



- [54] **ENDOLUMENAL STENT-GRAFT WITH LEAK-RESISTANT SEAL**
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- [73] Assignee: **Prograft Medical, Inc.**, Palo Alto, Calif.
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- [51] **Int. Cl.⁷** **A61F 2/06**
- [52] **U.S. Cl.** **623/1; 623/12; 606/194**
- [58] **Field of Search** 623/1, 12; 606/108, 606/192, 194, 195

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Primary Examiner—Bruce E. Snow
Attorney, Agent, or Firm—Morgan & Finnegan LLP

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[57] **ABSTRACT**

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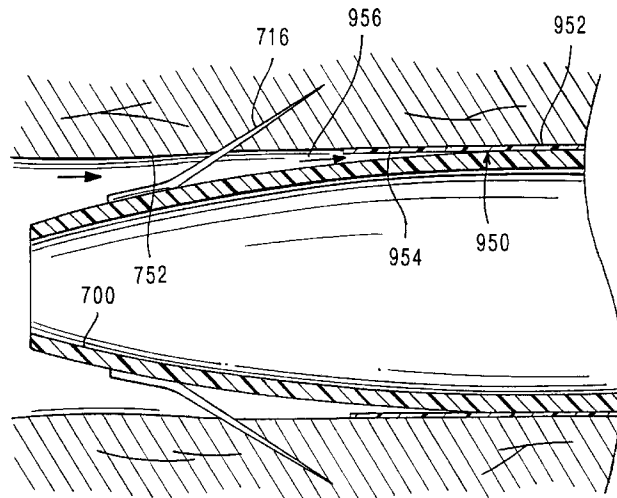
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An implantable medical device has a tubular member and a sealing member secured to an outer surface of the tubular member. The tubular member is expandable to engage an endolumenal wall and has a lumen for providing an artificial conduit for flow through an endolumenal space defined by that wall. The seal member occludes flow around the tubular member between the outer surface and the endolumenal wall. One suitable tubular member for use in the present invention is a stent-graft which may be bifurcated for use in protecting vascular wall malformations adjacent to vascular bifurcations against endolumenal pressure and flow. The seal member may be a flange that is oriented on the outer surface at one end of the tubular member as a one-way valve against flow. Multiple seal members may be used, either on opposite ends of the tubular member or in series at one end thereof. Where anchors are used to secure the tubular member to the endolumenal wall, the seal member is positioned to protect against flow through leakage paths formed at localized areas of deformation in the tubular wall adjacent to the anchors. One or more seal members may also be used with two or more tubular members to prevent flow through endolumenal spaces that remain open to flow due to gaps between the multiple, parallel tubular members.

23 Claims, 29 Drawing Sheets



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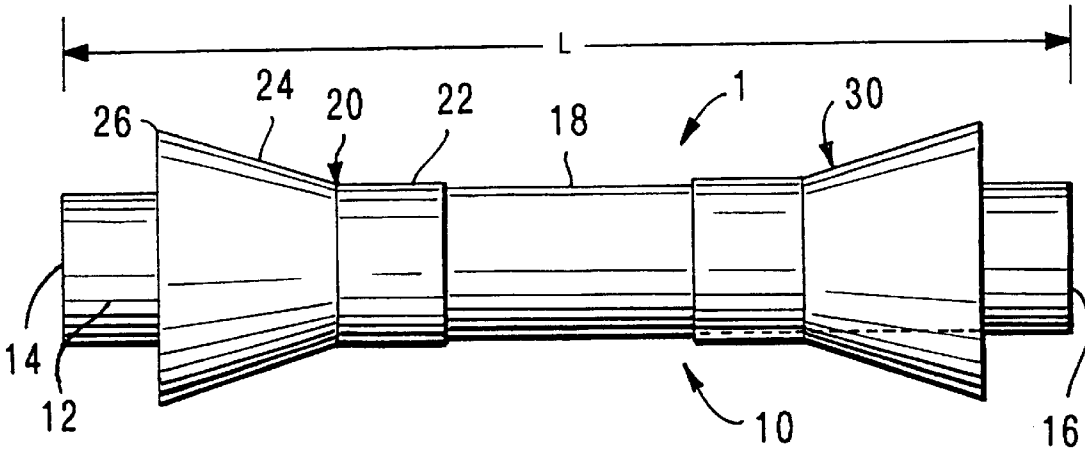


FIG. 1

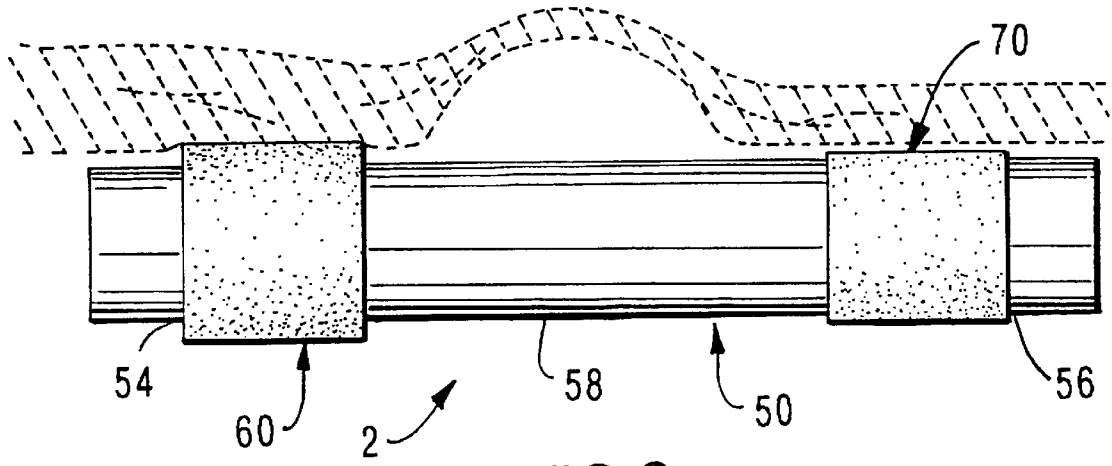


FIG. 2

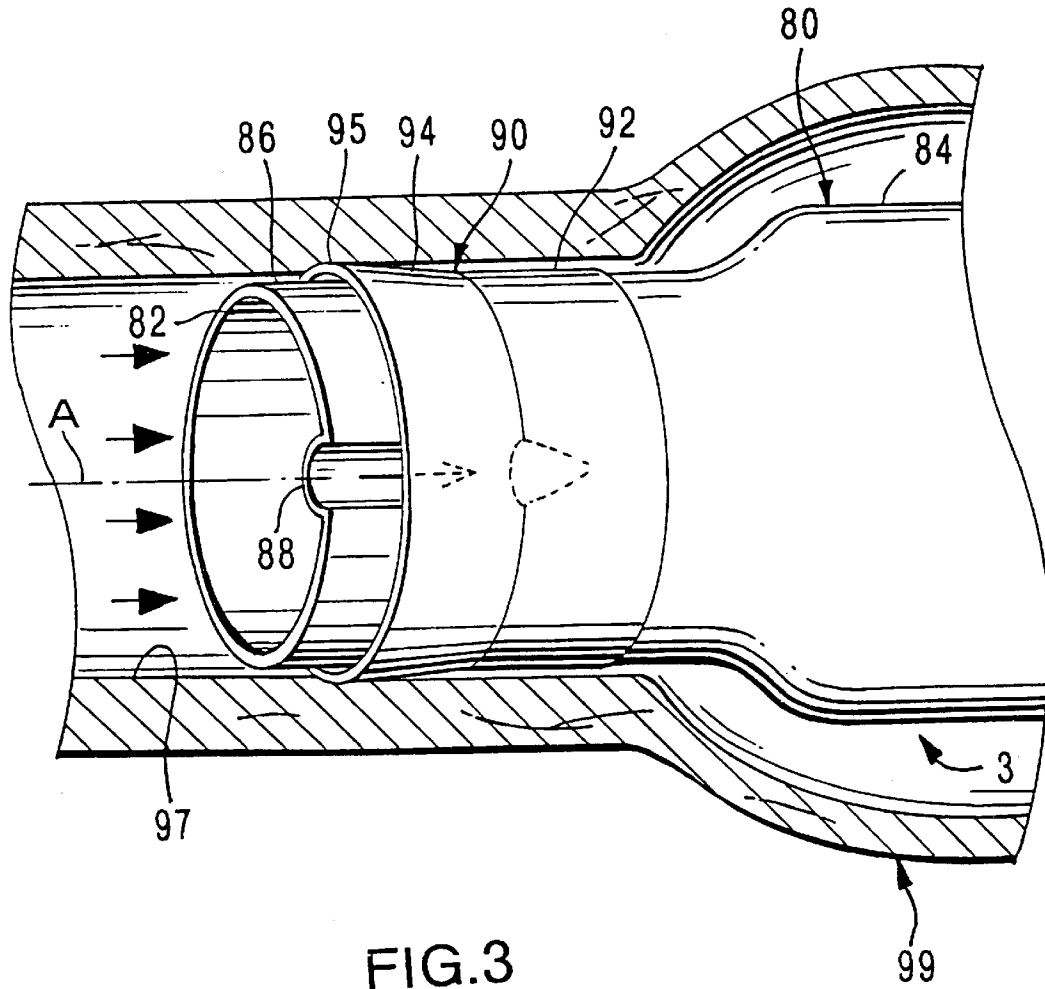


FIG. 3

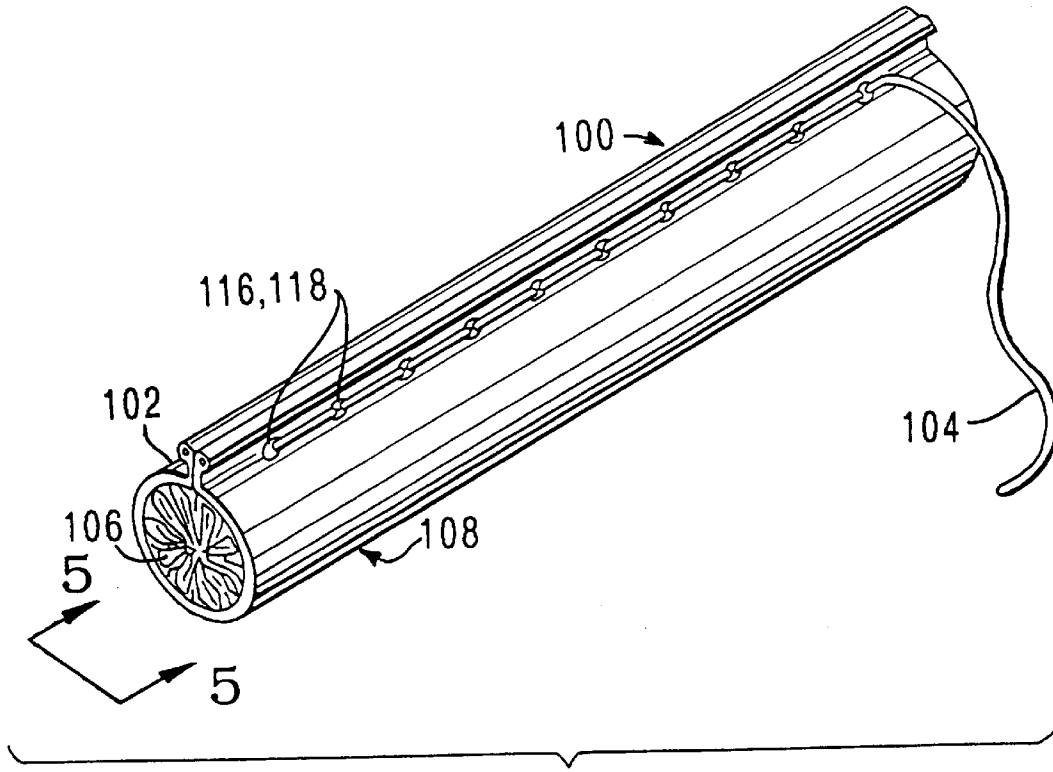


FIG. 4

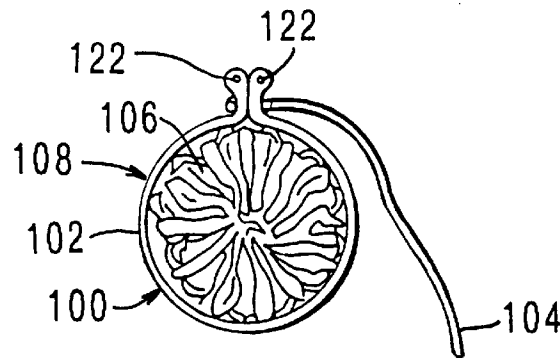


FIG. 5

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