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(54) Title: JOINING TECHNIQUES FOR COMPOSITE CERAMIC BODIES

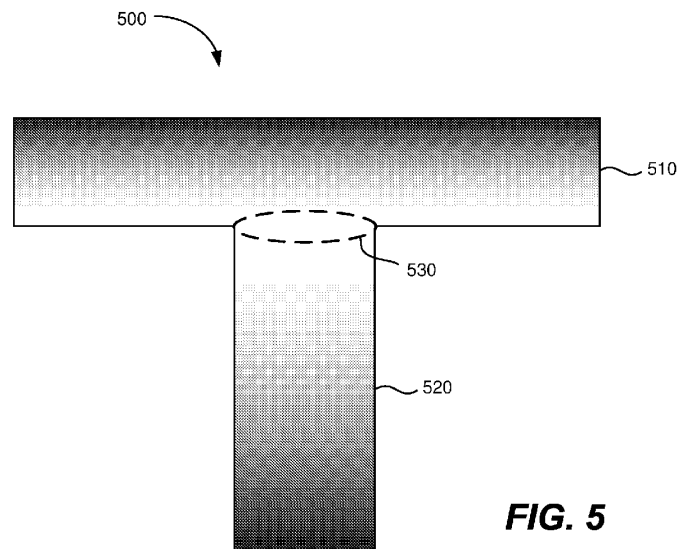


FIG. 5

(57) Abstract: In joining composite ceramic bodies, at least one ceramic body is a compositionally graded with varying concentrations between two or more ceramic materials. The compositionally graded ceramic body terminates at an interfacial layer that is substantially composed of a single ceramic material. The compositionally graded ceramic body is joined to another ceramic body that may also be compositionally graded or made of a single ceramic material, and an interfacial layer of the other ceramic body is identical in composition with the interfacial layer of the compositionally graded ceramic body. In some embodiments, the ceramic bodies may be joined by diffusion bonding. In some embodiments, the ceramic bodies include a ceramic platen and ceramic stem of a wafer pedestal implemented in a plasma processing apparatus.

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