



(12) **United States Patent**
DiMatteo et al.

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- (54) **IMPLANTABLE PROSTHETIC VALVE**
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- (73) Assignee: **Scimed Life Systems, Inc.**, Natick, MA (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

- (21) Appl. No.: **09/425,142**
- (22) Filed: **Oct. 21, 1999**
- (51) **Int. Cl.**⁷ **A61F 2/06**; A61F 2/04
- (52) **U.S. Cl.** **623/1.24**; 623/2.18
- (58) **Field of Search** 623/1.24, 1.25, 623/1.26, 2.16, 2.17, 2.18; 604/9

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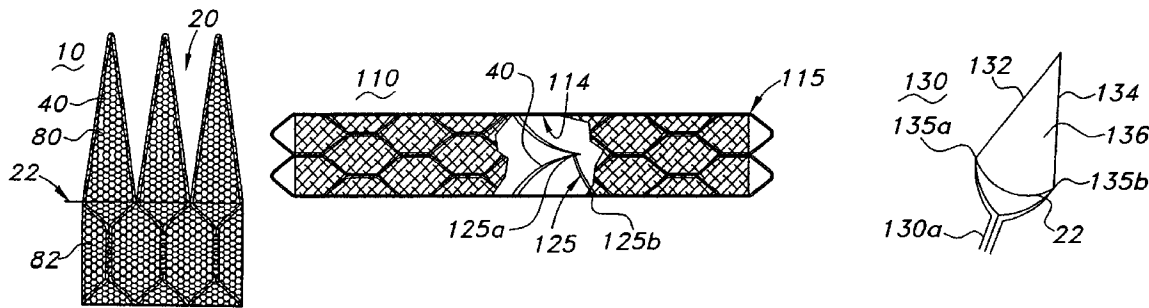
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(57) **ABSTRACT**

A prosthetic valve for implantation within a fluid conducting lumen within a body includes an elongate generally cylindrical radially collapsible valve body scaffold defining a fluid passageway therethrough for retentive positioning within the lumen. A radially collapsible leaf valve member is supported by the scaffold includes a number of valve leafs deflectable between a closed position restricting fluid flow through the passageway and an open position permitting fluid flow through the passageway. The leaf valve member includes an interior leaf valve frame defining a valve leaf aperture which is sealed by a fluid impermeable non-thrombogenic lining to prevent fluid flow therethrough.

48 Claims, 7 Drawing Sheets



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& Medtronic Corevalve, LLC

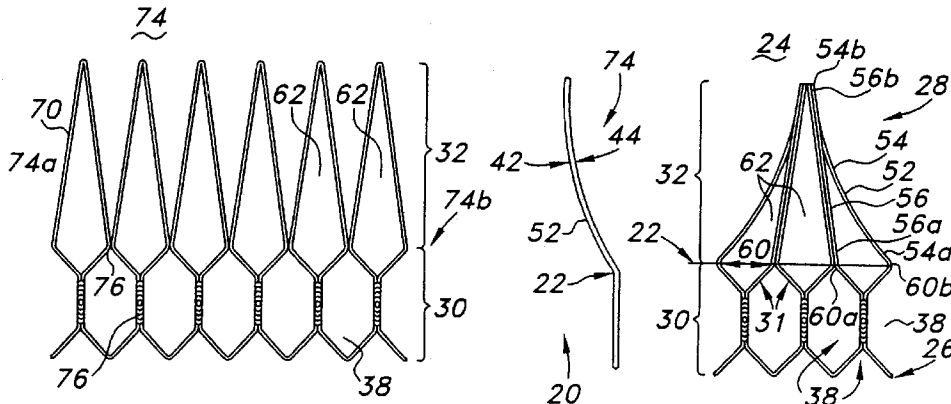


FIG 6

FIG 7

FIG 5

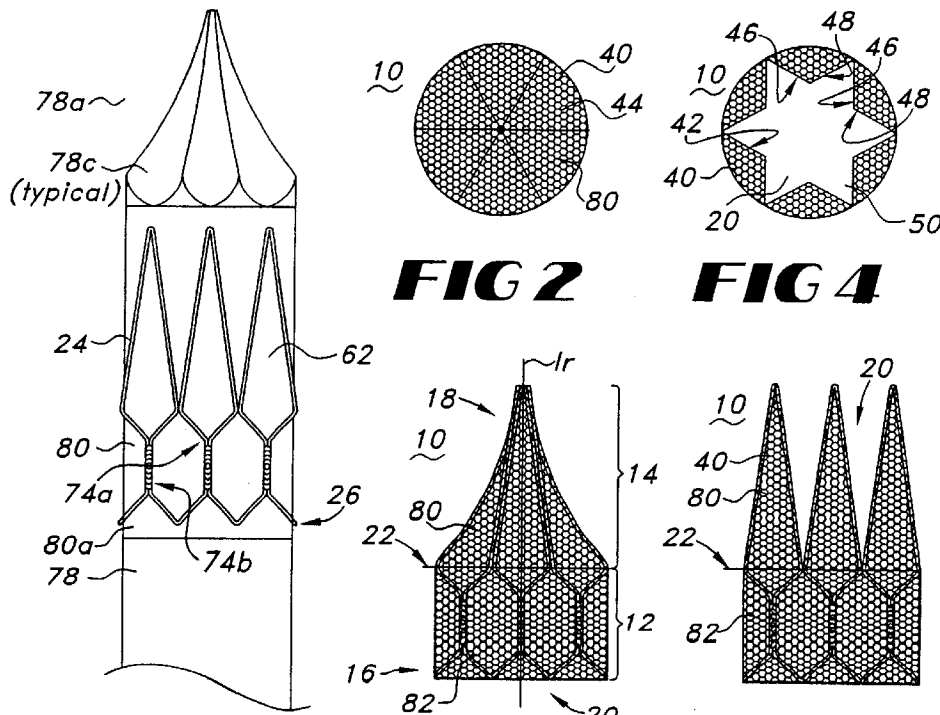


FIG 2

FIG 4

FIG 8

FIG 1

FIG 3

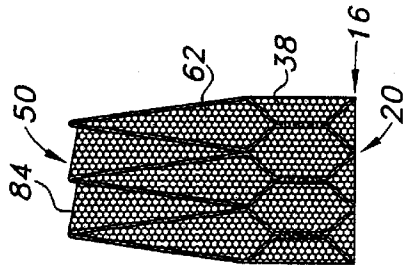


FIG 16

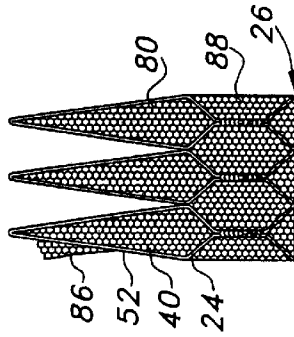


FIG 15

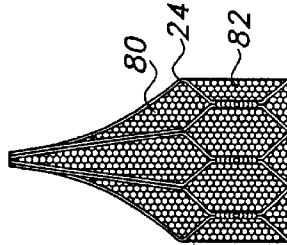


FIG 14

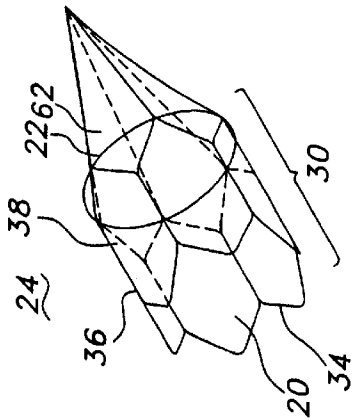


FIG 9

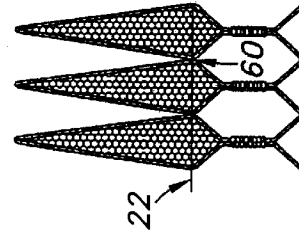


FIG 12

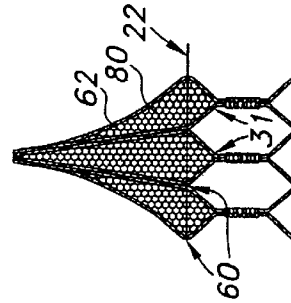


FIG 11

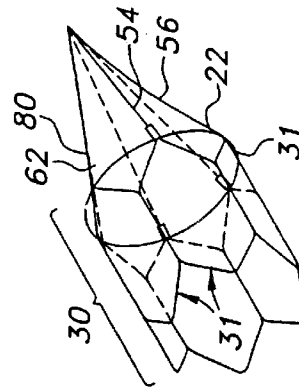


FIG 10

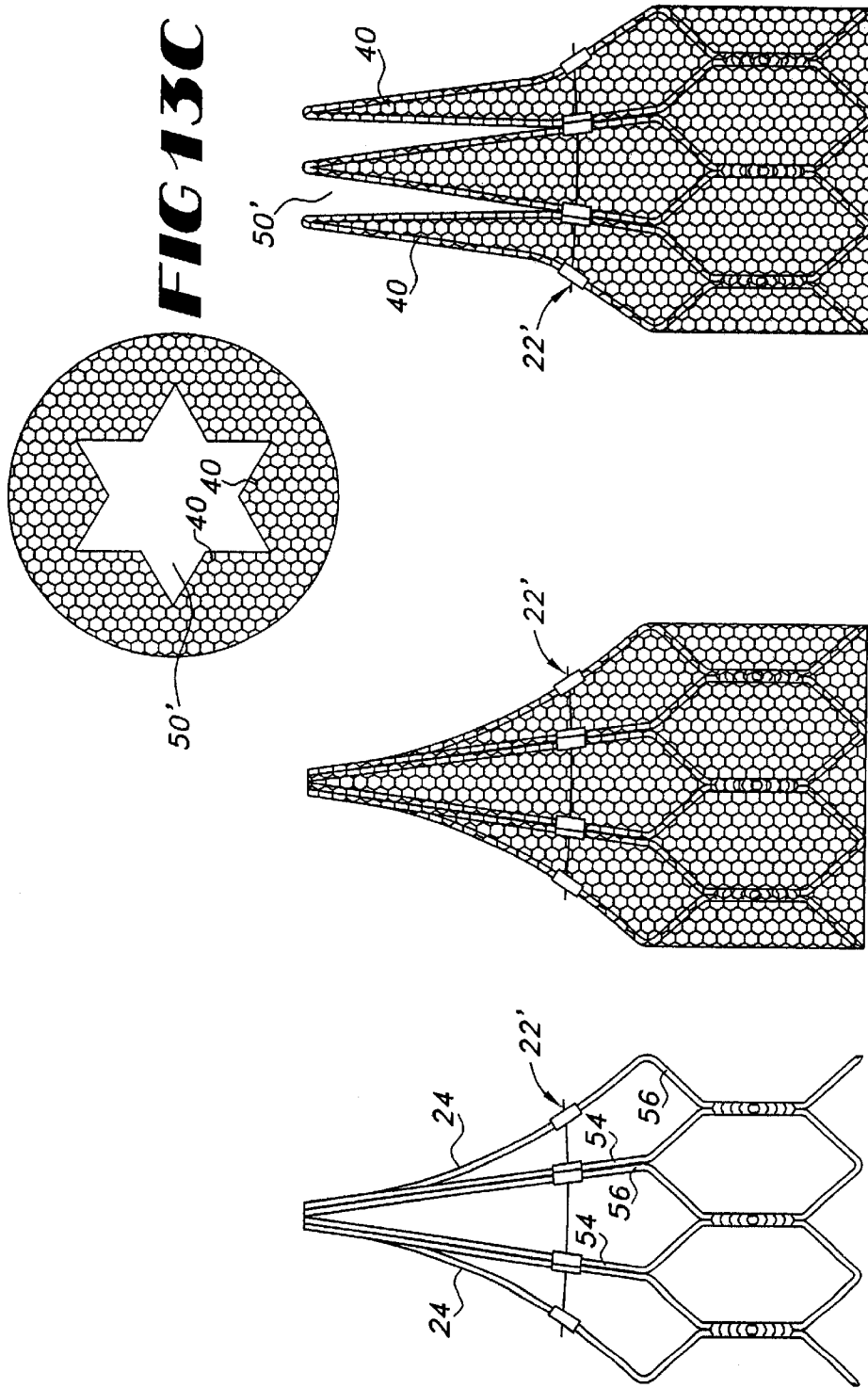


FIG 13C

FIG 13B

FIG 13A

FIG 13D

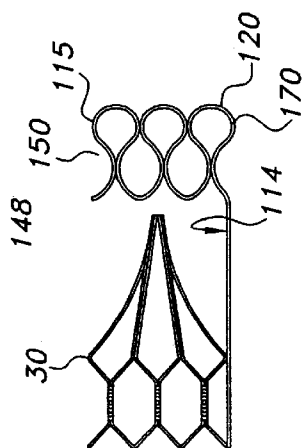


FIG 17

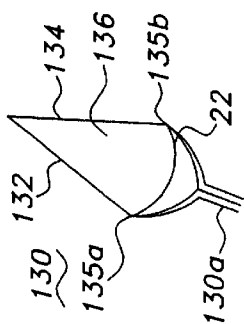


FIG 21

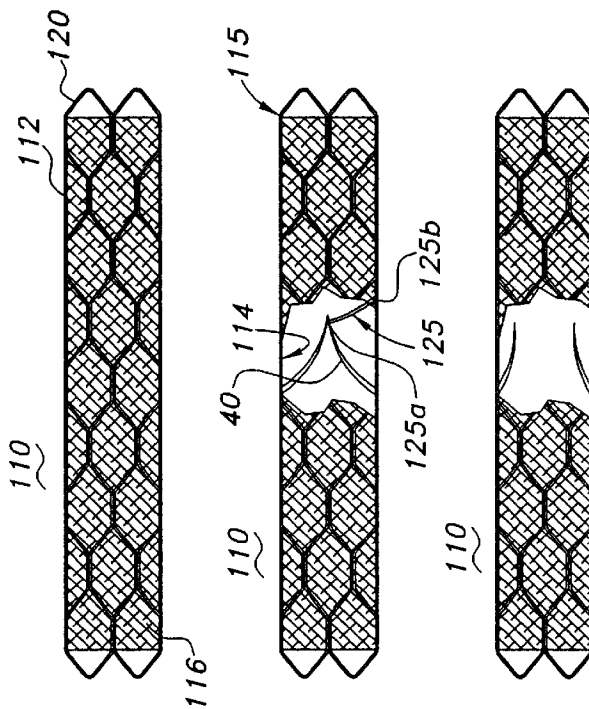


FIG 18

FIG 19

FIG 20

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