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[Continued on next page]

(54) Title: SYSTEM AND METHODS FOR ACTUATING REVERSIBLY EXPANDABLE STRUCTURES

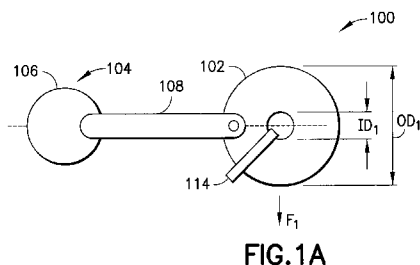


FIG. 1A

(57) Abstract: An actuator is provided for reconfiguring a reversibly expandable structure, also referred to as a deployable structure. The deployable structure includes an enclosed mechanical linkage capable of transformation between expanded and collapsed configurations while maintaining its shape. An actuator coupled to the deployable structure provides a load, force, or torque for actuating a transformation. The actuated deployable structure transfers the actuation force to an external body substance, or element in contact with the deployable structure. The force can be directed inwardly or outwardly depending upon direction of the transformation (i.e., expanding or contracting). The force provided by the deployable structure can be used to perform work by its application over at least a portion of the distance traveled by a perimeter of the deployable structure during its transformation. In some embodiments, the actuatable deployable structure is lockable structure supporting a static load.

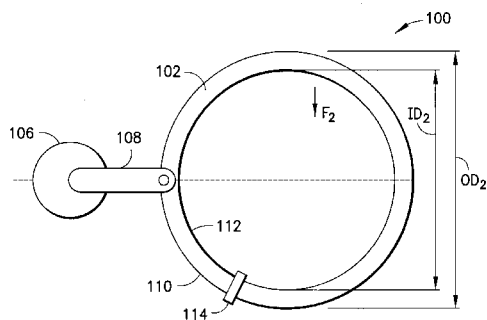


FIG. 1B

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 069 572 A (NIKSIC MARK R [US]) 3 December 1991 (1991-12-03) column 4, line 13 - line 39; figures 1,6,7; compounds 8,14,30,31,32,12,18,19,20,2,12,22-24,34-36 column 1, line 32 - line 36	1-21, 28-36
X	US 5 038 532 A (SHAHINPOOR MOHSEN [US]) 13 August 1991 (1991-08-13) column 6, line 1 - line 12; figures 2-4; compounds 11,13,41	13,22-27
A	US 5 024 031 A (HOBERMAN CHARLES [US]) 18 June 1991 (1991-06-18) cited in the application the whole document	
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	US 6 082 056 A (HOBERMAN CHARLES [US]) 4 July 2000 (2000-07-04) cited in the application the whole document -----	
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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