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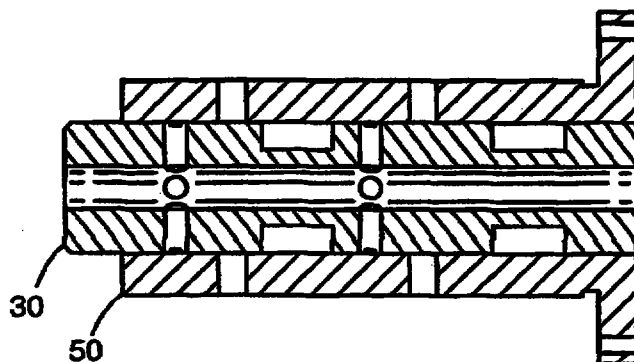
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(54) Title: **GAS BEARING AND METHOD OF MAKING A GAS BEARING FOR A FREE PISTON MACHINE**



(57) Abstract: A gas bearing structure including a cylindrical core (30) and a cylindrical sleeve (50). The core (30) has a radially outwardly facing surface with longitudinal and circumferential grooves formed thereon. The sleeve (50) has a radially inwardly facing surface that sealingly abuts the outer core surface. The inwardly facing sleeve (50) surface bridges over the grooves, defining fluid, preferably gas, flow paths within each groove. The gas flow paths permit gas to flow from the workspace to radial passages formed through the sleeve sidewall, thereby forming a gas bearing.

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