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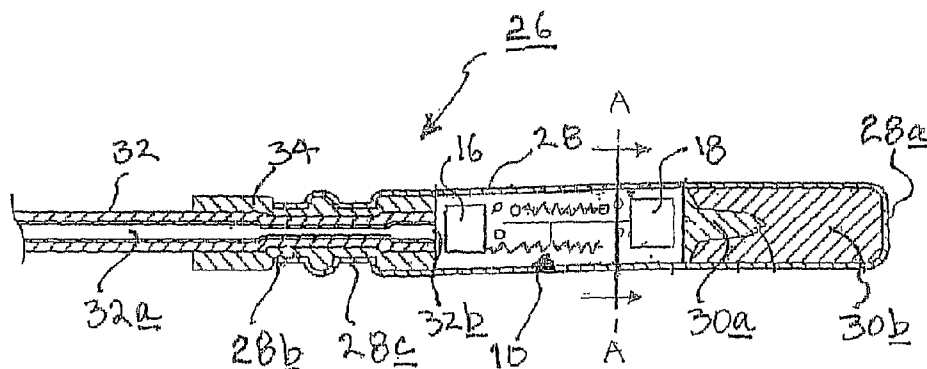


FIG. 2

(57) Abstract: A delay unit (10) comprises a timing strip (14) and, optionally, a calibration strip (20) deposited on a substrate (12). The timing and calibration strips comprise energetic materials which optionally may comprise particles of nanosize materials, e.g., a fuel and an oxidizer, optionally applied as separate layers. A method of making the delay units comprises depositing onto a substrate (12) a timing strip (14) having a starting point (14d) and a discharge point (14e) and depositing onto the same or another substrate a calibration strip (20). Timing strip (14) and calibration strip (20) are of identical composition and are otherwise configured, e.g., thickness of the strips, to have identical burn rates. The calibration strip (20) is ignited and its burn rate is ascertained. The timing strip (14) is adjusted by an adjustment structure to attain a desired delay period, preferably on the basis that the burn rate of the timing strip (14) is substantially identical to that of the calibration strip (20) and ascertaining the burn rate of the calibration strip. The adjustment may be attained by one or more of providing the timing strip with jump gaps (16a), an accelerant or retardant (166a, 166b), completing the timing strip with a bridging strip (14c), or establishing a selected effective length of the timing strip by positioning one or both of a pick-up charge (16) and relay charge (18) over a portion of the timing strip.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC: C06C 7/00(2006.01),5/06(2006.01),5/00(2006.01);F42C 9/00(2006.01);C06D 5/00(2006.01)
 USPC: 102/275.9,275.11,276,277.2,275.3,275.5,275.6,275.12
 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)
 U.S. : 102/275.9,275.11,276,277.2,275.3,275.5,275.6,275.12

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,062,143A (GRACE et al) 16 May 2000 (16.05.2000), column 7, lines 14-40 and figure 5.	1, 4 and 22-24
X	US 4,742,773 A (BARTHOLOMEW et al) 10 May 1988 (10.05.1988), column 4, lines 11-24 and 38-68.	5, 6, 10, 11 and 12
Y	US 2004/0060625 A1 (BARBEE, Jr. et al) 01 April 2004 (01.04.2004), paragraph 42.	2, 3, 8, 9 and 18-20
Y	US 2,436,305 A (JOHNSON et al) 17 February 1948 (17.02.1948), column 3, lines 3-8.	16
Y	US 6,640,719 B1 (PACELLA et al) 04 November 2003 (04.11.2003), column 2, lines 50-55.	17
A	US 5,031,538 A (DUFRANE et al) 16 July 1991 (16.07.1991), entire patent.	1-39
A	US 5,522,318 A (GLADDEN et al) 04 June 1996 (04.06.1996), entire patent.	1-39

Further documents are listed in the continuation of Box C. See patent family annex.

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