotational and movement of the platform and the object may also be indexed. The beam of radiation may be a horizontally extending cone beam or a fan beam. The detector may extend horizontally, as well. The rotational and/or vertical position of the platform may be used to direct the object along one of multiple exit paths. The scanning unit may provide a vertically extending radiation beam and a vertically extending detector to conduct line scanning. The radiation source may be a source of X-rays, for example. Multiple sources may be provided. The scanning unit may also provide a pencil beam and a movable detector to detect scattered radiation. The pencil beam may induce fission in fissionable material in the object. The source of the pencil beam may be a source of neutrons or gamma rays, for example. Stimulated emissions, such as nuclear resonance fluorescence, may also be detected.

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