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United States Patent [19]

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Huynh et al.

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- [75] Inventors: Van Le Huynh, Tustin; Than Nguyen, 5,376,112 12/1994 Duran .
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- [21] Appl. No.: 08/826,408 5,500,016 3/1996 Fisher .
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- [22] Filed: Mar. 27, 1997 5,800,527 9/1998 Jansen et al. .... 623/2

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- [51] Int. Cl.<sup>6</sup> ..... A61F 2/24
- [52] U.S. Cl. .... 623/2; 623/900
- [58] Field of Search ..... 623/2, 900

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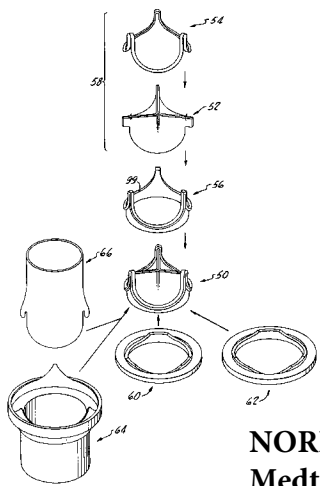
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[57] ABSTRACT

Improved, adaptable tissue-type heart valves and methods for their manufacture are disclosed wherein a dimensionally stable, pre-aligned tissue leaflet subassembly is formed and its peripheral edge clamped between and attached to an upper shaped wireform and a lower support stent. A variety of adaptable structural interfaces including suture rings, flanges, and conduits may be attached to the support stent with or without an outlet conduit disposed about the wireform to provide a tissue-type heart valve adaptable for use in either a natural heart or in mechanical pumping devices.

47 Claims, 16 Drawing Sheets



NORRED EXHIBIT 2207 - Page 1  
Medtronic, Inc., Medtronic Vascular, Inc.,

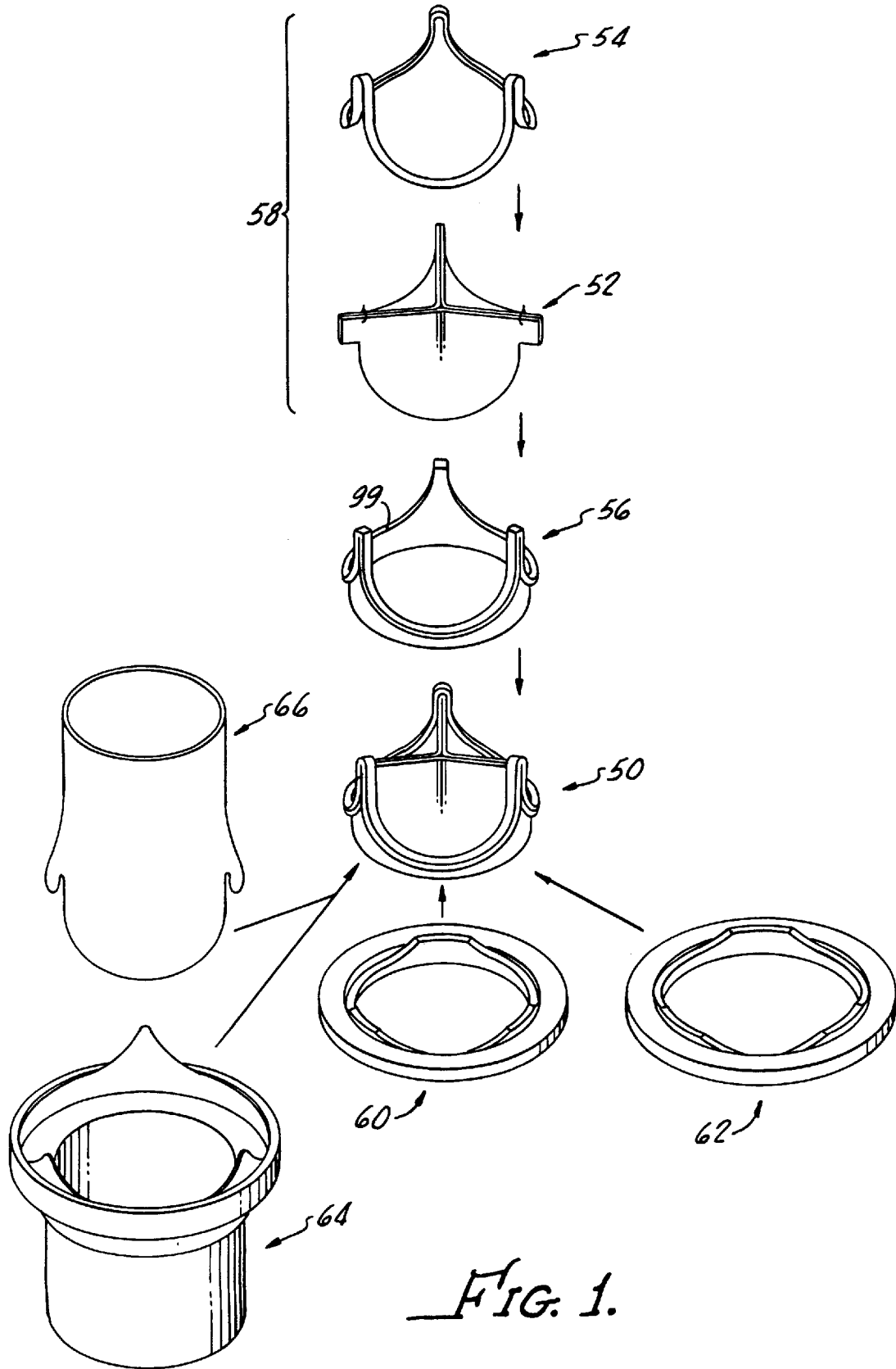


FIG. 1.

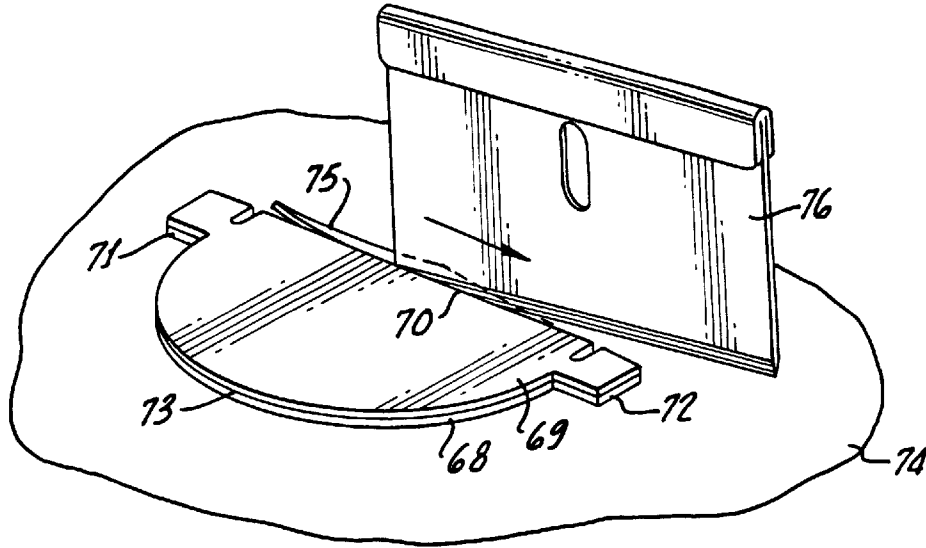


FIG. 2.

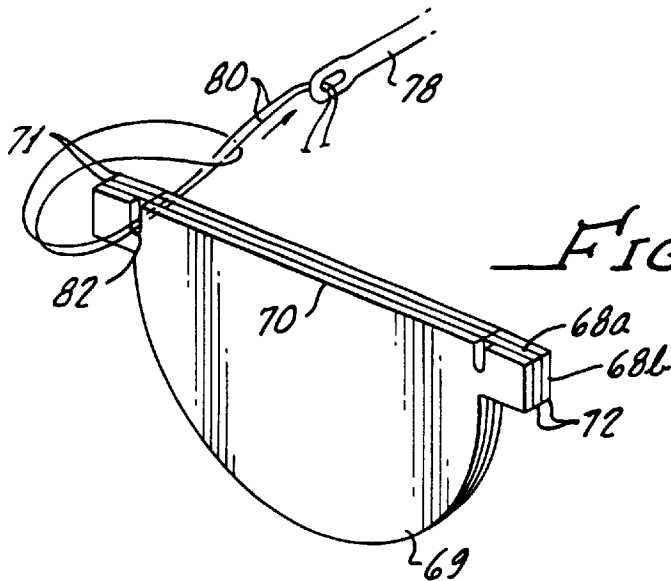


FIG. 3.

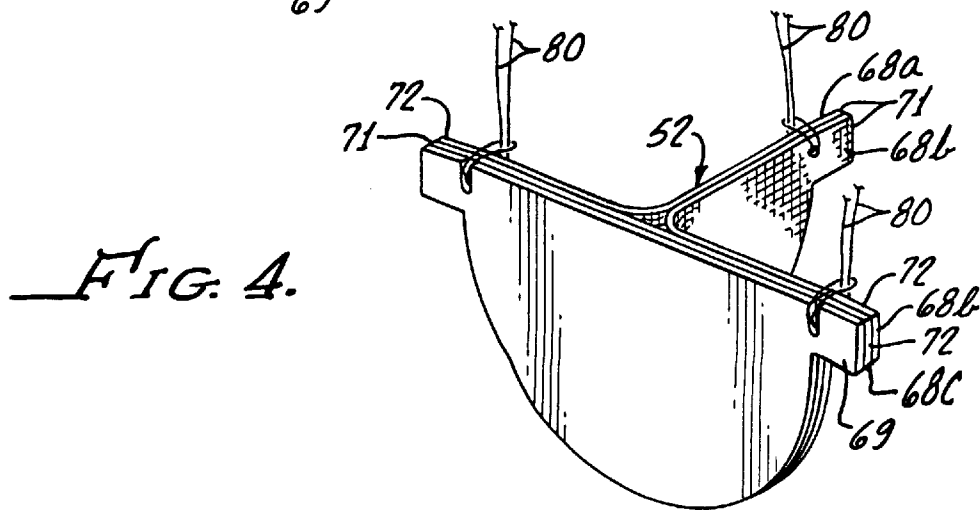


FIG. 4.

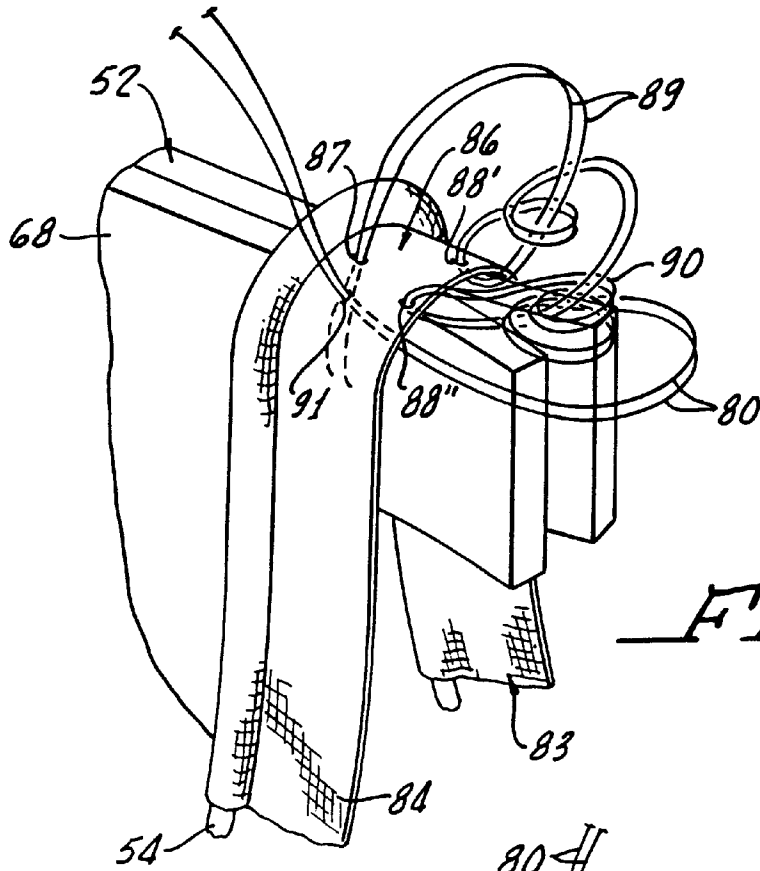


FIG. 5.

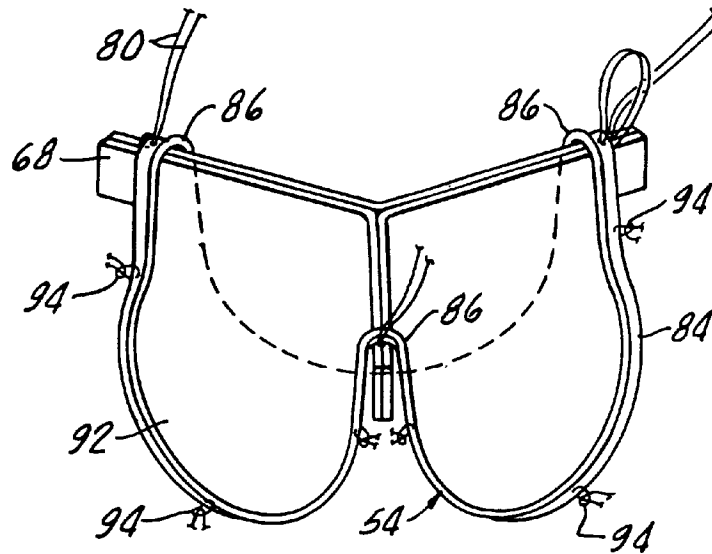
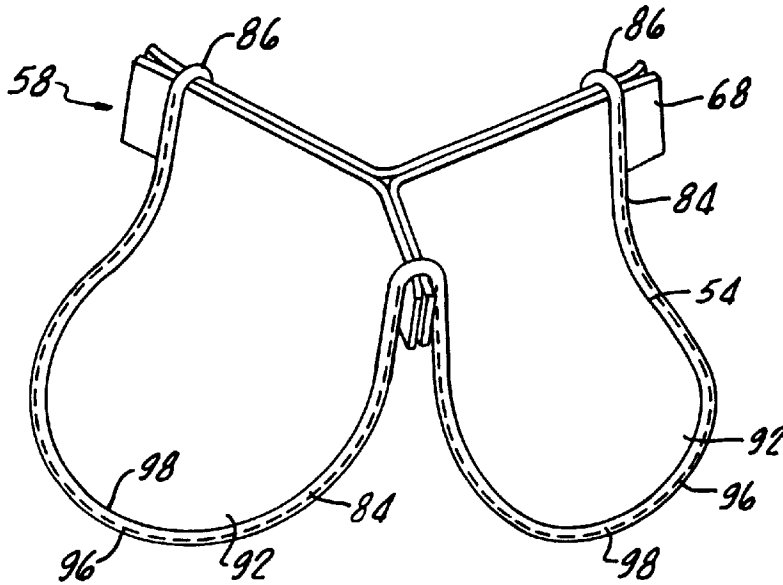
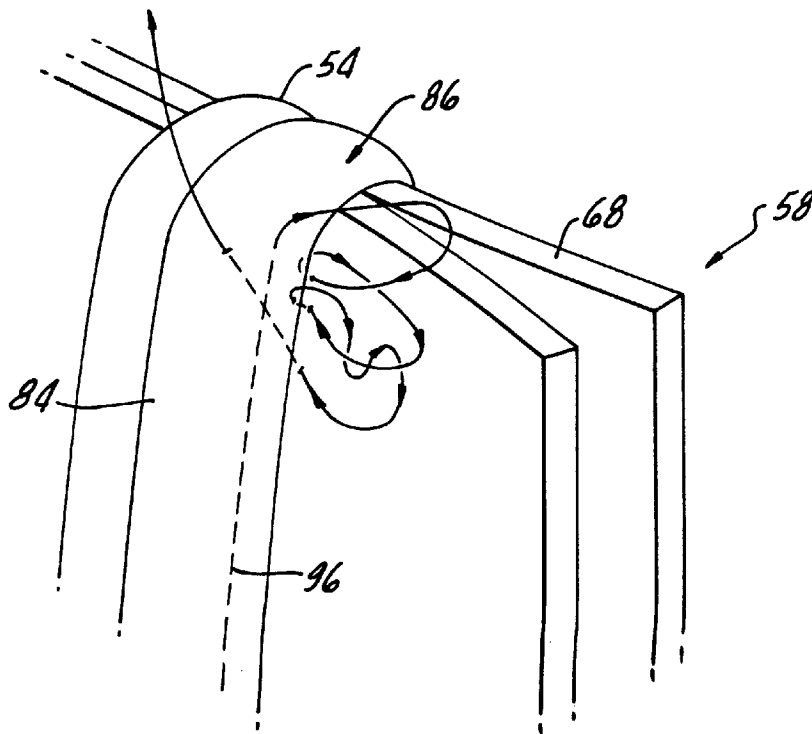


FIG. 6.



*FIG. 7.*



*FIG. 8.*

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