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(54) Title: POST-CMP CLEANING BRUSH

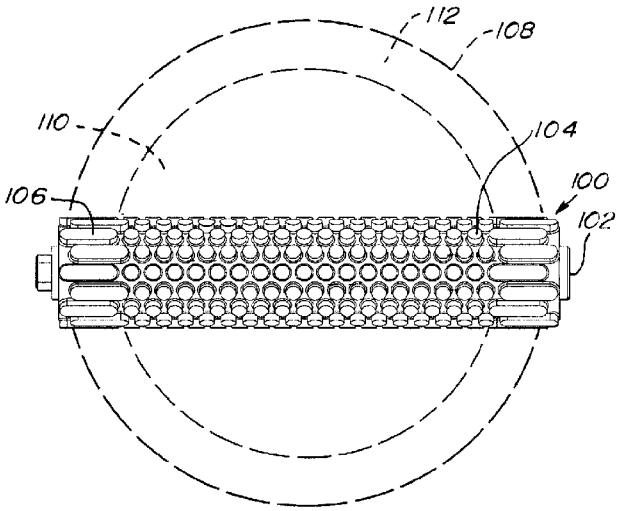


Fig.3B

(57) Abstract: Embodiments of the invention include a CMP brush that has a combination of central nodules at an inner region of the brush and one or more edge nodules at an end region of the brush where the central nodules and edge nodules are in a staggered or matched arrangement with each other and an upper surface of each edge nodule on the brush has the same or a greater contact area than an upper surface of a central nodule. The area of contact of the upper surface of each edge nodule with the substrate edge region is the same or greater than the area of contact of the upper surface of a central nodule with the substrate center region.

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