

ABSTRACT

A ray scanning apparatus, including: a conveying device (1) for conveying an object under inspection (6) to pass through a scanning area of the ray scanning apparatus; a ray source assembly (3) including a plurality of ray source modules (31, 32, 33, 34), each of the ray source modules (31, 32, 33, 34) including at least one ray source point, and when observed in a conveying direction of the object under inspection, the plurality of ray source modules (31, 32, 33, 34) being arranged around the scanning area in a non-enclosed structure opened on one side of the scanning area; and a detector assembly (4) for detecting rays transmitting through the object under inspection (6) during scanning and including a plurality of detector sets (41, 42, 43, 44), the plurality of detector sets (41, 42, 43, 44) being connected to each other at their end portions and arranged around the scanning area in a non-enclosed structure opened on one side of the scanning area, where the opening of the non-enclosed structure of the ray source assembly (3) is opposite to the opening of the non-enclosed structure of the detector assembly (4), the plurality of detector sets (41, 42, 43, 44) are fixed in a same plane perpendicular to the conveying direction of the object under inspection (6), and the plurality of ray source modules (31, 32, 33, 34) of the ray source assembly (3) are arranged in a plurality of different planes perpendicular to the conveying direction of the object under inspection (6).

Fig. 19