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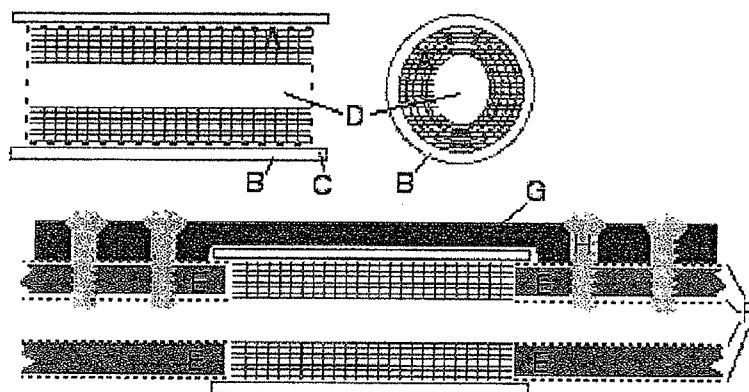
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(54) Title: TISSUE REPAIR DEVICES AND SCAFFOLDS



(57) Abstract: The present invention relates to multiphasic, three-dimensionally printed, tissue repair devices or scaffolds useful for promoting bone growth and treating bone fracture, defect or deficiency, methods for making the same and methods for promoting bone growth and treating bone fracture, defect or deficiency using the same. The scaffold has a porous bone ingrowth area containing interconnected struts surrounded by a microporous shell. At the ends of the scaffold, the shell may be extended as a guide flange to stabilize the scaffold between ends of bone. The center of the scaffold may be empty and may serve as a potential marrow space. The porous ingrowth structure may be infiltrated with a soluble filler or carrier, such as, for example calcium sulfate which may be infiltrated with one or more of an antibiotic, a growth factor, a differentiation factors, a cytokine, a drug, or a combination of these agents.