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(54) **POLYMER RE-INFORCED ANATOMICALLY ACCURATE BIOACTIVE PROTHESES**

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(58) **Field of Search** 424/423, 422, 424/484

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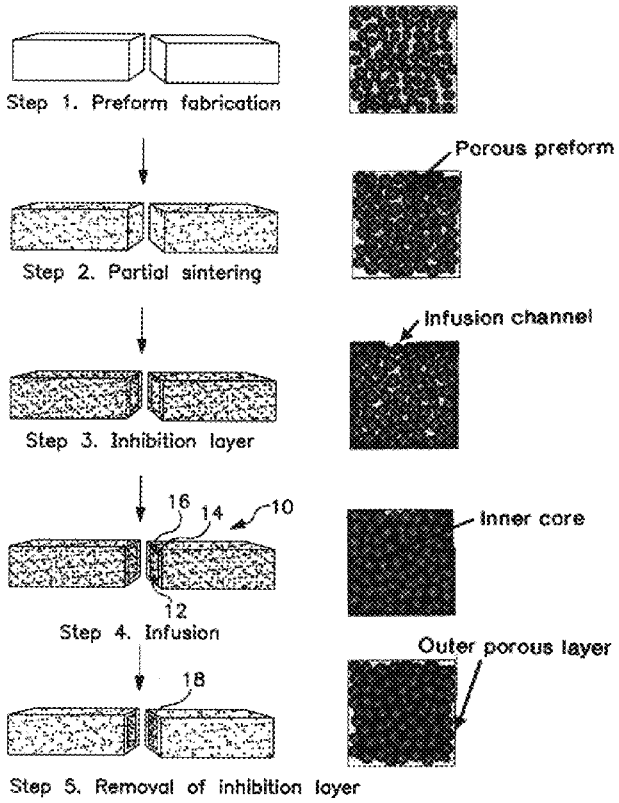
(57) **ABSTRACT**

Customized implants for use in reconstructive bone surgeries where anatomical accuracy and bone adaptation are important, such as plastic and craniomaxillofacial reconstructions. This implant comprises a porous surface layer and a tough inner core of interpenetrating phase composite. The porous surface layer enhances the biocompatibility, tissue ingrowth, and implant stability. The tough inner core improves the mechanical properties of the implant with a high fracture toughness and a low modulus. The anatomical accuracy of the implants will minimize the intra-operative manipulation required to maintain a stable host bone-implant interface.

29 Claims, 1 Drawing Sheet