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# United States Patent [19]

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Chuter

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- [54] **EXPANDABLE TRANSLUMINAL GRAFT PROSTHESIS FOR REPAIR OF ANEURYSM**
- [75] Inventor: **Timothy A. Chuter**, Pittsford, N.Y.
- [73] Assignee: **Cook Incorporated**, Bloomington, Ind.
- [21] Appl. No.: **959,758**
- [22] Filed: **Oct. 21, 1992**

### Related U.S. Application Data

- [63] Continuation-in-part of Ser. No. 868,795, Apr. 19, 1992, abandoned, which is a continuation-in-part of Ser. No. 782,696, Oct. 25, 1991, abandoned.
- [51] Int. Cl.<sup>6</sup> ..... **A61F 2/06; A61F 2/04; A61M 29/02; A61M 29/00**
- [52] U.S. Cl. .... **623/1; 623/12; 606/194; 604/96**
- [58] Field of Search ..... **623/1, 11, 12; 606/191-200; 600/36; 604/96**

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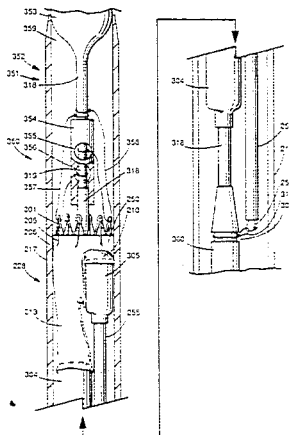
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 Attorney, Agent, or Firm—Richard J. Godlewski

### [57] ABSTRACT

A transluminal arrangement for positioning a prosthesis assembly at an aneurysm in the bifurcated lumen of the aorta and the common iliac arteries extending therefrom. The prosthesis assembly includes a bifurcated endovascular graft having a main body and ipsilateral and contralateral limbs extending therefrom. The assembly also includes main, ipsilateral, and contralateral spring assemblies each having a compressed state. When released from its compressed state, each spring expands a portion of the graft to substantially conform that portion of the graft to the wall of the bifurcated lumen. The transluminal arrangement comprises an elongated member extending through the main and ipsilateral bores of the graft and includes attachment sutures and an inner catheter extending therethrough for temporarily attaching the main and ipsilateral spring assemblies to the elongated member. An outer sheath contains the attached prosthesis assembly, whereas stent boots consisting of short length sheaths contain the ipsilateral and contralateral spring assemblies. A control limb delivery catheter and attachment sutures maintain the contralateral graft limb and spring assembly in the stent boot for placement in the contralateral iliac artery.

17 Claims, 23 Drawing Sheets



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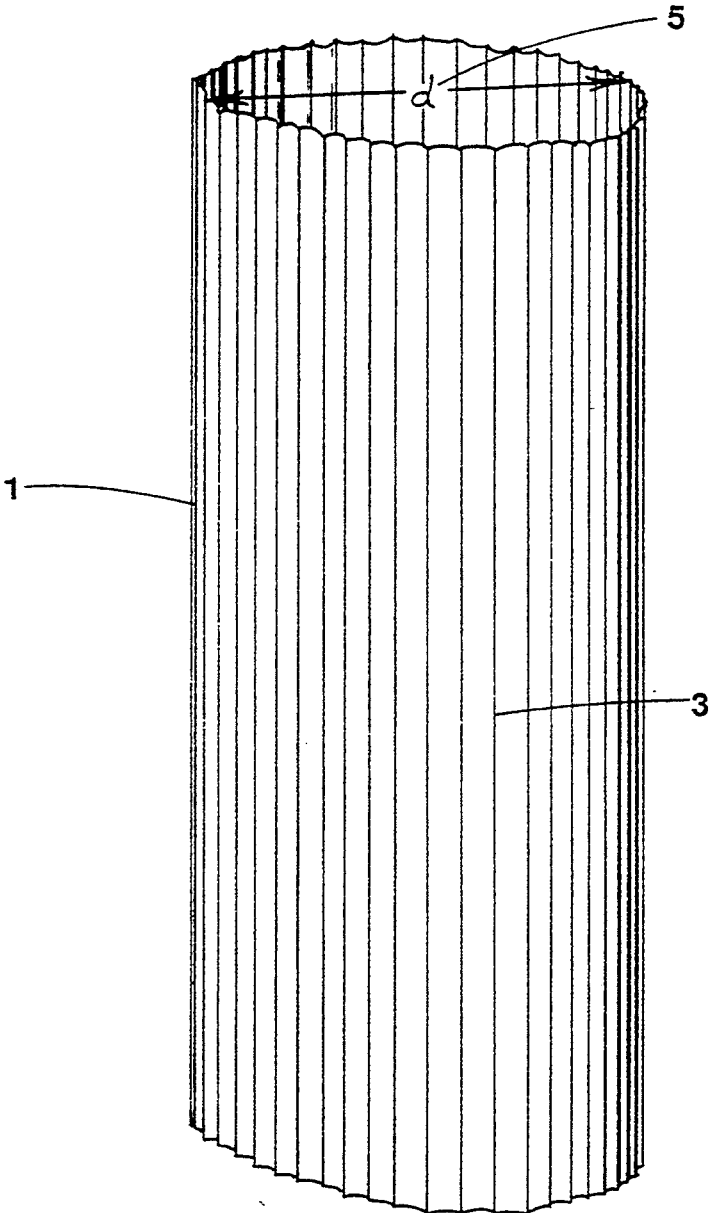


Fig. 1

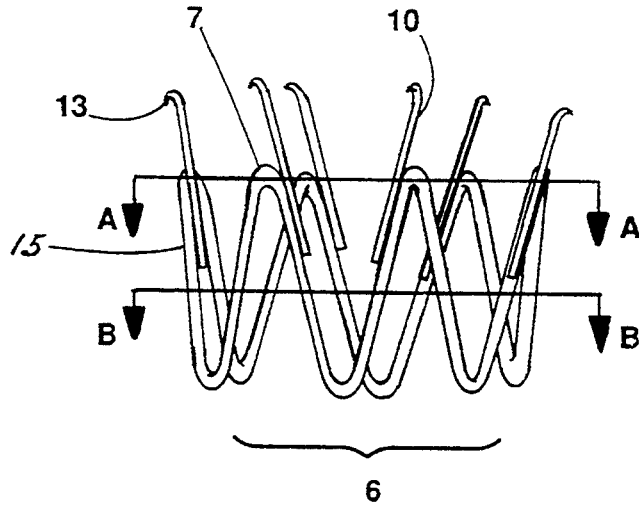


Fig. 2

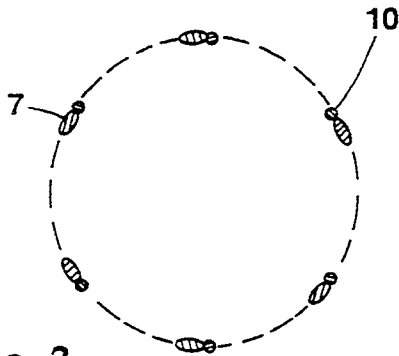


Fig. 3

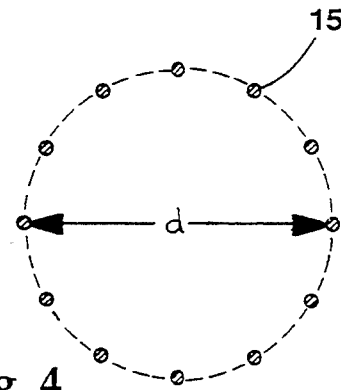


Fig. 4

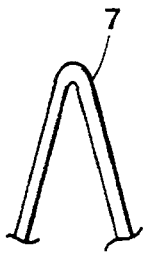


Fig. 5A

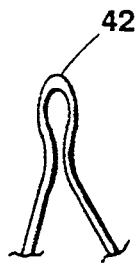


Fig. 5B

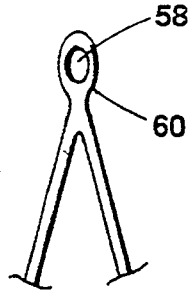
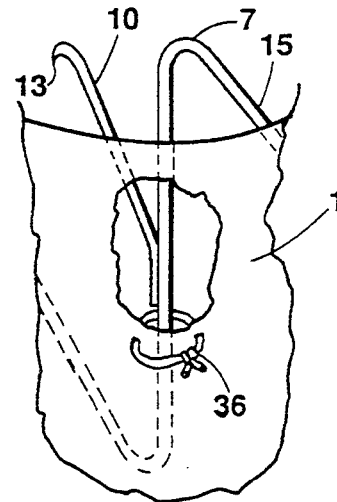


Fig. 5C



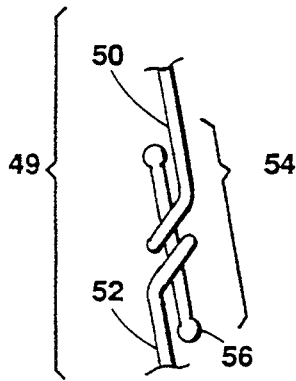


Fig. 7

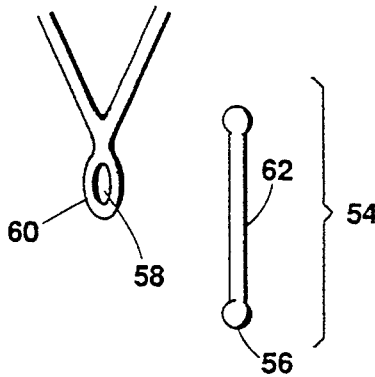


Fig. 8

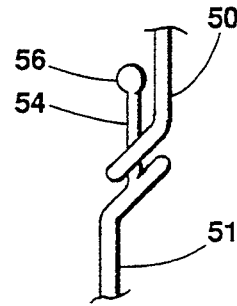


Fig. 10

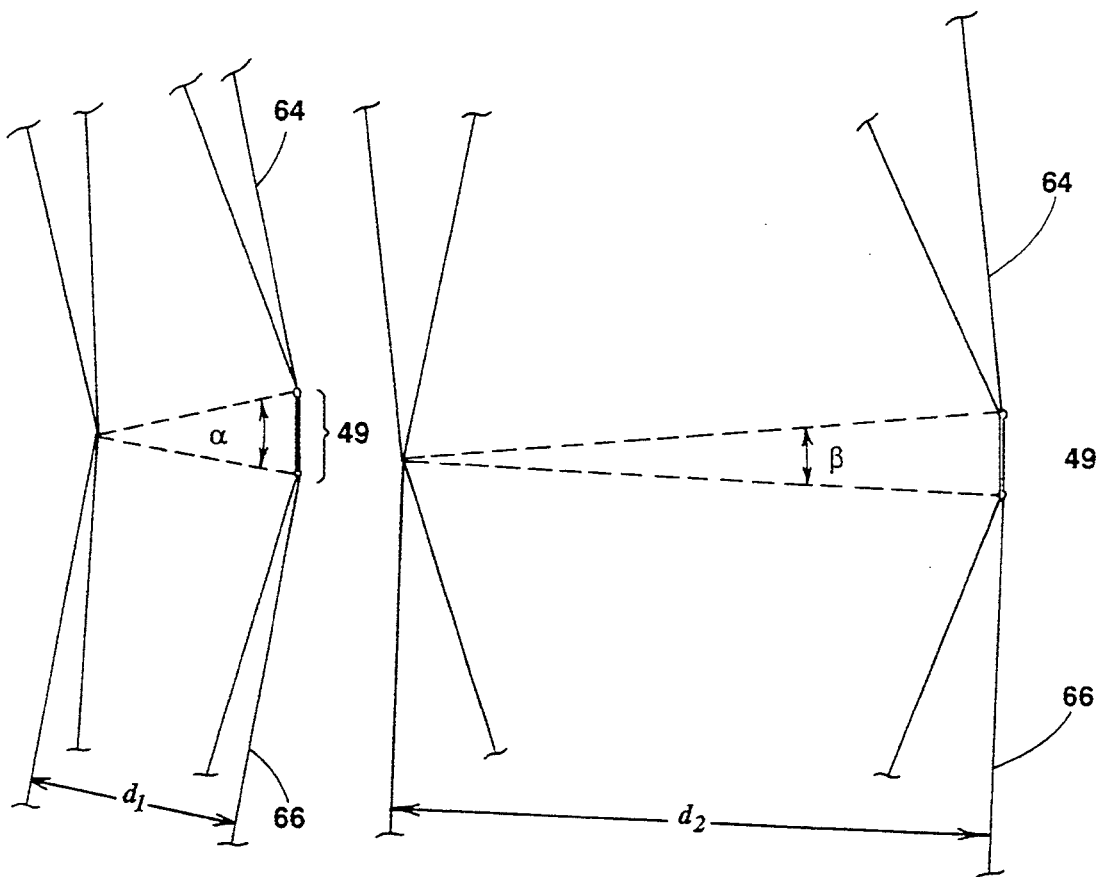


Fig. 9A

Fig. 9B

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