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[54] SCANNING PROBE MICROSCOPE

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Related U.S. Application Data

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[52] **U.S. Cl.** **250/442.11**; 250/440.11; 250/306

[58] **Field of Search** 250/442.11, 440.11, 250/306, 307; 73/105

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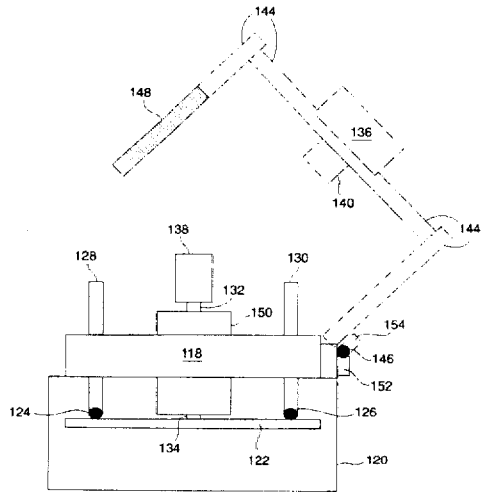
[57] **ABSTRACT**

Features for incorporation with scanning probe microscopes are provided which may be used separately or together. The features include constructing the microscope with a hinged top housing providing easy access to the heart of the microscope; a self-aligning and torque limiting magnetic clutch coupling a motor drive powering at least one vertical adjustment screw of the microscope; a removable microscope head for easy adjustment; an optical microscope, optionally mounted to an electronic camera and imaging system, installed adjacent to the head; operation on an inverted microscope stage; bowing error correction; a gas sparging system providing contaminant and noise reduction; a glove box type of loading system so that reactive materials may be safely loaded into the microscope; and a compact desk-top chamber which provides acoustic and vibration isolation.

10 Claims, 16 Drawing Sheets