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(54) Title: SURFACE STRUCTURING OF ADDITIVELY MANUFACTURED ARTICLES

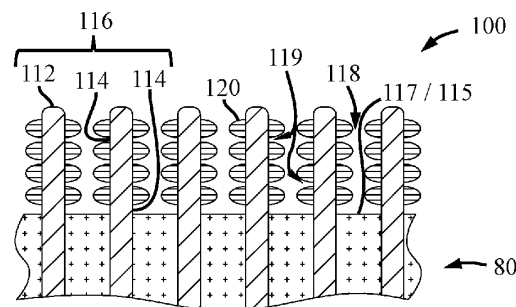


Fig. 5C

(57) Abstract: A selected surface of the present disclosure is characterized by a two-tier nanostructure: first-tier nanostructures and second-tier nanostructures disposed on at least a cell wall of the first-tier nanostructures. The first-tier nanostructures define a network of cells, each with a cell wall and a recessed core. The core is predominantly formed of a first phase of an additively formed aluminum alloy, and the cell wall is predominantly formed of a second phase of the same additively formed aluminum alloy. A method of forming the two-tier nanostructure includes preferential etching of the core over the cell wall to form a network of open cells, and a self-limiting formation of the second-tier nanostructure to form a plurality of sub-cavities characterized by nanoscale dimensions smaller than the cell opening of a cell.

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