

United States Patent [19]

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Bell

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[54] **FABRICATION OF LIVING BLOOD VESSELS AND GLANDULAR TISSUES**

[75] Inventor: **Eugene Bell**, Dedham, Mass.

[73] Assignee: **Massachusetts Institute of Technology**, Cambridge, Mass.

[*] Notice: The portion of the term of this patent subsequent to Sep. 10, 2002 has been disclaimed.

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[22] Filed: **Feb. 26, 1982**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 261,928, May 8, 1981, Pat. No. 4,539,716.

[51] Int. Cl.⁴ **A61F 1/00**

[52] U.S. Cl. **623/1; 128/1 R; 435/1; 623/2; 623/12; 623/14**

[58] Field of Search **3/1, 1.4; 435/240-241, 435/1; 128/DIG. 8**

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Primary Examiner—Richard J. Apley

Assistant Examiner—David J. Isabelle

Attorney, Agent, or Firm—Arthur A. Smith, Jr.; David E. Brook; Leo R. Reynolds

[57] ABSTRACT

A method and apparatus for producing a vessel-equivalent prosthesis is described. A contractile agent such as fibroblast cells, smooth muscle cells or platelets is incorporated into a collagen lattice and contracts the lattice axially around an inner core. After the structure has set, additional layers may be formed in an ordered manner depending on the intended function of the prosthesis. Alternatively, all the layers may be formed concurrently. A plastic mesh sleeve is sandwiched between layers or embedded within the smooth muscle cell layer to reinforce the structure and provide sufficient elasticity to withstand intravascular pressure.

16 Claims, 4 Drawing Figures

