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(54) Title: ENVIRONMENT DEPENDENT - TEMPERATURE INDEPENDENT COLOR CHANGING LABEL

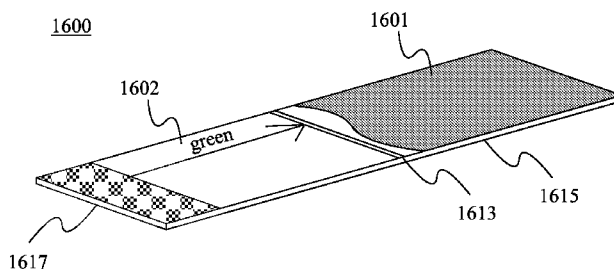


Fig. 16

(57) Abstract: A timing device comprises a sensing material and/or a component which is sensitive to the presence of an environmental attribute. The environmental attribute drives and speeds up or slows the timing device as the concentration of the attribute increases or decreases, respectively. Alternatively, the timing device is activated upon sensing the presence of the environmental attribute and indicates a total passage of time from exposure/activation of the timing device. Particularly, sensing materials of varying types are able to be used to indicate exposure to a variety of substances. For example, in some embodiments, the timing device comprises a sensing material which is sensitive to the presence of ultraviolet radiation. Alternatively, the sensing material is sensitive to other variables such as x-ray radiation and nuclear radiation. In further embodiments, the sensing material is sensitive to biological or physical contamination.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/48353

A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - G04F 13/04 (2012.01) USPC - 368/11 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) USPC: 368/11 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC: 368/10,11,327 (text search - see terms below) Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PubWEST(USPT,PGPB,EPAB,JPAB); Google Search Terms: timer, timing, anode, environment, depletion, timing, electrolyte, change, color, dosimeter, dye, diffuse, ultraviolet, radiation, physical, biological, name, tag, badge																												
C. DOCUMENTS CONSIDERED TO BE RELEVANT																												
<table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X -- Y</td> <td>US 4,804,275 A (KANG et al.) 14 February 1989 (14.02.1989), entire document especially Fig 2; Abstract, col 1, lns 48-50, col 3, lns 34-49, col 7, lns 4-8, col 9, ln 51 to col 10, ln 15</td> <td>11, 15-16 ----- 1-10, 12-14</td> </tr> <tr> <td>X -- Y</td> <td>US 2006/0145091 A1 (PATEL) 06 July 2006 (06.07.2006), entire document especially Fig 24; paras [0009], [0020], [0077]-[0078], [0172]-[0173], [0183], claim 177</td> <td>17-21 ----- 22</td> </tr> <tr> <td>Y</td> <td>US 2010/0149929 A1 (BRAUNBERGER) 17 June 2010 (17.06.2010), entire document especially Abstract, paras [0017]-[0020], [0072], [0077]-[0078], [0089], [0091]</td> <td>1-10, 12-14</td> </tr> <tr> <td>Y</td> <td>US 2004/0232052 A1 (CALL et al.) 25 November 2004 (25.11.2004), entire document especially Abstract; para [0046]</td> <td>4, 22</td> </tr> <tr> <td>Y</td> <td>US 6,426,503 B1 (WUEST) 30 July 2002 (30.07.2002), entire document especially col 1, lns 51-56</td> <td>2</td> </tr> <tr> <td>Y</td> <td>US 6,750,458 B1 (ROURK) 15 June 2004 (15.06.2004), entire document especially the Abstract</td> <td>3</td> </tr> <tr> <td>A</td> <td>US 2010/0219351 A1 (ROBERTS et al.) 02 September 2010 (02.09.2010), entire document especially col 10, lns 23-48</td> <td>1-22</td> </tr> <tr> <td>A</td> <td>US 2003/0104353 A1 (BREILMEIER) 05 June 2003 (05.06.2003), entire document especially paras [0004], [0008]</td> <td>1-22</td> </tr> </tbody> </table>	Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X -- Y	US 4,804,275 A (KANG et al.) 14 February 1989 (14.02.1989), entire document especially Fig 2; Abstract, col 1, lns 48-50, col 3, lns 34-49, col 7, lns 4-8, col 9, ln 51 to col 10, ln 15	11, 15-16 ----- 1-10, 12-14	X -- Y	US 2006/0145091 A1 (PATEL) 06 July 2006 (06.07.2006), entire document especially Fig 24; paras [0009], [0020], [0077]-[0078], [0172]-[0173], [0183], claim 177	17-21 ----- 22	Y	US 2010/0149929 A1 (BRAUNBERGER) 17 June 2010 (17.06.2010), entire document especially Abstract, paras [0017]-[0020], [0072], [0077]-[0078], [0089], [0091]	1-10, 12-14	Y	US 2004/0232052 A1 (CALL et al.) 25 November 2004 (25.11.2004), entire document especially Abstract; para [0046]	4, 22	Y	US 6,426,503 B1 (WUEST) 30 July 2002 (30.07.2002), entire document especially col 1, lns 51-56	2	Y	US 6,750,458 B1 (ROURK) 15 June 2004 (15.06.2004), entire document especially the Abstract	3	A	US 2010/0219351 A1 (ROBERTS et al.) 02 September 2010 (02.09.2010), entire document especially col 10, lns 23-48	1-22	A	US 2003/0104353 A1 (BREILMEIER) 05 June 2003 (05.06.2003), entire document especially paras [0004], [0008]	1-22	<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/>
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Date of the actual completion of the international search 23 September 2012 (23.09.2012)	Date of mailing of the international search report 15 OCT 2012																											
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774																											

INTERNATIONAL SEARCH REPORT

International application No.
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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 6,243,192 B1 (MITCHELL, JR. et al.) 05 June 2001 (05.06.2001), entire document especially FIG 21, col 14, ln 19-38.	1-22