

[54] **BALANCED SCANNING MECHANISM**

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 250/363 S

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[57] **ABSTRACT**

A balanced scanning mechanism for driving the transducer of an acoustic microscope or other instrument rapidly back and forth along a linear path comprising the X portion of an X-Y scan pattern comprises first and second carriages guided for movement along an axis X. The transducer is mounted on the first carriage and a counterweight may be mounted on the second carriage; the total mass of each carriage and its contents is equal to that of the other carriage. Drive belts connected to both carriages drive them reciprocally along the X axis with accelerations and velocities that are equal in amplitude but opposite in direction. In some embodiments the two carriages are nested one within the other. In another embodiment the two carriages are mounted closely adjacent to each other on an elongated, rigid guide rail parallel to the X axis, the mass distributions of the two carriages being matched relative to the guide rail.

18 Claims, 3 Drawing Sheets

