

(73) Assignee: **Medtronic CoreValve LLC**,  
Minneapolis, MN (US)

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(57) **ABSTRACT**

(58) **Field of Classification Search** ..... 623/1.24,  
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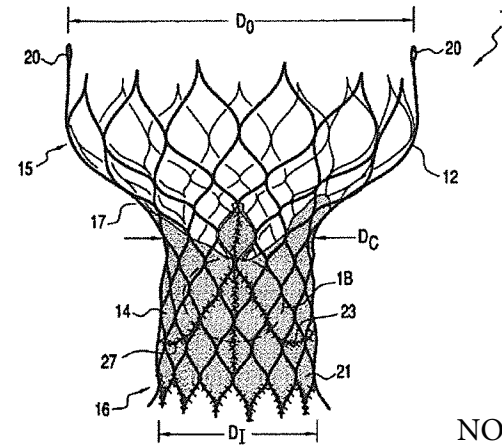
A heart valve prosthesis is provided having a self-expanding  
multi-level frame that supports a valve body comprising a  
skirt and plurality of coapting leaflets. The frame transitions  
between a contracted delivery configuration that enables per-  
cutaneous transluminal delivery, and an expanded deployed  
configuration having an asymmetric hourglass shape. The  
valve body skirt and leaflets are constructed so that the center  
of coaptation may be selected to reduce horizontal forces  
applied to the commissures of the valve, and to efficiently  
distribute and transmit forces along the leaflets and to the  
frame. Alternatively, the valve body may be used as a surgi-  
cally implantable replacement valve prosthesis.

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**18 Claims, 4 Drawing Sheets**



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