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(54) Title: SEMICONDUCTOR WAFER POLISHING APPARATUS WITH A VARIABLE POLISHING FORCE WAFER CARRIER HEAD		
(57) Abstract <p>A carrier head for a semiconductor wafer polishing apparatus includes a rigid plate which has a major surface with a plurality of open fluid channels. A flexible wafer carrier membrane has a perforated wafer contact section for contacting the semiconductor wafer, and a bellows extending around the wafer contact section. A retaining member is secured to the rigid plate with a flange on the bellows sandwiched between the plate's major surface and the retaining ring, thereby defining a cavity between the wafer carrier membrane and the rigid plate. A fluid conduit is coupled to the rigid plate allowing a source of vacuum and a source of pressurized fluid alternately to be connected to the cavity. An additional wafer carrier membrane is internally located with respect to the cavity formed by the wafer carrier membrane, and forms another cavity with respect to the rigid plate. Another fluid conduit is connected to the internal wafer carrier membrane's cavity, which is selectively pressurized to make the internal wafer carrier membrane contact the wafer contact section.</p>		