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(54) **Title:** SHOWERHEAD DESIGNS FOR CONTROLLING DEPOSITION ON WAFER BEVEL/EDGE

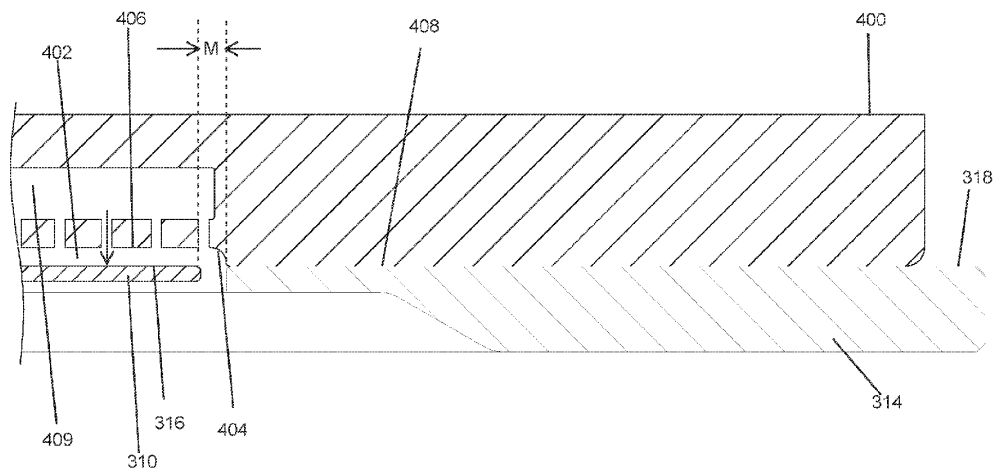


FIG. 4

(57) **Abstract:** A substrate processing system includes a showerhead pedestal, a carrier ring, a showerhead, and an RF source. The showerhead pedestal includes a top surface defining a first plurality of through holes configured to output a plasma gas mixture. The carrier ring is arranged on the top surface of the showerhead pedestal to support a substrate at a predetermined distance from the top surface of the showerhead pedestal. The showerhead is arranged above the carrier ring and includes a body defining a plenum, a recessed region located on a substrate-facing surface of the body, and a second plurality of through holes extending from the plenum through the substrate-facing surface of the body in the recessed region to disperse a purge gas onto a top surface of the substrate. The RF source is configured to strike plasma between a bottom surface of the substrate and the top surface of the showerhead pedestal.

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