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(54) Title: EXPANDABLE CRACK INHIBITORS AND METHODS OF USING THE SAME

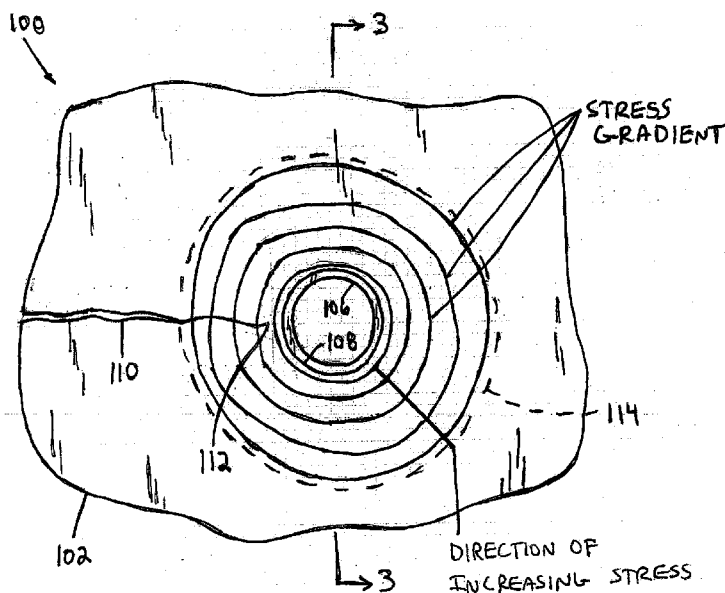


FIG. 1

(57) Abstract: One or more crack inhibitors can be installed to improve fatigue performance by producing stress states that prevent or inhibit crack initiation. Crack inhibitors can also prevent or retard crack growth. A mandrel can be used to radially expand the crack inhibitors to both induce compressive residual stresses and to form an interference fit between the crack inhibitor and a workpiece. The mandrel can be removed from the installed crack inhibitor, which is left in the workpiece to ensure proper stress states are maintained.



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A. CLASSIFICATION OF SUBJECT MATTER***E04G 23/02(2006.01)i, E01D 22/00(2006.01)i***

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

E04G 23/02; B21D 39/08; F16B 13/06; B23P 21/00; F16B 19/10

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords : structural workpiece, radially expanded crack inhibitor, compressive residual stress, counter balance stress and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	JP 09-072097 A (MITSUBISHI HEAVY IND. LTD.) 18 March 1997 See paragraphs 0024, 0025 and figure 6.	1,2,5,6,8 3,9-11,13-19 4,7,12
Y	US 2010-0000280 A1 (REID, LEONARD FREDERICK et al.) 7 January 2010 See claims 17, 19; paragraphs 0047, 0061, 0064; and figures 9, 10.	3,9-11,13-19
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A	US 2009-0178262 A1 (REID, LEONARD FREDERICK et al.) 16 July 2009 See paragraph 0064 and figure 4.	1-19
A	US 2010-0260572 A1 (WEHRMEISTER, MARK et al.) 14 October 2010 See paragraph 0053 and figure 3.	1-19



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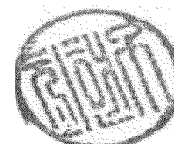


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INTERNATIONAL SEARCH REPORT

Information on patent family members

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