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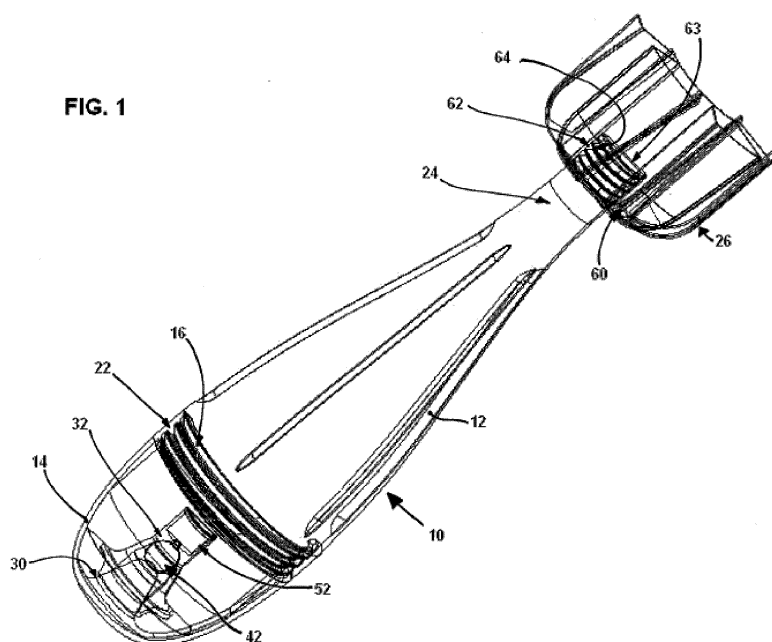
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(54) **APPARATUS FOR RELEASING FLUID TO THE ATMOSPHERE**

(57) An apparatus (10) for releasing a fluid to the atmosphere comprises a housing (12) for the fluid. The housing can comprise a biodegradable polymer, or a polymer that has been adapted to biodegrade. The polymer can also comprise a component that is reflective to infrared radiation so as to prevent melting of the housing polymer *during immersion in or whilst in proximity to flame*. The apparatus further comprises a mechanism (30, 32, 42, 50, 56, 58) for causing the fluid to be released to the

atmosphere from the housing. The mechanism can be housed in a second housing (14) that is detachably mounted to the first housing to define a housing unit. Further, a restraint mechanism (34) can be provided for regulating when the fluid is to be released from the housing to the atmosphere. The restraint mechanism can be deactivated once a certain force of apparatus impact with a surface has been reached.





EUROPEAN SEARCH REPORT

Application Number  
EP 15 17 4506

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 1 628 527 A (WILLIAM BRANDT EDGAR) 10 May 1927 (1927-05-10)	1-9	INV. F42B12/46 F42B12/24 F42B30/10
Y	* page 1, line 100 - page 2, line 28 * * figures *	5-9	
Y	----- US 2012/192749 A1 (MCKINNEY JEFF [US]) 2 August 2012 (2012-08-02) * abstract * * paragraph [0020] * * paragraph [0030] * * figures *	5-9	
X	----- EP 1 582 837 A1 (GIAT IND SA [FR]) 5 October 2005 (2005-10-05) * abstract * * paragraph [0039] * * paragraph [0054] * * paragraph [0067] * * figures *	1-4	TECHNICAL FIELDS SEARCHED (IPC)  F42B
X	----- US 2012/199035 A1 (FRANK BEN N [US]) 9 August 2012 (2012-08-09) * abstract * * paragraph [0035] * * paragraph [0036] * * figures *	1-4	
X	----- FR 2 961 590 A1 (NEXTER MUNITIONS [FR]) 23 December 2011 (2011-12-23) * abstract * * claim 1 * * figure 1 *	1-4	
A,D	----- RU 2 146 544 C1 (SUBRATOV ALEKSEJ ALEKSEEVICH; SUBRATOV IGOR ALEKSEEVICH; PIVOVAROVA MA) 20 March 2000 (2000-03-20) * the whole document *	1-9	
----- -The present search report has been drawn up for all claims			
Place of search <b>The Hague</b>		Date of completion of the search <b>12 November 2015</b>	Examiner <b>Vermander, Wim</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document			

EPO FORM 1503 03/02 (P04/C01)

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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

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Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

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No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

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**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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see sheet B

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All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

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As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

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Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

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None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
EP 15 17 4506

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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1. claims: 1-9

Housing for a projectile and apparatus with such a housing

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2. claims: 10-13

Detonator for an adiabatic fuse

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3. claims: 14, 15

A projectile

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ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 15 17 4506

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-11-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 1628527 A	10-05-1927	NONE	
US 2012192749 A1	02-08-2012	NONE	
EP 1582837 A1	05-10-2005	EP 1582837 A1 ES 2447017 T3 FR 2868523 A1	05-10-2005 11-03-2014 07-10-2005
US 2012199035 A1	09-08-2012	US 2012199035 A1 WO 2012109291 A1	09-08-2012 16-08-2012
FR 2961590 A1	23-12-2011	NONE	
RU 2146544 C1	20-03-2000	NONE	