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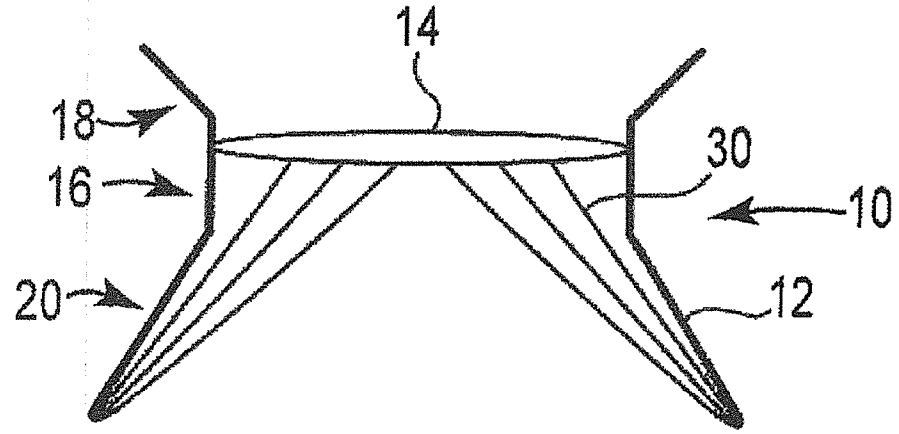
Primary Examiner — Christopher D Koharski
Assistant Examiner — Rebecca Straszheim

(57) ABSTRACT

A stented valve of two or more leaflets made of pericardium or other material having a relatively thin profile at the annulus. The leaflet surfaces are attached via chords to a stent frame, where the chords are positioned to mimic the native valve anatomy and functionality. In particular, the valves of one exemplary embodiment of the invention are sized to replace a mitral valve and therefore the chords are arranged to prevent prolapse of the leaflets into the atrium. The stented valve has a relatively short height at its annulus due to the positioning of the chords. In addition, the stented valve is capable of being crimped to a small enough size that it can be delivered to the implantation site via transcatheter delivery systems and methods.

15 Claims, 3 Drawing Sheets

- (73) Assignee: **Medtronic, Inc.**, Minneapolis, MN (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 342 days.
- (21) Appl. No.: **12/429,054**
- (22) Filed: **Apr. 23, 2009**
- (65) **Prior Publication Data**
US 2009/0281618 A1 Nov. 12, 2009
- Related U.S. Application Data**
- (60) Provisional application No. 61/125,235, filed on Apr. 23, 2008.
- (51) **Int. Cl.**
A61F 2/24 (2006.01)
- (52) **U.S. Cl.** 623/2.14; 623/1.24
- (58) **Field of Classification Search** None
See application file for complete search history.



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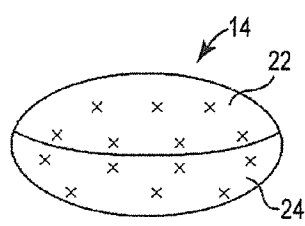


Fig. 1

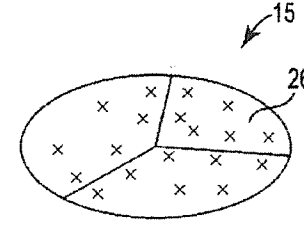


Fig. 2

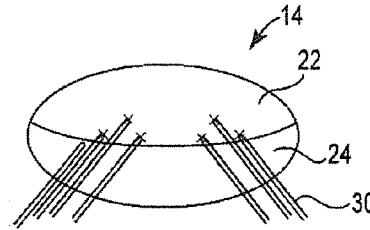


Fig. 3

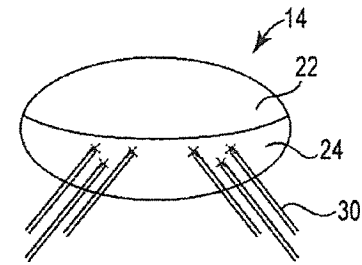


Fig. 4

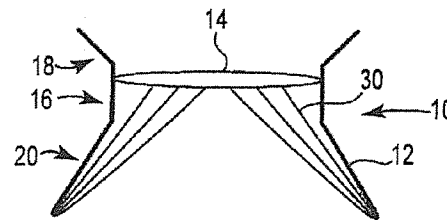


Fig. 5

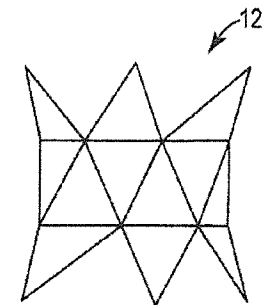


Fig. 6

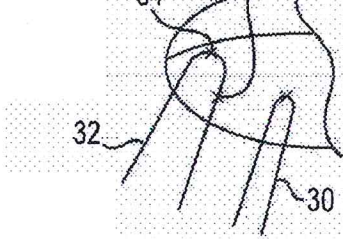


Fig. 7

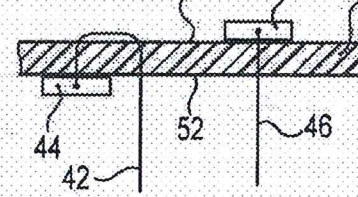


Fig. 8

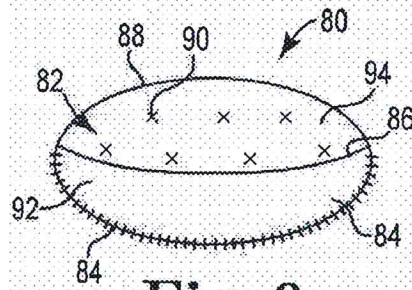


Fig. 9

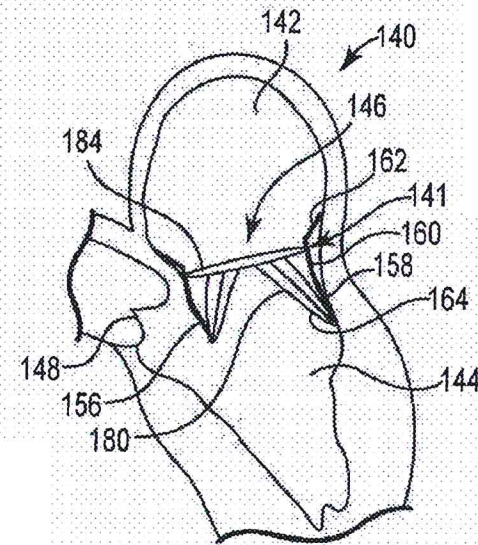


Fig. 10

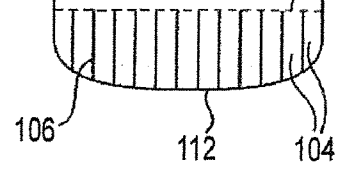


Fig. 11

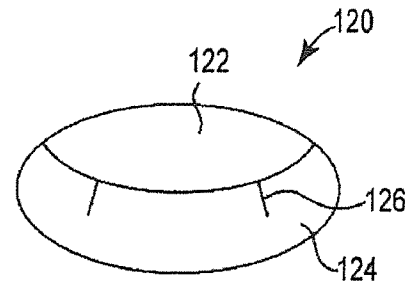


Fig. 12

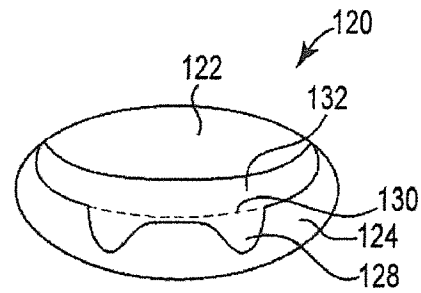


Fig. 13

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