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(54) Title: SHAPE MEMORY ALLOY APPARATUS AND METHODS OF FORMATION AND OPERATION THEREOF

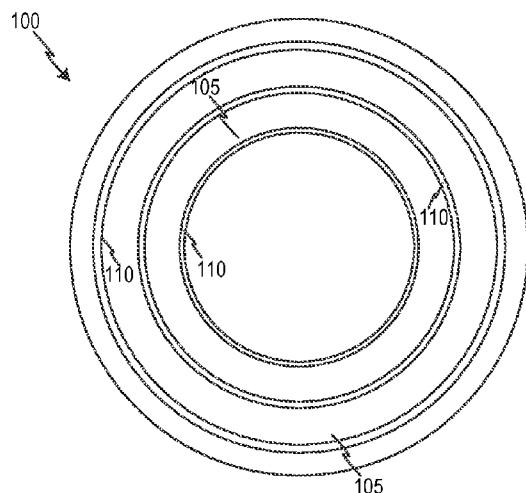


FIG. 1

(57) Abstract: An optical component is disclosed, as well as articles of manufacture, methods for forming, and methods of operating thereof. The optical component may include a plurality of patterned two-way shape memory alloy portions. Each patterned two-way shape memory alloy portion may include a reflective surface and a temperature adjustment element. Each patterned two-way shape memory alloy portion may be individually configured to flex to a first bend angle at a first temperature and a second bend angle at a second temperature.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G02F 1/01 (2013.01)

USPC - 359/288

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - G02F 1/01, 1/29; G02B 26/00 (2013.01)

USPC - 359/243, 247, 288, 290, 291, 298, 299

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC- G02F 1/0147, 1/293; G02B 26/0841 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Patbase, Orbit.com, ProQuest, GooglePatents

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,775,046 B2 (HILL et al) 10 August 2004 (10.08.2004) entire document	1-51
Y	US 2002/0142119 A1 (SEWARD et al) 03 October 2002 (03.10.2002) entire document	1-44
Y	US 2007/0177008 A1 (BAYER et al) 02 August 2007 (02.08.2007) entire document	45-51
Y	US 2011/0009979 A1 (SHAW et al) 13 January 2011 (13.01.2011) entire document	2-3, 13, 16-17, 27
Y	US 2003/0035189 A1 (AMM et al) 20 February 2003 (20.02.2003) entire document	6-7, 20-21, 37-38
Y	US 6,416,188 B1 (SHUSTA et al) 09 July 2002 (09.07.2002) entire document	7, 21, 38
Y	US 2012/0065713 A1 (GREAVES et al) 15 March 2012 (15.03.2012) entire document	8, 22, 39-40
Y	US 2005/0155985 A1 (MEYER) 21 July 2005 (21.07.2005) entire document	9-10, 23-24
Y	US 6,323,459 B1 (MAYNARD) 27 November 2001 (27.11.2001) entire document	10, 24, 40
Y	US 5,747,728 A (FLEURIAL et al) 05 May 1998 (05.05.1998) entire document	11-12, 25-26, 41-42
Y	US 5,619,177 A (JOHNSON et al) 08 April 1997 (08.04.1997) entire document	14, 28, 44
Y	US 2010/0099100 A1 (ZACCARIN et al) 22 April 2010 (22.04.2010) entire document	36

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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.
A	US 5,825,275 A (WUTTIG et al) 20 October 1998 (20.10.1998) entire document	1-51
A	US 5,975,468 A (MOIGNIER et al) 02 November 1999 (02.11.1999) entire document	1-51
A	US 2002/0196628 A1 (YOSHIDA et al) 26 December 2002 (26.12.2002) entire document	1-51