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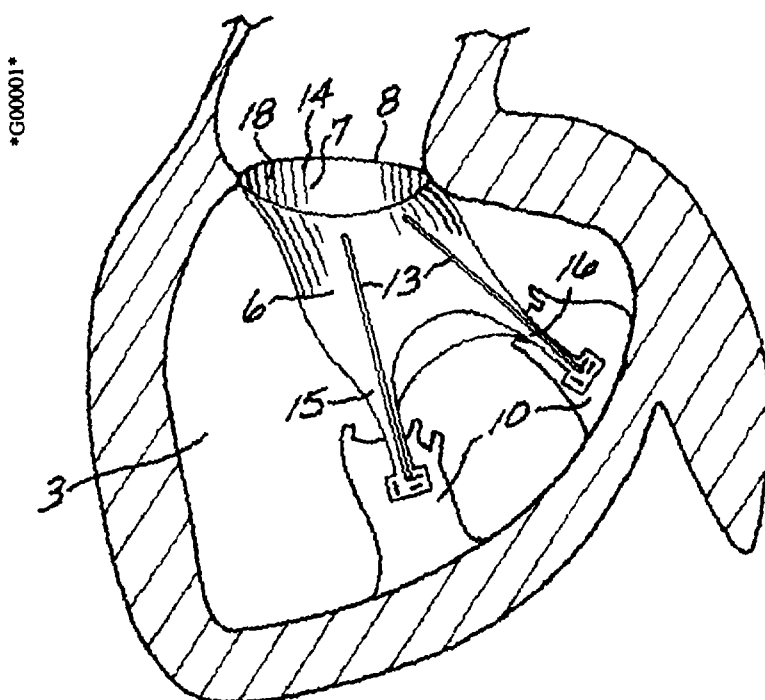
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) Title: ATRIO-VENTRICULAR VALVULAR DEVICE



(57) Abstract: An anatomically designed atrioventricular valve is made of biologically compatible synthetic membrane or biological membrane of autologous, homologous or heterologous origin. A single piece of the selected membrane material is trimmed so as to form two unequal sheaths similar to the normal anterior and posterior mammalian mitral valve leaflets with a wide upper base to be sutured to the host's mitral annulus. These two leaflets are prolonged and tapered into two thin bands to be connected to the papillary muscles serving as replacements for the natural marginal *chordae tendinae* of the normal mitral valve. The two lateral sides of the membrane are joined to form a truncated cone with a wider upper circular base and a narrow extremity formed by the thin chordal bands. A set of sutures are placed between selected points at the base of the cone and the two thin prolongations serving as replacements for the strut or stay basal chords of the natural mitral valve. Thus, the mitral valve prosthesis is anatomical because it is stentless, bicuspid and supported by marginal and basal *chordae*. Obturators and sizers in the configuration of rods of varying diameter, to measure the host's valve annulus

diameter and select the appropriate size of the prosthesis are used during implantation of the prosthesis. A rod shaped holder maintains the prosthesis during implantation, and a curved bodied measuring instrument is used to determine the precise location where the *chordae tendinae* of the prosthesis are to be sutured to the papillary muscles of a recipient mammal.



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